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Advancing Carbon Markets

An Overview of German Initiatives

Imprint

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Edited by

Dr. Silke Karcher, BMUB, Head of Division KI I 6
Email: silke.karcher@bmub.bund.de;
Miriam Faulwetter, Advisor to the BMUB, Division KI I 6
Email: miriam.faulwetter@bmub.bund.de

Subject editors

Wuppertal Institute for Climate, Environment and Energy (Wuppertal Institut für Klima, Umwelt, Energie GmbH)
Research Group 2: Energy, Transport and Climate Policy

Authors

Lukas Hermwille, Nicolas Kreibich, Patrick Fortyr, with contributions from ACAD and Wolfgang Sterk

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Preface



On the international level, the global community is currently working towards establishing a comprehensive climate change agreement to enter into force in 2020. We need to act now and find ambitious solutions to hold global warming below 2° C. This is urgently required in the light of unambiguous scientific projections of the dramatic impacts of climate change.

Within the Kyoto Protocol, carbon market mechanisms have been at the backbone of mitigation efforts. Since their start in the early 2000s, the Clean Development Mechanism (CDM) and Joint Implementation (JI) have leveraged billions of euros of private financing in over 8000 emissions reduction projects. The EU Emissions Trading System (EU ETS) has so far been the largest source of demand for credits from these mechanisms.

However, the current lack of ambition in the global climate regime negatively affects the carbon market: Demand for emissions reduction certificates is shrinking in the absence of appropriate mitigation targets globally, prices are falling and incentives for mitigation are therefore decreasing. During the second commitment period of the Kyoto Protocol, the demand from the EU ETS will not continue at the same level as before, and recently emerging emissions trading systems in other countries and regions do not yet make up for the reduced demand of the EU ETS.

At the same time, many believe carbon finance must play a vital role in the future climate finance architecture: It is a central instrument for leveraging much-needed private funds. In parallel to the negotiations on mitigation targets, the international community is therefore working on enhancing and improving the supply side: By introducing a New Market Mechanism and reforming the Clean Development Mechanism.

The new market mechanisms, as defined in 2011, aim at upscaling mitigation efforts from individual projects to sectoral levels and achieving net mitigation beyond offsetting. While the exact role and modalities for the New Market Mechanism in the post-2020 agreement still need to be defined, the European Union has put forward one of the most concrete proposals. Yet, progress in the international negotiations remains slow, and the question of how to increase global mitigation ambition looms large.

What we need, against this background, is concrete action to enhance the dynamics of the international discussions. Despite all challenges and uncertainties, there are countries pioneering in the field of new market-based instruments in order to be ready once a new system enters into force. We need these pioneers, these visionary countries, to bring climate policy forward. Germany is cooperating with many of them in order to develop and test possible approaches. In order not to reinvent the wheel, it is also critical to build upon experiences from the CDM. Important steps towards reforming and improving the CDM have already been taken. They helped to overcome some of the initial flaws that the CDM undisputedly had and to bridge the gap to upscaled new market mechanisms.

These bottom-up activities and pilots can provide important input for the international negotiations. While it is possible that country-specific approaches to the New Market Mechanism might differ, it will be central that we can actually count on what is traded – following the well-known principle that a ton must actually be a ton. This is where bottom-up processes must be framed by internationally defined accounting frameworks.

However, we must also continue working on the demand side of the equation. The fading demand for certificates is putting the entire – existing and future – market at risk. The challenge will therefore be to synchronize the establishment of market mechanisms with raising ambition on the international level. Market mechanisms cannot function without appropriate mitigation targets. Since the early years of the CDM, Germany has been a key actor in fostering international carbon markets. We will continue our efforts by cooperating with our partners on reforming and further developing the global carbon market. This brochure provides a synopsis of the diverse portfolio of our activities and I hope you can use it as an inspiration for joint work to come on the future of the carbon market.



Jochen Flasbarth
State Secretary

Introduction

With climate change advancing at a high speed, global society is confronted with what is likely to be the largest challenge humankind has ever experienced. Avoiding dangerous climate change demands fundamental changes to our economies and ways of living. There is urgent pressure to act, yet many industrialised countries hesitate to engage in ambitious climate protection as they are still recovering from the collapse of the global financial system in 2008 and the subsequent economic crisis. In the light of these circumstances, efficient allocation of financial resources to induce the necessary transformation processes is deemed key.

International carbon markets have been identified as an efficient instrument for reaching these goals. Since the entry into force of the Kyoto Protocol in 2005 and the introduction of the two project-based mechanisms Clean Development Mechanism (CDM) and Joint Implementation (JI), the global climate community has gained valuable experience and both recognised the achievements of the mechanisms and identified their limitations. The agreement on a second Kyoto Protocol commitment period reached at the Doha climate summit in 2012 provides the scope to further increase the mechanisms' performance. At the same time, experience gained can be fed into the process of developing emerging new market mechanisms that may become part of a post-2020 global climate agreement to be agreed by 2015. This process is accompanied by important developments at the national level, as several developing countries build on the knowledge gained with the CDM and are currently developing domestic market-based approaches. The support provided through initiatives such as the Partnership for Market Readiness (PMR) has been key to this progress. Thailand, for instance, has been granted PMR funds to implement a domestic energy efficiency scheme and an urban emissions offset system, which are expected to pave the ground for a future mandatory emission trading scheme (ETS). However, the capacities and knowledge established through the CDM can also be used outside market-based approaches, such as in the context of results-based finance. The World Bank's Carbon Initiative for Development (Ci-Dev), for instance, makes use of the CDM infrastructure to provide funding to energy access programmes.

Against this backdrop, the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) supports a wide range of activities within the context of international carbon markets. The idea behind this is to promote innovative approaches in all areas of the carbon market with a view to increasing the mechanisms' performance, advancing their scope towards hitherto neglected areas and ensuring their environmental integrity and contributions to sustainable development. Further, options to expand the scale of mitigation activities beyond the existing carbon mechanisms are explored.

The first range of activities presented in this brochure are aimed at providing support to specific carbon market stakeholders. The initiatives assist businesses and political stakeholders as well as the interested public and the research community.

The second section of this brochure presents BMUB-supported initiatives aimed at promoting CDM activities in Least Developed Countries (LDCs). These regions with low levels of development have been largely neglected by carbon markets in the past, despite holding vast and strongly sustainable emissions reductions potential.

A third range of activities aim at expanding the scope of the CDM by fostering the implementation of Programmes of Activities (PoAs). PoAs hold the potential to tap small and regionally dispersed emission sources at considerably low transaction costs. Despite these benefits, their application has been restrained by financial as well as regulatory obstacles. These barriers to PoA development are targeted by the BMUB-funded initiatives.

The fourth section of this brochure presents several initiatives that go beyond the current project-based mechanisms and try to elevate the idea of carbon markets to the next level. Building on the experience gained with CDM, JI and emissions trading, these initiatives explore various options to increase the scope of future carbon markets and enhance national climate policy action.

Cross-Cutting Support for Carbon Market Stakeholders

The project-based mechanisms, CDM & JI, have developed dynamically since their introduction in 2005. At the same time, the mechanisms' performance displayed a number of shortcomings over the years, such as an unbalanced geographical distribution of projects and the underrepresentation of certain business sectors. Moreover, the lack of ambitious climate targets and an oversupply of certificates led to reduced demand and negative price signals. For emerging and middle-income countries, new market-based approaches such as emission trading schemes are therefore coming into play.

Against this background, BMUB funds various initiatives that provide cross-cutting support to specific stakeholders: One BMUB-funded initiative aims at assisting decision makers in key regions to use existing and future carbon market instruments in the implementation of climate change mitigation activities. A second initiative serves policy makers, the research community and the interested public by providing policy and scientific advice along with media outreach.

Boosting Carbon Market Development in Key Regions: The Country Managers for the Global Carbon Market

With its CDM/JI Initiative, BMUB strengthens its collaboration with emerging and developing countries in this field and fosters involvement of German businesses in carbon reduction activities worldwide. As part of this initiative, BMUB has commissioned Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH to host Carbon Market Units in India, Brazil, Uganda and in the MENA region.

Fostering Carbon Market Activities and Paving the Way for New Climate Instruments

The objective of this long-term international cooperation project is for public and private decision makers to have the capacity to use existing and new carbon market instruments for the implementation of nationally adapted climate activities. Further, the Carbon Market Units facilitate market access for German businesses, technology providers and project developers. Since 2008, the project has promoted single CDM activities as well as Programmes of Activities in key partner countries and the improvement of the respective national frameworks for climate change policies. With new instruments evolving at

international level, the Country Manager Project is increasingly focusing on the development of new market mechanisms and the interlinkages between market instruments and partner countries' Nationally Appropriate Mitigation Actions (NAMAs). The project comprises a large variety of activities that are being implemented by the Carbon Market Units in the respective countries together with local institutions. Activities include conferences, training activities for specific sectors and project types as well as individual advice for local and German stakeholders. The Carbon Market Units also provide policy advice for partner countries in their efforts to use more encompassing climate protection instruments.

Building on the existing structures of German development cooperation in the field of climate change and energy policy allows the project to use synergies with partner countries and development cooperation agencies. This structure is particularly important for cooperation with local institutions in the development of innovative policy instruments and measures, an activity that is playing an increasing role in the project.

