

## Editorial

Dear Reader!

*This year's Conference of the Parties to the UN Climate Convention on Climate Change is once again taking place in Africa, a continent already severely affected by changing climate conditions. The summit will certainly put climate change on African governments' agendas, not least because of rising demand for CERs from Least Developed Countries (LDCs). With more than 30 LDCs located on the continent, Africa will become a major supplier for carbon credits imported into the EU Emissions Trading System.*

*In this issue, we therefore look at the potential supply of CERs from African LDCs. We also analyse climate policy in South Africa, the climate summit host, giving particular attention to the role of market mechanisms in its mitigation strategy.*

*On a more general level, we analyse the overall situation of the carbon markets at the current crossroads, which depends not only on clear regulatory frameworks, but first and foremost on sufficient demand, as outlined in the adjacent article.*

*On behalf of the editorial team, I wish you an informative read and a fruitful visit to South Africa should you be attending the conference.*

Christof Arens

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## JIKO Analysis

### A Question of Demand: The Carbon Market Before and After the Durban Climate Summit

by Dr. Silke Karcher, Federal Environment Ministry of Germany (BMU)

Money makes the world go round. And this is likewise true of climate policy, where one of the pivotal issues is the question of financing for much-needed adaptation and mitigation measures. Approaches for raising the US\$100 billion pledged yearly from 2020 on still need to be developed. Most stakeholders agree that carbon markets will have to play a role in this regard. But they can also play a role both in raising funds and in their efficient allocation.

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## JIKO Report

### CDM in African LDCs Overcoming Barriers, Mobilising Potential

The imbalanced geographical distribution of CDM projects has long been a subject of debate. Of the 3500 currently registered projects, only 70 are being carried out in Africa, mainly in northern Africa. The advent of the Programmes of Activities (PoAs) has changed this situation slightly. Plus, preferential access for CERs from Least Developed Countries (LDCs) into the European Emissions Trading System will boost demand for CERs, not least from Africa. This article thus looks at current developments in sub-Saharan African LDCs and at how to foster their integration in the carbon market.

CDM project development in Africa is hampered by several barriers. These include structural and institutional issues such as the low level of industrialisation and energy consumption, unfavourable investment conditions, and the lack of a stable, enabling legal framework. Further, the effectiveness of the CDM-related institutions plays a major role: an effective Designated National Authority (DNA) for a smooth approval process, a clear and consistent CDM policy, and the existence of a reliable skills base in energy project development.

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## JIKO Analysis

A Question of Demand: The Carbon Market Before and After the Durban Climate Summit

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At the same time, the carbon markets have reached a difficult juncture in their brief history. The primary problem is, of course, a lack of demand. Carbon markets depend on the ambition of climate policy targets that drive demand for credits. Given the uncertainty regarding the future of the Kyoto Protocol and the timeframe for reaching a global agreement with new targets, future demand at international level is uncertain at best.

Secondly, there is the regulatory uncertainty concerning continuation of the CDM and JI institutions' mandate beyond the first Kyoto Protocol commitment period. In this situation, the remaining carbon market faces the challenge of fragmentation where different regional systems and bilateral agreements with heterogeneous standards are emerging.

Looking back at the brief but fascinating history of the carbon markets, it is evident that much has been achieved:

- Specific projects were conceived, designed and implemented. Projects ranging from dis-

tribution of efficient cooking stoves to destruction of F-gases with extremely high global warming potential. Widely differing types of projects have in common that they would not have been put into effect without the carbon market. And we can assume that there also were projects that would have been carried out without the CDM. This makes CDM reform an important issue.

- On a more abstract level, the creation of CERs produced the first global currency for monetizing the costs of GHG emissions. Being purely global, this currency is used in the EU and will also be used in Australia and probably other regional markets as well.
- Last but not least, the carbon market – notably the CDM – has created a new consciousness; an awareness that GHG mitigation is worth money. An element of gold diggers' spirit was created, making people use their creativity to think about new emission reduction ideas and projects. The EU decision to accept CERs only from new projects conducted in LDCs is already shifting project developers' focus to this



Scaling up or marginalization?  
The carbon markets are at a crossroads.

Photo: M. Kraus/Photocase.de

## JIKO Analysis

A Question of Demand: The Carbon Market Before and After the Durban Climate Summit



**Dr. Silke Karcher** is head of EU Affairs and Bilateral Cooperation "Environment and Energy" at the German Environment Ministry

more difficult ground, showing the adaptability of the market (see the article on Overcoming Barriers, Mobilising Potential elsewhere in this issue).

Looking ahead, the carbon market is reliant on demand. No amount of smart regulation will be able to replace the fundamental requirement for ambitious mitigation targets. In addition, a clear regulatory framework is needed to secure environmental and economic integrity, credibility, public acceptance, and investment security. A framework at international level can create a sufficiently large and liquid market, with a 'single currency' guaranteeing that a ton actually equals a ton and allowing for adequate convertibility.

The above wish list for the carbon market is unlikely to be fulfilled in Durban. Although no-one expects to get everything, the Summit could well deliver some essentials. It seems likely that a decision will be made to continue the institutions needed for the CDM. Arguably, this is a small gift,

given that most legal opinions conclude that the institutions could continue in absence of a new decision, as the Kyoto Protocol does not actually expire, it is only the first commitment period that will come to an end.

However, as the question has been raised it will need a positive answer. On the key issue of demand, COP 17 looks like it can deliver real hope for an agreement in the foreseeable future, thus encouraging at least bolder developers to continue applying their creativity to GHG reduction projects. Furthermore, there is a good chance of a decision to further pursue the issue of new market mechanisms, which will fuel the development of ideas and actual projects.

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Overcoming Barriers, Mobilising Potential

*Continued from p. 1*

The lack of Africa-friendly CDM methodologies has recently been tackled, among other things by introducing methodologies for the distribution of CFLs and cooking stoves. Also, the CDM Executive Board has also taken up the issue of suppressed demand. This concept addresses two issues. Firstly, that in poor countries, demand for energy (and the respective GHG emissions) is artificially suppressed due to a lack of economic resources. And secondly, that emissions would be much higher if the poor had access to energy and goods.

### Assessing the potential

Clearly, one of the key questions is: "Is there enough supply for the increasing CER demand"? This question was taken up by a recent report developed in the course of a BMU-funded research project entitled "Integrating Africa's least developed countries into the global carbon market." The work carried out jointly by Wuppertal Insti-

tute and GFA ENVEST involves assessing the potential for CDM projects in sub-Saharan Africa, the obstacles and barriers, and possible support strategies that go beyond traditional capacity building efforts.

To identify the CDM potential of sub-Saharan Africa, Wuppertal Institute and GFA Envest analysed selected sectors in eleven LDCs located in the region: Burkina Faso, DRC, Ethiopia, Malawi, Mali, Mozambique, Rwanda, Senegal, Tanzania, Uganda, and Zambia. The assessment was partly based on existing literature and partly on own calculations. The researchers analysed the potential for projects in renewable energy use, end-use energy efficiency, municipal solid waste, and industrial production processes. The sector potential findings are shown in Figure 1. The total technical abatement potential of all analysed sectors amounts to 128.6 million CERs per year.

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