Tailor-Made Cooperation

Despite the common approach, the activities of the individual Carbon Market Units are tailored to suit the specific needs in the respective target countries. In the MENA region, for example, the Carbon Market Unit focuses on the development of new market mechanisms in the region. The Carbon Market Unit assisted in the launch of a stakeholder dialogue and an in-depth feasibility study to elaborate a market-based mitigation concept for the Tunisian cement sector and initiated a partnership between Tunisia and the European Commission in this regard.

In India, the Carbon Market Unit cooperates closely with the Ministry of Environment and Forests, which is responsible for approving CDM projects as well as for the development of new market mechanisms. In this connection, the socio-economic impact of the CDM in India was analysed in order to gain insights for future market-based mechanisms that strongly consider the developmental needs of the country. Furthermore, a management and information system was implemented to enable the Designated National Authority (DNA) to better monitor the Indian CDM Portfolio. A REDD+ (Reducing Emissions from Deforestation and Forest Degradation) methodology will be developed integrating the India-specific context. Last but not least, the Unit organises the annual Climate Change Policy and Business Conclave as a platform for Government and Business cooperation.

In Brazil, one focus of the Carbon Market Unit has been cooperation in CDM-related technology, and several activ-

ities were initiated together with local partners to foster Brazilian-German business partnerships. However, the post-2012 reorientation of carbon markets together with the fact that Brazil adopted ambitious voluntary reduction targets has led the Carbon Market Unit to concentrate its activities on national climate protection instruments. Among other things, the project therefore supported the analysis of options for a future national carbon market by bringing in European expertise on Measurement, Reporting and Verification (MRV) and registry issues. In view of the dynamic political context, activities in Brazil will be continued through a separate project under the BMUB International Climate Initiative (IKI).

Uganda is among the world's Least Developed Countries and has low capacity for the development of CDM projects. Mitigation potential is concentrated in complex sectors. On the positive side, however, the European Union Emissions Trading Scheme (EU ETS) provides a continued, albeit small, source of demand for credits from Uganda. The Carbon Market Unit started its activities in Uganda by assisting the Carbon Foundation for East Africa, a non-profit arm of a local CDM project developer, in the development of a transnational PoA. The PoA, which aims at distributing energy-efficient cookstoves in East Africa, was registered as the world's first multi-country CDM programme at the end of 2012. In the future, the Carbon Market Unit will also work together with the Ugandan DNA to develop standardised baselines (SBs), provide capacity building with regard to new market mechanisms and assist the Ugandan private sector to benefit from climate financing through bankable and sustainable project ideas.

Contracted Organisation

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Other Organisations Involved

Regional Centre for Renewable Energy and Energy Efficiency, Tunisia
Madhya Pradesh Forest Department, India
German-Brazilian Chamber of Commerce, Brazil
Carbon Foundation for East Africa, Uganda

Project Duration

2008–2015

Funding Sources

This project is supported by BMUB as part of its CDM/JI Initiative.

Additional Information

www.jiko-bmub.de/english/background_information/german_government_initiatives/doc/951.php

Contact

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Point of contact in Germany:

Michael Engelskirchen
Email: CarbonMarketUnits@giz.de

Points of contact in host countries:

MENA region: Anselm Duchrow
Email: anselm.duchrow@giz.de

India: Enrico Rubertus
Email: enrico.rubertus@giz.de

Brazil: Arnd Helmke
Email: arnd.helmke@giz.de

Uganda: Ina Hommers
Email: ina.hommers@giz.de

The JIKO Project – Research and Public Information Services

The Joint Implementation Coordination Unit (JIKO) within the German Environment Ministry coordinates diverse activities in the context of the two project-based mechanisms, CDM and JI. While the German Emissions Trading Authority (DEHSt) is in charge of the regulative and administrative side of international carbon markets and provides services regarding the application process for companies participating in climate protection projects, JIKO covers the policy and research side. JIKO further supports BMUB internally in developing carbon market initiatives and implementation of activities. BMUB has contracted the Wuppertal Institute to support JIKO with scientific expertise and tailor-made media outreach for both the interested public and the expert community.

Scientific Advice

The preparation of scientific policy papers and policy briefs is a core element of the JIKO project. These policy papers analyse individual aspects of the flexible mechanisms, from the evaluation of particular technologies and project types and their applicability in the CDM to the future of flexible mechanisms in an international climate regime beyond the Kyoto Protocol.

Many of the issues discussed in the policy papers have additionally been discussed with experts in complementary fora organised by JIKO.

Furthermore, JIKO regularly observes and evaluates the meetings of the CDM Executive Board (CDM EB), the Joint Implementation Supervisory Committee as well as the conferences of the parties of the United Nations Framework Convention on Climate Change (UNFCCC) and its subsidiary bodies.

Media Outreach for the Interested Public and the Expert Community

JIKO publishes Carbon Mechanisms Review, a quarterly magazine covering CDM/JI-related issues and new market mechanisms. Carbon Mechanisms Review covers recent developments in the field of international carbon market policy. It offers insights and opinions regarding the state and trends of CDM, JI and possible new market mechanisms.

The JIKO-BMUB web portal is of special interest for businesses already investing or looking to invest in international carbon markets. It contains detailed descriptions of the CDM/JI project cycles, gives information on the fungibility of CERs and ERUs in the European Emissions Trading Scheme, and provides project manuals prepared by DEHSt – the German DNA – along with other relevant legislative or regulatory information.

In recent years, the German government has focused among other things on enhancing the geographical distribution of the CDM project pipeline. To promote CDM projects in Least Developed Countries, Wuppertal Institute

Publications Available on the JIKO Web Portal

Recently published policy papers:

Quo Vadis, Africa? Update on the Uptake of the CDM in Africa

Benefitting from Carbon Markets? German Participation in CDM and JI during the first Kyoto Commitment Period

Ambitious New Market Mechanisms - Exploring Frameworks for Pilots

Carbon market-related studies available on the JIKO web portal:

Integrating Africa's Least Developed Countries into the Global Carbon Market

Prospects for CDM in Post 2012 Carbon Markets

CDM Market Support Study

Information brochures:

Carbon Market Research - German Government Projects and Initiatives

The Clean Development Mechanism - The World's First Carbon Crediting Mechanism

Mitigating Climate Change, Investing in Development: Fostering the CDM in Least Developed Countries



The magazine Carbon Mechanisms Review covers CDM/JI-related issues and new market mechanisms as well as recent developments in the field of international carbon market policy.

compiles information on potential and relevant processes for conducting CDM projects in the 20 most important LDCs. These synopses complement existing host country information on the JIKO-BMUB web portal. Host country information will then be available for countries that collectively host more than 95% of all existing CDM projects.

The JIKO-BMUB web portal also provides detailed introductory information on the history, the functioning and the development of the project-based mechanisms. It serves as a knowledge base and offers an easy entry point for anybody interested in the subject. Relevant, BMUB-sponsored studies and research projects in the field of project-based mechanisms are also compiled and presented on the JIKO web portal.

Supporting the Transition of International Carbon Markets

JIKO will continue its efforts as described above. One focus will be on the development of a new climate agreement until 2015 and the role of the flexible mechanisms in such a regime. What are the prospects of new market mechanisms and how can they contribute to making a future agreement more ambitious overall? Another focus will be on the implementation of relatively new concepts such as standardised baselines that are beginning to be implemented more widely. Last but not least, JIKO will explore the extent to which methodologies and knowledge developed under CDM and JI can be used in other parts of a climate regime such as the Green Climate Fund.

Contracted Organisation

Wuppertal Institute for Climate, Environment and Energy

Project Duration

Current project phase: 2012–2015

Funding Sources

This project is supported by BMUB as part of its CDM/JI Initiative.

Additional Information

www.jiko-bmub.de/english

Contact

Wuppertal Institute for Climate, Environment and Energy

Christof Arens

Email: jiko@wupperinst.org

Promoting CDM Project Development in Least Developed Countries

According to the Kyoto Protocol, the CDM has a dual purpose: to promote sustainable development in developing countries and to assist developed countries in achieving compliance with their mitigation obligations. The sheer number of existing projects and certified emission reductions demonstrates that the CDM has been quite successful with regard to the latter objective.

However, the regional distribution of CDM projects is very uneven. By far the most projects are being implemented in Brazil, China, India or Mexico. Only a very small number of projects are being developed in LDCs, where sustainable development is most urgently needed.

There are a number of reasons for the inequitable geographical distribution: Firstly, Least Developed Countries typically have limited potential for CDM projects, be it due to little economic activity or be it a difficult climate for investment. Secondly, LDCs often lack capacity with regard to financial resources, national expertise or administrative processes and support by the relevant ministries. Thirdly, the rules and regulations of the CDM itself pose barriers to project implementation in LDCs: The CDM incentive structure favours large projects with low transaction costs in contrast to projects in rural areas that are typically small-scale and thus have higher transaction costs. BMUB supports various initiatives that target these barriers in order to promote a more equitable distribution of CDM projects and increase the CDM's effect on sustainable development.

Strategies for Carbon Market Development through Standardised Baselines in African LDCs

Standardised baselines can contribute to removing barriers for the development of CDM projects in LDCs. Currently, every CDM project has to develop a business-as-usual scenario reflecting what would happen in the absence of the project in question. That scenario serves as a baseline that is used to calculate emissions reductions. Under a standardised baselines approach this is no longer necessary. A country can propose a standardised baseline for a particular sector through its DNA. Once approved, every project that falls below the baseline qualifies for the CDM if it demonstrates that it is financially not viable without the CDM.

Standardised baselines thus help to reduce transaction costs and improve profitability of small-scale projects and projects in rural areas and regions of low development, where financial resources are scarce. Furthermore, the development of project-specific baselines typically requires large administrative capacity. With a standardised baseline in place, the capacity needs for individual projects are reduced.

The Conference of the Parties (COP) in Cancún 2010 therefore recommended the active promotion of SBs to foster projects in LDCs and thus to improve the regional distribution of CDM projects.

A Standardised Baseline for Rural Electrification in Ethiopia

To support this, BMUB commissioned Perspectives Climate Change GmbH and UNEP Risø to conduct a research project, "Strategies for carbon market development in African Least Developed Countries". The aim of the project is to develop strategies and practical approaches to eventually enable sustainable development in LDCs through increased participation in carbon markets.

As part of the project, a case study will be conducted on rural electrification in Ethiopia. The objective of this case study is to identify knowledge gaps and develop strategies to overcome existing barriers. The project formulates a strategy paper for the Ethiopian DNA and other stake-



SB's can assist the development of small-scale CDM projects in LDCs that provide particularly high contributions to sustainable development: the cookstoves project in Lusaka, Zambia.

holders providing recommendations on the practical applicability of SBs in the Ethiopian rural electrification sector and successful administrative implementation. Based on this experience, an advisory tool will be developed providing guidance on how to formulate and create SBs and how to fulfil data management requirements. Lessons learned from the case study will be used to assess the potential for replication of the project in other sectors, countries and regions.

Developing an Advisory Tool together with Ethiopian Stakeholders

In a first step, Perspectives Climate Change and UNEP Risø identified the necessary steps to develop a standardised baseline for rural electrification by analysing literature and by interacting with key local institutions. Consultations with those stakeholders were held during a field trip to Ethiopia. These activities resulted in the preparation of a strategy paper for further capacity building within institutions relevant to the development of SB projects in the rural electrification sector. The strategy paper further explores existing processes and financing sources that can be used as a basis for capacity building.

In a second step, the project team enters into a dialogue on strategy and capacity building with a broader group of Ethiopian stakeholders. A workshop with national and regional actors took place in the first half of 2013. The workshop covered processes identified in the strategy paper

mentioned above, including activities for enhancing regulatory infrastructure, administrative processes and access to finance for implementation.

Based on experience from the stakeholders involved, the strategy paper was fine-tuned for the best possible fit with local and regional circumstances. The final strategy paper analyses the potential of standardised approaches (methodologies, baselines and additionality demonstration) for rural electrification in Ethiopia, and recommends strategic options for the Ethiopian DNA to harness the potential of these recently approved methodological innovations.

The next phase of the programme will consist of four assignments (i.e. short analytical studies or related capacity development) which will focus on specific issues that have been identified as key steps to facilitate moving potential CDM projects closer to implementation. These studies jointly developed with Ethiopia's DNA will focus on the knowledge and capacity needs of local stakeholders. Potential topics are institutional capacities (e.g. providing related training for key stakeholders such as PoA Coordinating/Managing Entities, and quality control and quality assurance for SBs), the scaling up of renewable energy projects for rural electrification and the assessment of specific data and aspects regarding measurement, reporting and verification of emission reductions.

Finally, an advisory tool will be developed which will assist DNAs and practitioners in developing and implementing standardised CDM approaches for rural electrification in Eastern Africa, based on the experience in Ethiopia. The tool will be applicable not only for the rural electrification sector in Ethiopia but also for other sectors and other regions, notably Sub-Saharan Africa.

Contracted Organisation

Perspectives Climate Change GmbH, UNEP Risø Centre

Project Duration

2012–2015

Funding Sources

The project is supported by the German Federal Environment Agency (Umweltbundesamt) as part of the German Environmental Research Plan.

Contact

Perspectives Climate Change GmbH

Stefan Wehner

Email: wehner@perspectives.cc

Expanding Carbon Markets: The Gold Standard Programme for Underrepresented Regions

Least developed countries in general, and African LDCs in particular, have hardly participated in the CDM. The reasons for that have been discussed above but can mostly be tracked down to a lack of capacity and high transaction costs due to the small-scale nature of many projects.

The situation is different for what are referred to as voluntary carbon markets. Voluntary carbon markets offer the opportunity for companies or individuals to offset their carbon footprint voluntarily, including in sectors that are not regulated by climate policy. Unlike in the CDM compliance market, projects for voluntary markets do not have to undergo the process of registration by the CDM Executive Board and do not need host country approval. Of course, such projects have to be certified as well, but the voluntary nature of the market allows for a more flexible but equally robust approach that can lead to reduced transaction costs in comparison with the CDM. This holds especially for Africa, as African CDM potential consists of a large share of small-scale projects with particularly high transaction costs. Furthermore, small-scale projects in very poor countries often feature many co-benefits: They contribute to sustainable development and improve the livelihoods of many. Such projects are highly valued by buyers of voluntary carbon credits as they not only reduce carbon emissions, which can be used for offsetting, but also enhance the buyer's reputation because of the sus-

The Gold Standard

The Gold Standard is a premium climate finance framework, established by NGOs, including WWF, to demonstrate that carbon markets can deliver capital efficiently to greenhouse gas mitigation projects whilst delivering their full potential in terms of sustainable development co-benefits. The Gold Standard has additional requirements to safeguard its approach: Complementing the CDM documentation, project developers must demonstrate that they will implement one or more renewable energy or energy efficiency activities and will contribute to sustainable development by making a net-positive contribution to the economic, environmental and social welfare of the local population hosting the project.

tainable development benefits of the project. In contrast to compliance markets, which are currently suffering from extremely low prices, high quality projects in the voluntary carbon markets are currently under less pressure.

Lowering Entry Barriers and Allowing for the Scaling-up of Carbon Markets

The Gold Standard is one of the major actors in the voluntary carbon market and has significant experience in developing top-down and bottom-up methodologies for the voluntary carbon market (see box). In a three year programme of work, BMUB commissioned The Gold Standard Foundation to develop new micro-scale methodologies for the voluntary carbon market.

The Gold Standard has consequently developed a set of innovative tools that lower entry barriers and allow for a scaling-up of clean energy/energy efficient activities in previously underrepresented regions. The work aims to be a catalyst for innovation and institutional preparation in the target region, with the hope that the concrete solutions will be transferred to other countries. It is also hoped that the new concepts will diffuse to compliance schemes, once again fostering the participation of underrepresented regions.

Innovative Tools as Part of an Integrated Approach

To tackle the entry barriers for carbon market activities in the target region, The Gold Standard has developed an integrated approach consisting of several individual activities and measures:

It has revised its rules and procedures for micro-scale projects and Programmes of Activities. A new micro PoA scheme is one of the cornerstones of the programme that will allow scaling up of activities in underrepresented regions while keeping transaction costs low. Under the standalone micro-scale scheme, project developers can reduce transaction costs as well as project registration and issuance timelines and benefit from simplified procedures. Projects are eligible for the scheme if their activities are capped at a maximum of 10,000 tCO₂e reduced annually



The Gold Standard certifies a broad range of climate change mitigation activities, such as the biogas programme of Vietnam, which provides access to clean energy and manure management solutions to improve the livelihoods of many.

and if they implement renewable energy supply, energy efficiency and waste management and handling measures in LDCs, Landlocked Developing Countries and Small Island Development States or target poor communities elsewhere. The Gold Standard micro-programme scheme allows the extension of these micro-scale activities to a programmatic approach, combining the benefits of both concepts.

Another element of The Gold Standard Programme consists of special procedures for projects in conflict zones and refugee camps, where project proponents face considerable challenges in contracting a Designated Operational Entity (DOE) for validation and verification procedures. Under these circumstances, the new rules allow for a deviation from the usual procedures combining desk reviews by DOEs with on-site visits by objective observers, supporting project activities located in such zones.

The Gold Standard DNA Programme is another pivotal activity of this project. Building on its experience in ensuring that the social, environmental and economic benefits of its projects reach local and global communities, The Gold Standard supports DNAs that have adopted rigorous procedures for the assessment of sustainable development contributions. Memoranda of Understanding have already been signed with DNAs from the Philippines, Egypt and Rwanda. The DNA programme is further providing institutional capacity building to DNAs that are at the stage of developing sustainable development assessment procedures and criteria.

New Methodologies, Improved Training

The Gold Standard has also developed innovative tools in a number of fields of activities. The new rules for micro-

Contracted Organisation

The Gold Standard Foundation

Other Organisations Involved

Perspectives Climate Change GmbH NIRAS
South South North

Project Duration

2011–2014

Funding Sources

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Additional Information

www.goldstandard.org

Contact

The Gold Standard Foundation
Lloyd Fleming
Email: lloyd.fleming@goldstandard.org

scale projects and PoAs are complemented by an additional four new methodologies and web-based tools released in 2013. The new methodologies focus on rural electrification and energisation, the processing of agricultural products and food preservation. In addition, the methodology for efficient cookstoves has been simplified. A capacity-building workshop conducted in 2013 provided training on the new methodologies.

In order to improve the assessment of sustainable development impacts, an individual accreditation scheme, together with an online training tool, was launched in 2013 along with case studies to help project developers and auditors.

Re. Ecological Integrity – A Watchdog for the CDM

Many CDM projects are criticised in terms of sustainability and environmental integrity. Social acceptability is frequently questioned. However, the people directly affected by projects in the host countries often lack the ability to influence how projects are implemented and have no voice in the international debate.

CDM Watch was set up with financial support from BMUB as a watchdog organisation specifically focusing on the side-effects of the CDM. The idea of CDM Watch was to strengthen the ability of civil society groups in selected host countries, influence the implementation of projects and the international debate on redesigning the flexible mechanisms, and hence enable civil society to voice its concerns within both the national and the international context. The project thus contributed to improving the environmental and sustainability benefits of the CDM.

Strengthening the Voice of Civil Society

CDM Watch specifically aimed to support civil society in the global south. CDM Watch repeatedly exposed weak governance rules and practices. Capacity-building workshops were organised targeting civil society in India, China, Brazil, South East Asia and Mesoamerica.

CDM Watch also supported national organisations in host countries to address challenges encountered with local stakeholder consultations. For example, they supported a number of Panamanian organisations that felt were not consulted during the validation process for the Barro Blanco hydropower project on the Tabasara River in Western Panama. CDM Watch amplified the voices of these or-

ganisations and raised concerns about weak rules for local consultation and questionable additionality. The issue of human rights abuses was also highlighted in relation to a project in the Bajo Aguan region, Honduras.

Advocating Robust Rules

Within the United Nations Framework Convention on Climate Change, CDM Watch advocated for stronger environmental and social integrity of UN offsetting schemes. They raised concerns about weak rules and CDM projects with negative impacts at major UNFCCC and CDM Executive Board meetings and provided recommendations for improvement.

CDM Watch was particularly successful in exposing perverse incentives in HFC23 destruction projects. They claimed that the companies involved expanded their production of HCFC, a refrigerant, to increase the production of the unwanted and highly climate-relevant HFC23 gas so as to maximise profits from CERs generated by the destruction of the same HFC23. As a result, a thorough revision of the respective CDM methodology was carried out and the EU decided to ban the use of CERs from industrial gases in the EU ETS.

The work of CDM Watch also led to the improvement of local stakeholder consultation rules, raised the importance of sustainable development in the CDM, and pointed at the importance of addressing human rights in this context. Other campaigns focused on CDM coal power projects, forestry and other land-use projects, and hydropower.



Workshops provide the opportunity to share information about CDM developments and strengthen the voice of civil society.

Coordinating a Civil Society Network

Besides its role as a watchdog advocacy group, CDM Watch connected more than 800 civil society organisations in developing countries through the CDM Watch Network. The network comprises environmental groups, development groups, local movements from the global south and academic institutions.

The network provides a platform to share information about CDM policy developments, alerts about opportunities for public input in the project validation process and provides peer support for questions related to the local stakeholder consultation process. Network members have also shared experience and encountered challenges in the implementation of CDM projects. Members further use the network list as a resource to seek information from partners on the network.

From CDM Watch to Carbon Market Watch

CDM Watch was supported as part of BMUB's International Climate Initiative. This funding helped to kick-start the project. Since then, CDM Watch broadened its focus to a wider range of carbon market initiatives. CDM Watch was re-launched as Carbon Market Watch in November 2012 and now also works on other initiatives such as new

market mechanisms, the EU ETS, Joint Implementation, Emissions Trading and Reducing Emissions from Deforestation and Forest Degradation. Carbon Market Watch continues its work without financial support from the German government.

Contracted Organisation

CDM Watch

Project Duration

2009–2011

Funding Sources

This project was part of the International Climate Initiative (IKI). The Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) supported this initiative on the basis of a decision adopted by the German Bundestag.

Additional Information

www.carbonmarketwatch.org

Contact

Carbon Market Watch

Eva Filzmoser

Email: info@carbonmarketwatch.org

Fostering Low-Carbon Investment in Africa: The African Carbon Asset Development Facility (ACAD)

The difficulties faced by African countries and especially African LDCs in attracting and hosting CDM projects not only refer to a lack of institutional capacity. Lacking capacity in the finance sector to transact carbon deals and to leverage commercial debt for CDM projects forms another barrier that stunts otherwise technically and economically viable projects. This situation has constrained African countries from being able to deploy low-carbon technologies more rapidly and implement national green growth strategies.

Preparing the African Finance Sector to Invest in Climate Change Mitigation

The African Carbon Asset Development Facility (ACAD) – a BMUB-supported partnership between the United Nations Environment Programme and its Risø Centre and Standard Bank – has been working to alleviate the described barriers since 2009. ACAD supports transactional capacity-building activities for banks and investors and also provides seed funding to project developers.

During its initial period of activity (2009–2012), ACAD supported the implementation of 15 demonstration projects and built capacity within Standard Bank and other financial institutions to bank low-carbon projects. Examples of ACAD project successes include the first large-scale wind power project in Africa to be registered under the CDM and the first registered Programme of Activities involving kerosene-replacing efficient lamps in Rwanda. Highly diversified across asset types, ACAD-supported projects are located in eight countries, a third of them in Least Developed Countries.

By stimulating more engagement on the part of African banks in climate finance mechanisms and by leveraging the closure of a pool of demonstration projects that are highly replicable in the region, ACAD is supporting market development and mobilising new investment.

ACAD's Three Lines of Support

What makes ACAD's approach to market and capacity development different is that its investment is project-spe-



One of the activities supported by ACAD is Nafa Naana, a cookstoves project in Burkina Faso. High efficient cookstoves provide health benefits and help protect the environment by reducing the amount of wood needed for food preparation.

cific, practical, flexible, and highly demand-driven. ACAD activities are organised along three main lines, the first of which entails sharing of transaction cost for low-carbon projects. ACAD supports projects that are not immediately commercially viable through grants to ensure that these projects can complete critical milestones like environmental impact assessments and project validation. Project support prioritises demand-driven projects hosted in LDCs, with replicable business models. Continued support is offered to ACAD-beneficiary projects for sustainability planning, with particular attention placed on enhancing investment access.

The second support line focuses on technical assistance for financial institutions. ACAD partners with local financial sector actors on several capacity development activity lines: multi-faceted technical assistance to address partner institutions' specific needs; capacity building on carbon footprint and greenhouse gas inventorying for African banks; developing proofs-of-concept for climate asset-backed financing in the area of dissemination of small-scale technologies through micro-finance institutions or through micro-finance arrangements, and sectoral-based new market mechanisms.

The third support line consists of stakeholder outreach and methodology development. ACAD has, for example, supported the adoption and application of a standardised baseline for all grid-connected utilities operating within the Southern Africa Power Pool (SAPP). Standardised baselines allow the typical emissions to be calculated for an entire sector, rather than for individual projects, and help boost access to climate investment in the region.

This support line also includes the African Bankers' Carbon Forum, likewise initiated by ACAD. The Forum targets

a wide range of institutions, regional development banks, private sector financial institutions, banks, insurance companies and investment funds. It is at the core of ACAD's technical assistance component.

Continued Support in a Changing Environment

Early in 2013, ACAD entered into its second implementation phase, continuing the successful partnership model it established during its first years of operation and sharing transaction costs with two project developers. ACAD continues to work with African financial institutions to enhance their literacy on carbon and climate finance, as well as with entrepreneurs to access finance through seed capital including micro-credit schemes or grants. Additionally, ACAD is supporting the transitioning of a PoA to a NAMA, working closely with public and private stakeholders.

In contrast to the first project phase, ACAD aims also to engage African financial institutions in readiness for anticipated new market mechanisms and other results-based climate financing mechanisms, both to embrace new business opportunities and to hedge the risks of currently languishing carbon markets.

With regard to the third support line described above, a major step in the second phase is the development of a standardised baseline replicating the model of the Southern Africa Power Pool in another sub-region of Africa, the West African Power Pool. The work is currently ongoing under the auspices of the Economic Community of West African States (ECOWAS) comprising 15 nations. This work is expected to be completed by June 2014.

Executing Organisation

United Nations Environment Programme

Other Organisations Involved

The UNEP Risø Centre on Energy, Climate and Sustainable Development
Standard Bank

Project Duration

2009–2014

Funding Sources

This project is part of the International Climate Initiative (IKI). The Federal Ministry for the Environment,

Nature Conservation, Building and Nuclear Safety (BMUB) supports this initiative on the basis of a decision adopted by the German Bundestag.

Additional Information

www.acadfacility.org

Contact

UNEP
Françoise d'Estais
Email: francoise.destais@unep.org
Technical University of Denmark / UNEP Risø Centre
Søren Lütken
Email: snlu@dtu.dk

Programmes of Activities – Broadening the Scope of the CDM

Programmes of Activities were introduced in 2005 as a new modality under the Clean Development Mechanism. Experience drawn from previous projects revealed that small and micro-scale abatement activities were not sufficiently covered by the CDM, mainly due to disproportional transaction costs and complex validation and registration processes. The single-project CDM structure has strongly favoured sectors that are dominated by large point sources of greenhouse gases (GHGs), whereas sectors such as transport and the building sector that are dominated by small and distributed emission sources have largely been excluded.

This characteristic has also contributed to the uneven geographical distribution described earlier. Emerging economies feature abundant large point sources of greenhouse gases that are easy to tap with standalone CDM projects. The African continent and many LDCs, instead, are characterised by mostly small emission sources and have thus attracted only a small number of CDM projects.

The PoA modality expands the scope of feasible project activity types in comparison to the standalone CDM. To date, the PoA modality has been particularly successful in the fields of energy efficiency, transportation and renewable energies.

Programmes of Activities feature a two-level structure: Small activities that would not be implemented individually due to out-of-scale transaction costs can be aggregated under the roof of one PoA. Only the programme itself and its components have to be validated and demonstrate additionality, not every activity that is covered. Once the overall programme is established, it is possible to include multiple and unlimited numbers of CDM Programme Activities (CPAs) over time without these having to undergo the whole CDM registration procedure.

However, several unsolved obstacles especially regarding the regulatory framework and financing still restrain the use of PoAs to date. In the following, three initiatives are presented that target these barriers.

Assisting the Implementation of Programmes of Activities: PoA Support Centre Germany

The PoA Support Centre Germany was introduced in 2008 on behalf of BMUB and is managed by KfW Development Bank. Against the backdrop of the technical and economic constraints in many countries, the Support Centre aims to foster the development of PoAs through capacity-building measures within local authorities and programme developers. A focus lies on activities with strong sustainable development impact in Least Developed Countries, especially in Sub-Saharan Africa. Yet the Support Centre also aims at supporting other innovative approaches which provide valuable inputs for the future development of carbon markets. Support by the PoA Support Centre covers

programme development including advisory, structuring and assessment services for programme proposals as well as grants to cover the costs for the CDM registration process. In addition, it offers its know-how during programme implementation and assists with marketing of the expected carbon credits.

A Knowledge Base for PoA Developers

By providing best practice knowledge of PoA development and the marketing of carbon credits, the Support Centre eases the implementation of PoAs for project developers

and executing organisations. Programme implementation is also supported with financial assistance granted for the preparation of programme concepts and PoA-DDs.

Furthermore, the PoA Support Centre has commissioned numerous studies that contribute to the development and improvement of the programmatic approach focusing on simplifying processes for small-scale activities through standardisation and sampling (see box). In addition to these studies, the PoA Blue Print Book was developed in cooperation with carbon market consultant Perspectives Climate Change, providing examples of PoAs for project executing bodies and project developers. The PoA Support Centre has also initiated the PoA Information and Assistance Platform (www.poaplatform.org). This web-based support instrument is managed by South Pole and Perspectives and provides resources, webinars and a Q&A blog for PoA developers.



PoAs are particularly well suited to foster the expansion of energy-efficient appliances at the household level.

Studies Commissioned by the PoA Support Centre

DNV: MRV Manual for CDM Programme of Activities	October 2013
ECOFYS/Climatekos: CDM Market Support Study	May 2013
INFRAS: CDM baseline approaches for PoA upscaling and new market mechanisms	April 2012
Perspectives: Sampling Manual – A guide to sampling under the CDM with special focus to PoAs	April 2012
Climate Focus: Handbook to standardised eligibility criteria for frequent types of Programmes of Activities	April 2012
Climate Focus/Carbonflow: CME Starter Kit	April 2012
Climate Focus/Carbonflow: Annex for CME Starter Kit SOPs and Forms	April 2012
South Pole: On the road from PoA to NAMAs	July 2011

On-the-Ground Support to Kick-start PoA Implementation

To date, the Centre has assisted in the development of 49 PoAs in 28 countries. The support ranges from early stage support in project conceptualisation to the complete registration cycle and the design and implementation of project management and monitoring structures.

Contracted Organisation

KfW Development Bank

Project Duration

2008–2015 (currently 3rd phase)

Funding Sources

This project is supported by BMUB as part of its CDM/JI Initiative.

Contact

KfW banking group
Nils Medenbach
Email: Nils.Medenbach@kfw.de

Overcoming Financial Obstacles and Developing Carbon Markets – The ‘Future of the Carbon Market’ Foundation

Programmatic market-based mitigation projects, such as CDM Programmes of Activities, can be an effective tool for the dissemination of sustainable climate-friendly technologies, even under difficult circumstances. However, the implementation of programmes faces barriers. One particular problem developers face is the lack of seed funding. Against this background, BMUB initiated the Future of the Carbon Market Foundation and endowed it with financial resources of €10 million to support selected programmatic mitigation initiatives. Funding by the Foundation is usually provided in form of advance payments against future carbon revenues.

The start-up financing is complemented with consulting activities aiming to increase public awareness, to alleviate reservations against investment in climate-friendly technologies and to build government capacity in developing countries.

The main focus of the Foundation is on small-scale emission reductions in sectors currently underrepresented in the CDM that require a high degree of organisation and have a high likelihood of being replicated in other regions or countries. However, the Foundation also intends to support initiatives which help Governments in the implementation of ambitious climate policies, making use of market-based approaches.

Long-Term Perspective on Market Development

The Foundation is set up for a timeframe of at least ten years. With this long-term perspective, the Foundation promotes programmes with strategic considerations, focusing on proposals with an innovative approach.

Supported Programmes have to fulfil certain prerequisites, which are detailed in the Funding Guidelines (available on



Fishermen on Lake Victoria using high-efficiency light bulbs.

the Foundation's website). These notably include financial viability and emission mitigation potential. A supported programme has to demonstrate strong potential for long-term sustainable operation and is required to lead to substantial emission reductions with a high replication potential.

Any programme funded by the Foundation is required to be in line with the host country's climate policies and help to implement sustainable development goals. Beyond this, the Foundation has a special focus on approaches that play a direct role in the host country's national climate strategy. This can include the implementation of ambitious climate policies which promote the use of market-based mechanisms.

Initial Phase of Operation

The Foundation identified its first funding initiatives in 2013. Details on the supported programmes will be published on the Foundation's website. The Foundation also supports the development of Standardised Baselines and has recently started to assess the potential in the charcoal sector in West African countries. Further support for Standardised Baseline development is planned for 2014.

The Future of the Carbon Markets Foundation launched its second call for proposals in February 2014. The deadline for submissions is mid-April. Applications can also be submitted after the deadline, but it cannot be guaranteed that they will go into the ongoing selection round. The foundation aims to support an average of two PoAs per year. The maximum funding amount per project is €2 million.

Contracted Organisation

KfW Bankengruppe

Other Organisations Involved

Executing agencies of the programmes, banks, non-governmental organisations

Funding Sources

This activity is part of the International Climate Initiative (IKI). The Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) supports this initiative on the basis of a decision adopted by the German Bundestag.

Additional Information

www.carbonmarket-foundation.org

Contact

KfW banking group
Nils Medenbach
Email: Nils.Medenbach@kfw.de

Advancing the Development of the Programmatic CDM: The PoA Working Group

In contrast to the PoA Support Centre, the PoA Working Group does not directly assist with the development of programmes, but focuses on the scientific, regulatory and policy side of PoAs. It provides a platform for dialogue to allow for the exchange of experience and the coordination of support for PoAs, and it acts as a change agent to reform the rules of the PoA framework and to strengthen the PoA as an instrument.

The PoA Working Group was established in November 2011 with support from BMUB. The Working Group is led and coordinated by Perspectives Climate Change. It consists of well-established, topic-related agents such as the

BMUB itself, the World Bank, United Nations Development Programme (UNDP), the Project Developers Forum, the DNA Forum, KfW, the German Emission Trading Authority, the Institute for Global Environmental Studies (IGES), the Designated Operational Entities Forum, the Swedish Energy Agency and the Belgium Technical Cooperation.

Impacts of the Working Group

At six official meetings, several experts and representatives of related institutions (e.g. UNFCCC, single DNAs or DOEs)



Solar home systems are ideally suited for programmatic CDM.

provided their input on the current situation and the further development of PoA modalities and procedures.

The Working Group provided submissions to the several CDM Executive Board meetings concerning technical PoA matters. Among others, it made recommendations regarding the threshold limits for micro-scale activities regarding additionality, the start date of CPA implementation in relation to the overall PoA start date, the sampling, monitoring and verification of CPAs and the provision of serial numbers for multi-country PoAs. Most of the recommendations were taken up by the CDM EB and led to changes of rules and procedures. For example, a procedure for cross-CPA sampling proposed by the PoA Working Group was agreed upon.

Furthermore, the Working Group provided input to UNFCCC DNA training workshops and to UNFCCC Joint Coordination Workshops and CDM roundtables. In addition, the Working Group elaborated recommendations with regard to suppressed demand guidelines, environmental integrity and technical matters.

Research Continues

The Working Group has proved to be a valuable body of experts: In particular, the combination of expertise in financial matters and the existing experience among the members in implementing PoAs and other mitigation actions in the host countries allows for fast identification of pressing issues for PoA implementation and the development of appropriate solutions. The Working Group will continue to work on improving the PoA framework and promoting dialogue on PoA-related topics. Another interest for the future is how experience with the PoA concept as such and with related instruments (standardised baselines, sampling approaches, MRV systems, institutional setup) can be used to shape and design future emission mitigation instruments.

Contracted Organisation

Perspectives Climate Change GmbH

Other Organisations Involved

World Bank, United Nations Development Programme (UNDP), Project Developers Forum, DNA Forum, KfW, German Emission Trading Authority (DEHSt), Institute for Global Environmental Studies (IGES), KfW, Project Developers Forum, Designated Operational Entities Forum, Swedish Energy Agency, Belgium Technical Cooperation.

Project Duration

Ongoing since 2011

Funding Sources

This project is supported by BMUB as part of its CDM/JI Initiative.

Contact

Perspectives Climate Change GmbH

Marc-Andre Marr

Email: marr@perspectives.cc

Emerging Carbon Markets

The German government is strongly advocating for a more comprehensive global climate regime and foresees an important role for international carbon markets. To date, the CDM is the only large-scale example of a global carbon market mechanism. The mechanism can serve as a treasure trove of experience for the development not only of future market mechanisms but also for other mitigation instruments. Of particular value is the growing body of methodologies and the CDM's approach to measurement, reporting and verification of emission reductions.

However, the CDM with its project-based nature is limited in scope and will likely not be comprehensive enough to trigger mitigation efforts at the scale needed. Furthermore, many hope to improve the environmental integrity of the climate regime by switching over to more comprehensive (e.g. sectoral) approaches. Last but not least, it is common understanding that carbon markets must not continue as pure offsetting mechanisms in the future. For the development of new market mechanisms, parties have therefore decided that the new mechanisms must generate net mitigation on top of credits that are used as offsets for compliance with others' mitigation obligations.

BMUB therefore supports a number of initiatives that elevate the idea of the CDM and international carbon markets in general to the next level. PoAs, as discussed above, are already one step towards widening the project-based approach under the CDM. Other initiatives supported by BMUB focus on market readiness for new market-based instruments, the development of emission trading schemes and linkage of ETSs. Furthermore, the Ministry supports two initiatives that transfer the ample experience from the CDM to the context of nationally appropriate mitigation actions in developing countries. These initiatives are portrayed below.

Piloting New Market Mechanisms – A Partnership for Market Readiness

Many believe that carbon markets can play a vital role in efficiently leveraging private finance to contribute to this challenge. The CDM has proven to trigger investment in low-carbon technologies in developing countries and to create financial flows into developing countries. However, the net mitigation impact of the CDM is considered limited, due to its nature as a project-based offsetting mechanism.

To overcome these limitations, new market mechanisms were discussed under various terminologies until in 2011 parties agreed that a New Market Mechanism should be established under the UNFCCC. This would address emissions on a sectoral scale and result in net emissions reduc-

tions by integrating developing countries in an enhanced manner into mitigation efforts. At the same time, a number of frontrunner countries are already introducing market-based instruments for climate protection in a bottom-up manner or planning to do so. The idea is to speed up the process and to be ready for a new climate change agreement once it enters into force.

Building Blocks for Carbon Markets

The Partnership for Market Readiness was launched at the climate talks in Cancún in 2010 to support proactive countries in preparing and implementing innovative carbon market instruments. The PMR provides financial and



Ticket to ride: The government of Mexico City operates the second busiest publicly owned transit system in North America after New York City. Parts of the service are operated by a bus rapid transit system. With its NAMA proposal, the country intends to systematically upgrade public transport.

technical support: It serves as a dialogue forum to share experience between industrialised countries having market-based instruments already in place and developing countries currently implementing such instruments. The implementation of these instruments is then supported financially and through capacity-building workshops.

Implementing countries (see table) are invited to prepare “Market Readiness Proposals” (MRPs): comprehensive strategy papers that are based on systematic analyses and stakeholder consultations. These proposals lay down a roadmap for developing and implementing domestic market-based instruments. The readiness proposals are discussed at regularly held meetings of the Partnership Assembly and feedback provided for the implementing countries. The Partnership Assembly decides whether the PMR should support the implementation of a proposal financially since the PMR also serves as the trustee for the currently over US\$ 127 million pledged by contributing parties.

The support focuses on central building blocks of market mechanisms, such as systems for measurement, reporting and verification, data collection, baseline setting, and the establishment of regulatory institutions.

Meanwhile, seven countries have submitted their final MRPs and two more countries have presented draft MRPs. The substance of the MRPs and the approaches chosen by the respective countries differ substantially. Thailand, for example, was granted funds to implement a voluntary mechanism to incentivise and credit energy demand reductions – what is called a white certificate scheme – and an offsetting scheme for urban emissions. In a second step, the Thai government plans to prepare draft legislation for a mandatory emission trading scheme including an offsetting mechanism for 2020. Other countries such as China and Chile are already at various stages of developing emissions trading schemes. China for example has already started pilot emission trading schemes to test different approaches in a variety of industrial centres including

Participants in the Partnership for Market Readiness	
Implementing Country Participants	Contributing Country Participants
Brazil	Australia
Chile	Denmark
China	European Commission
Colombia	Finland
Costa Rica	Germany
India	Japan
Indonesia	Netherlands
Jordan	Norway
Mexico	Spain
Morocco	Sweden
Peru	Switzerland
South Africa	United Kingdom
Thailand	United States
Tunisia	
Turkey	
Ukraine	
Vietnam	

Beijing and Shanghai and aims to develop a national scheme based upon the experience gained. US\$ 22.6 million has been allocated in grant funding for the implementation of the MRPs in the 2013 fiscal year.

“The Only Game in Town”

The Partnership Assembly, as both the PMR’s governing body and its dialogue forum, has been successfully established and taken up work. Christiana Figueres, Executive Secretary of the UNFCCC, stated that she sees the PMR as “the only game in town” when it comes to the development of new market mechanisms. The PMR’s success is

due to partners working together constructively and not politicising discussions – as is unfortunately too often the case in the international negotiations.

At the same time, experience and lessons learned in the PMR can be fed back into the UNFCCC process. In parallel, the private sector has set up the Business Partnership for Market Readiness (B-PMR) to enhance dialogue between the International Emissions Trading Association (IETA) and industries in PMR countries planning on introducing a domestic emissions trading system. The B-PMR aims to enhance awareness regarding emissions trading systems and to facilitate decision-making processes in line with PMR processes.

Contracted Organisation

The World Bank

Project Duration

2011–2021

Funding Sources

The German contribution is provided through the International Climate Initiative (IKI) of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB). BMUB supports this initiative on the basis of a decision adopted by the German Bundestag.

Additional Information

www.thepmr.org

Contact

The World Bank’s Carbon Finance Unit PMR Secretariat

Email: pmrsecretariat@worldbank.org

The Clean Development Mechanism and Emerging Offset Schemes: Options for Reconciliation?

A Trend of Carbon Market Splintering

The global carbon market has increasingly fragmented over the past few years as various jurisdictions have opted to develop new alternative mechanisms, departing from the erstwhile standard of the Clean Development Mechanisms. Prominent examples include the Australian Carbon Farming Initiative, the offset protocols for the emissions trading systems being implemented in California and Quebec, Japan's Joint Crediting Mechanism, 'Chinese Certified Emission Reductions' developed for the Chinese market, and perhaps offset provisions in the planned South Korean ETS. The development of new carbon standards outside the existing multilateral framework may lead to an increasing splintering of the global carbon market and pose a challenge to future linking of different emission trading schemes. The design of new offset systems can be construed as a reaction to the perceived failings of the CDM and an evaluation of their characteristics may therefore contribute to discussions on how to reconcile the CDM and other instruments in international carbon markets.

The research and dialogue project, Linking Carbon Markets through the CDM and Other Offsetting Mechanisms, sought to analyse the climate policy frameworks in Australia, California, Japan and South Korea, with a focus on their offset policies. Preliminary findings were presented at the CDM Roundtable in April 2013 and at a workshop and a side event during the UNFCCC intersessional in May 2013.

A Global Currency for Carbon Offsets

The analysis found a number of different motivations for the ongoing fragmentation of the carbon market. On the one hand, the general critiques of the CDM have been echoed in Australia, California and Japan, in particular with regard to the CDM's project-by-project approach to determining additionality. On the other hand, each jurisdiction also has its own specific reasons for departing from the CDM, in each case influenced by local circumstances and political contexts. In California, initial interest in the CDM disappeared after a change of governor and the administration has had to proceed carefully due to a

particularly active local environmental community that has repeatedly challenged the state's emissions trading and offset policies. In the Japanese case, the issue should probably be seen in the broader context of Japan's general opposition to the Kyoto framework. South Korea has shown a preference to focusing on domestic reductions and has completely ruled out the use of international credits until at least 2020.

Regarding their own offset systems, Australia, California and Japan all reject the project-by-project approach to additionality that the CDM has taken so far and instead promote an ex-ante additionality assessment for entire classes of projects. They consider this to be not only more efficient and cost-effective but also more 'objective', implying a higher degree of environmental integrity.

A Continued Role for the CDM as De Facto Standard Setter?

Looking at the systems in detail, it becomes apparent that each policy was not developed in a vacuum, but rather their approaches and methodologies borrow a great deal from the CDM. The CDM has served as a kind of 'open source' material which was then modified to suit the specific needs of each jurisdiction. The CDM has also (slowly) moved in the direction of the larger trend towards adopting standardised baselines, which may also be used to demonstrate additionality. Despite the divergent reasoning that jurisdictions have taken up with regard to their offset policies, moving towards greater standardisation may enhance the CDM's acceptability from the perspective of the systems examined and of future systems.

Scope for a further role of the CDM may thus lie in its prolific methodology development function. If efforts to develop standardised baselines and criteria for automatic additionality are earnestly pursued, the CDM may be able to maintain a role as de facto standard setter and thus contribute to coherence in the international carbon market.

Standardisation alone is, however, not a panacea. While increased standardisation may lower overall transaction costs in an individual system, it also frontloads transaction

costs and shifts them from project participants to those who develop the standardised metrics. Individual savings on transaction costs may be lost when the world at large is awash with competing standards. One option to fund these efforts may be to use the scaling up of climate finance that has been pledged by industrialised countries. The CDM presents a readily established global standard to achieve measurable, reportable and verifiable results from climate finance. Instead of using CDM credits to achieve their emission targets, governments could choose to count the money spent towards their finance commitments and cancel the credits.

Contracted Organisation

adelphi and Wuppertal Institute for Climate, Environment and Energy

Project Duration

2011–2013

Funding Sources

The project was funded by the German Federal Environment Agency (Umweltbundesamt) as part of the German Environmental Research Plan.

Additional Information

www.dehst.de/EN/Climate-Projects/Project-Mechanism/CDM/cdm-past-2013/cdm-past_node.html

Contact

adelphi

Dennis Tänzler

Email: taenzler@adelphi.de

Tapping Mitigation Potential at Multiple Levels – Vertically Integrated NAMAs

Keeping the global mean temperature rise below 2 °C requires increased effort not just in developed countries, but also in developing countries. Several developing country governments have proposed Nationally Appropriate Mitigation Actions to contribute in this regard.

Cities are major contributors of greenhouse gas emissions. At the same time, sub-national authorities at provincial and local level have key powers in a number of relevant sectors such as waste management, buildings and transport. There is a need for subsequent involvement of these actors in the planning and implementation of NAMAs. At the moment, however, there is a lack of experience with integrated approaches to align the interests of these multiple government levels to achieve national mitigation targets, and with the respective instruments needed for effective planning, management and monitoring.

Embracing Multiple Levels of Government in NAMA Planning and Implementation

The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH, with funding from BMUB, has initiated the

Vertically Integrated NAMA (v-NAMA) programme to develop a practical approach for integrating multiple levels of government in the process of NAMA design and implementation. The Governments of Indonesia and South Africa both have ambitious national climate strategies and in that context have decided to test the v-NAMA approach in practice. Indonesia is focusing on the development of a v-NAMA in the municipal solid waste management sector and South Africa on energy efficiency in public buildings at provincial and municipal level.

Based on the experience from these two NAMAs, the v-NAMA programme will develop practical guidance for the design and implementation of v-NAMAs, which will also be mainstreamed into existing toolboxes and handbooks on NAMA development. Experience with the approach will also be fed back into the international negotiations process. The project thus promotes efforts to shape future NAMA mechanisms in such a way that they can increasingly unlock mitigation potential that is under the jurisdiction of sub-national actors.



In Indonesia, the v-NAMA programme is targeting the waste sector.

Implementing v-NAMA Pilot Programmes

Important steps in preparing the v-NAMA pilot programme have been taken in both partner countries. First, both countries installed national steering structures that include representatives of the relevant ministries along with sub-national actors. Second, the project teams, consisting of employees of the GIZ climate programmes in both countries and local consultants identified key barriers, estimated the mitigation potential, and discussed possible strategies and measures to overcome the barriers with the help of local experts. Third, based on this analysis, a concept note was developed for each of the pilot programmes as guidance for the full v-NAMA preparation phase. Fourth, a consultation process was initiated involving key national and sub-national actors, including stakeholder workshops with all the relevant levels of government to facilitate the vertical integration process.

Based on the previous steps, v-NAMA elements are now being developed, including the baseline, business-as-usual scenario, mitigation options, abatement costs, co-benefits, risk assessment, incentives, plan of action, capacity building plan and MRV system. In parallel, implementation and financing approaches are under elaboration, including national and international resources.

Using First-Hand Experience in the Development of Practical Guidance

These steps are supported and underpinned by a second set of activities oriented towards the development and dissemination of v-NAMA guidance. The project team is elaborating this guidance on the basis of experience gained in the pilot measures. The guidance includes three pillars: The first comprises capacity development and mainstreaming issues like training, advisory work and a range of learning products, while the second pillar includes dissemination of and outreach for the v-NAMA approach in the context of international and national events. The third pillar focuses on knowledge management and lessons learned compiled in a web-based toolkit and recommendations for policy makers. Elaboration of the proposed guidance goes hand in hand with discussions with national and sub-national decision makers and representatives from international technical and financing institutions. Two questions already emerge as having particular importance for v-NAMAs: How to design a package of incentives and mandates to effectively mobilise sub-national actors in achieving national climate targets, and how to design a practical MRV mechanism that captures local level action and allows for its aggregation at national level.

Contracted Organisation

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Other Organisations Involved

Ministry for National Development Planning (BAPPENAS), Indonesia

Department of Environmental Affairs (DEA), South Africa

Project Duration

2012–2015

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Contact

Deutsche Gesellschaft für internationale Zusammenarbeit (GIZ) GmbH

Axel Olearius

Email: axel.olearius@giz.de

Tobias Zeller

Email: tobias.zeller@giz.de

Enhancing Greenhouse Gas Management in Tunisia

With annual per-capita emissions of about 4.1 tCO₂e, Tunisia's GHG emissions are still below the global average. Over the past decades, however, the country's emissions have been constantly rising, mainly due to increasing energy demand for cooling but also for industrial processes and transportation. The Tunisian government is aware of this challenge and became an active promoter of activities in the field of climate change. This engagement is not only seen as a contribution to the global GHG mitigation effort, but is also considered a strategy towards modernising the national economy. Exploiting Tunisia's large potential for wind and solar power is thus expected to foster employment and income while investments in the public transportation sector could further enhance mobility and quality of life in urban areas.

Two pivotal elements of the Tunisian climate change activities are the development of a national climate strategy and the National Plan for Renewable Energy and Energy Efficiency (Tunisian Solar Plan). The Tunisian Solar Plan is a national strategy paper that builds the basis for the design of comprehensive NAMAs in the renewable energy, housing and other sectors. While the major part of the overall costs for the Tunisian Solar Plan will be provided from national resources, Tunisia is also seeking international support for its implementation.

A viable system to measure, report and verify the impact of NAMAs is a main prerequisite for obtaining financial support, transfer of technologies or capacity building from the international community as well as for the successful



In order to develop a robust national greenhouse gas inventory, emissions from different emission sources have to be measured and monitored.

implementation of climate policies in general terms. The current lack of technical and institutional capacity for greenhouse gas monitoring and MRV is obstructing successful implementation of these activities.

A Solid MRV System for Tunisia

In the light of these challenges, GIZ, with the support of BMUB, is developing a robust greenhouse gas inventory for reporting under the UNFCCC as well as an MRV system for the NAMAs in the energy sector. With these in place, Tunisia is expected to be able to independently draft its biennial update report by 2014 and to measure, report and verify the impacts of the Tunisian Solar Plan and other measures in the energy sector. This will further enable the country to actively participate in the design process of UNFCCC procedures.

Testing New Concepts with Local Institutions

The first major step in the project comprises a detailed analysis and examination of the current situation. At technical level, this task is being conducted through a gap analysis of existing database systems, information systems and policy monitoring systems. At institutional level, existing procedures are being analysed, evaluated and the potential for improvements identified. The procedures for the development and maintenance of greenhouse gas inventories and MRV systems resulting from these activities will be documented to assist the local employees in their future work.

Capacity building represents another cornerstone activity of the project. Through the implementation of training sessions and workshops, Tunisian employees in key institutions will learn to deal with specific issues from a practi-

cal perspective. These capacity building activities further provide opportunity for the exchange of experience between stakeholders from Tunisia and other countries and international organisations.

The project collaborates with local partner institutions, including the National Agency for Energy Conservation, the Ministry for the Environment and the Ministry of Industry, Energy and Mining.

From Gap Analysis to Robust Inventories and MRV of NAMAs

The project started in September 2012 with the implementation of an exhaustive gap analysis to identify requirements for the development of the national MRV system. In parallel, instruments for the documentation, analysis and communication of data are being developed that will provide the basis for the MRV system.

Meanwhile, the national greenhouse gas inventory system has been successfully implemented and preliminary emission calculations were finished in March 2014. While the development of a larger MRV system for NAMAs in the energy sector is scheduled for 2014 and 2015, a small pilot MRV was applied to the PROSOL Elec photovoltaic program at the end of 2013. The outcomes and experience from the project are fed into the international process on MRV, primarily via the International Partnership on Mitigation and MRV. Through the organisation of an international workshop on MRV of NAMAs in December 2013, together with Belgium and the International Partnership on Mitigation and MRV, Tunisia was significantly involved in the creation of an international working group on MRV for francophone countries.

Contracted Organisation

Deutsche Gesellschaft für International Zusammenarbeit (GIZ)

Other Organisations Involved

Ministry of Industry, Energy and Mining, Tunisia
Agence Nationale de la Maîtrise de l'Énergie (ANME),
Ministère de l'Équipement, de l'Aménagement du Territoire et du Développement Durable

Project Duration

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Contact

Deutsche Gesellschaft für International Zusammenarbeit (GIZ) GmbH
Anselm Duchrow (Tunisia)
Email: anselm.duchrow@giz.de
Emanuela Finke (Germany)
Email: emanuela.finke@giz.de

Energy Efficiency in Northern China's Residential Buildings Sector – Developing Baselines for an Emission Trading Scheme

In 2009, China announced its target of a 40-45% cut in the intensity of carbon dioxide emissions per unit of gross domestic product by 2020 relative to 2005. Due to its enormous GHG reduction potential, the residential buildings sector plays a significant role in achieving this target. Approximately 65% of China's urban real estate consists of residential buildings. Around 40% of domestic energy use is accounted for by buildings in northern China, as heating demand is larger than in other regions. A large share of buildings were built before 2000 and urgently need renovation, comprising a reduction potential of 97 million tonnes CO₂eq. To date, no incentives or mechanisms specifically target large-scale energy efficiency retrofitting in the Chinese building sector. The Chinese government has a strong interest in establishing incentives for this purpose, especially favouring market based mechanisms.

Groundwork for an Emissions Trading Scheme in Buildings

The Chinese Government aims to include residential buildings in its nationwide emission trading scheme to be

developed from 2015 to provide a market incentive for retrofitting. However, a lack of basic data hampers the inclusion of the building sector as a methodology is needed to determine baseline emissions and emission reductions. BMUB therefore agreed with the Chinese Ministry of Housing and Urban-Rural Development (MoHURD) to initiate a project, "Climate Protection through Energy Efficiency in Buildings", to close this information gap and to develop a comprehensive strategy for energy-efficient retrofitting of residential buildings.

Milestones

Since there were no reliable data on how much heating energy Chinese residential buildings really consume, the project first conducted a study to determine the total inventory of targeted residential buildings in three selected northern Chinese cities. Over 22,500 buildings built up to the year 2000 were surveyed. The gathered data was discussed with local, national and international experts regarding methodologies, results and possible implications on occasion of several workshops. Based on the workshop



Retrofitting of existing buildings is an important and efficient measure to reduce greenhouse gas emissions. The inclusion of residential buildings in an emissions trading scheme could provide a financial incentive for these mitigation activities.

outcomes, the data was processed into heat energy baselines for ultimately ten common and easily identifiable residential building types.

These baselines are now available to be used as business as-usual scenarios for comparison of energy consumption before and after retrofitting. Furthermore, energy-efficient retrofitting concepts were developed in cooperation with the pilot cities, providing knowledge and feasible technologies with which to achieve the energy efficiency targets.

Testing the Baselines

The application of the baselines using data from housing developments that have already been retrofitted was used to validate the methodology for prospective establishment of an emissions trading scheme in the residential building sector.

The project concluded with an economic scenario assessment of the achievable emission reduction certificates at prospective certificate price levels, financial returns under the envisaged emissions trading scheme and, finally, developed materials to train actors who might want to apply the methodology in their cities.

Contracted Organisation

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Other Organisations involved

Ministry of Housing and Urban-Rural Development (MOHURD), Department of Climate Change of the National Development and Reform Commission (NDRC), Building Wall Reform Office of the Tianjin Construction Commission and Tianjin Climate Exchange

Project Duration

2010-2013

Funding Sources

This project is part of the International Climate Initiative (IKI). The Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) supports this initiative on the basis of a decision adopted by the German Bundestag.

Contact

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Volkmar Hasse

Email: volkmar.hasse@giz.de

Capacity Building for Emissions Trading to Support Bilateral Cooperation

The creation of a global carbon market has been a long-term goal of the German government for several years. Currently, a number of regional emissions trading systems are in place, the first and largest of them being the European Union Emissions Trading scheme. New Zealand and Kazakhstan have also introduced ETSs at national level. In addition, a number of sub-national ETSs have been implemented. These include the Regional Greenhouse Gas Initiative (RGGI) and the Californian emissions trading system in the US and the Tokyo Metropolitan Government Cap-and-Trade-Program in Japan.

More recently, a number of emerging economies have announced their willingness to prepare ETSs. In its 12th five-year-plan, China announced the introduction of pilot ETSs in seven major economic regions including Beijing and Shanghai, five of which already started operation in

2013. Building on experience from the pilot schemes, China aims to introduce a nation-wide emissions trading scheme later on. South Korea intends its system to start in 2015.

The German government aims to foster the development of such national ETSs. It therefore supports interested countries with capacity building and sharing of experience with the EU ETS and its implementation in Germany, in order ultimately to work towards its goal of a global carbon market.

A Toolbox for Capacity Building

BMUB has contracted adelphi, a consultancy, to develop and implement capacity building programmes specifically tailored to the needs of experts from developing countries



In many developing countries the energy sector holds large emission reduction potentials. These can partly be tapped through the development of emission trading schemes.

or emerging economies that are preparing for the implementation of an ETS. The idea is to have structured capacity building programmes at hand that can be offered to partner countries in bilateral consultations and can be organised at relatively short notice.

Experts Trained by Experts

A consortium including adelphi, DIWecon, FutureCamp, Öko-Institut and TÜV Süd (until 2013), together with key institutions in Germany such as the German Emissions Trading Authority, developed three different formats for interested countries to help in the development of an ETS:

In the first option, experts and policymakers come to Germany for 1-3 weeks of training. The course includes extensive presentations on the functioning of the European ETS and its implementation in the German institutional landscape. The experts from DEHSt have a leading role in this part of the training. The programme also includes training sessions and discussions with companies that are covered by the EU ETS as well as other companies involved in emissions trading such as finance and commodity professionals.

The second format is a workshop carried out on-site in interested countries. An example is a three-day technical workshop and subsequent presentation and discussion forum prepared for Chile in 2013. The technical workshop includes modules from DEHSt, adelphi, DIWecon and FutureCamp.

Thirdly, the programme offers in-depth consultation on specific issues. For instance, a senior expert from the consortium assisted the Korean ETS task force with the development of the national allocation plan in July 2013.

To support the dynamic development of emissions trading in China, two training sessions have been organised for Chinese experts. In the first, in April 2012, three high-level experts including the former chair of the CDM Executive Board, Prof. Duan Maosheng, were invited to the programme. In September, a second training session was organised for two researchers from the China Shenzhen Emission Exchange (CERX), the designated market place for emissions trading in the Shenzhen metropolitan area. Following the programme, Shenzhen became the first pilot region in China to start its ETS in mid-2013.

The initiative is not limited to China, however. Experts from Kazakhstan attended training sessions in Berlin. Workshops have also been held in Seoul (South Korea), Astana (Kazakhstan) and Santiago de Chile (Chile). Government representatives participated along with numerous stakeholders from the private sector.

Contracted Organisation

adelphi, DIWecon, FutureCamp Climate GmbH, Öko-Institut e.V., TÜV Süd (until 2013)

Other Organisations involved

Federal Environment Agency (Umweltbundesamt), German Emissions Trading Authority (DEHSt), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Project Duration

First Phase: 2011–2013; Second Phase: 2013–2015

Funding Sources

The project is funded as part of the budget for “measures to support international carbon markets” provided by the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety’s (BMUB). The two visits of Chinese experts were supported under the project “Capacity Building for the implementation of emissions trading systems in China” within BMUB’s International Climate Initiative (IKI).

Contact

adelphi
Kristian Wilkening
Email: wilkening@adelphi.de

Abbreviations and Acronyms

ACAD	African Carbon Asset Development Facility	MoHURD	Chinese Ministry of Housing and Urban-Rural Development
B-PMR	Business Partnership for Market Readiness	MRPs	Market Readiness Proposals
BMUB	Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety	MRV	Measurement, Reporting and Verification
CDM	Clean Development Mechanism	NAMAs	Nationally Appropriate Mitigation Actions
CDM EB	CDM Executive Board	PMR	Partnership for Market Readiness
CERX	China Shenzhen Emission Exchange	PoAs	Programmes of Activities
Ci-Dev	Carbon Initiative for Development	REDD+	Reducing Emissions from Deforestation and Forest Degradation
COP	Conference of the Parties	RGGI	Regional Greenhouse Gas Initiative
CPAs	CDM Programme Activities	SAPP	Southern Africa Power Pool
DEHSt	German Emissions Trading Authority	SBs	Standardised Baselines
DNA	Designated National Authority	UNDP	United Nations Development Programme
DOE	Designated Operational Entity	UNFCCC	United Nations Framework Convention on Climate Change
ECOWAS	Economic Community of West African States	v-NAMA	Vertically Integrated NAMA
ETS	Emissions Trading Scheme		
EU ETS	European Union Emissions Trading Scheme		
GHGs	Greenhouse Gases		
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH		
IETA	International Emissions Trading Association		
IGES	Institute for Global Environmental Studies		
IKI	International Climate Initiative		
JI	Joint Implementation		
JIKO	Joint Implementation Coordination Unit		
LDCs	Least Developed Countries		

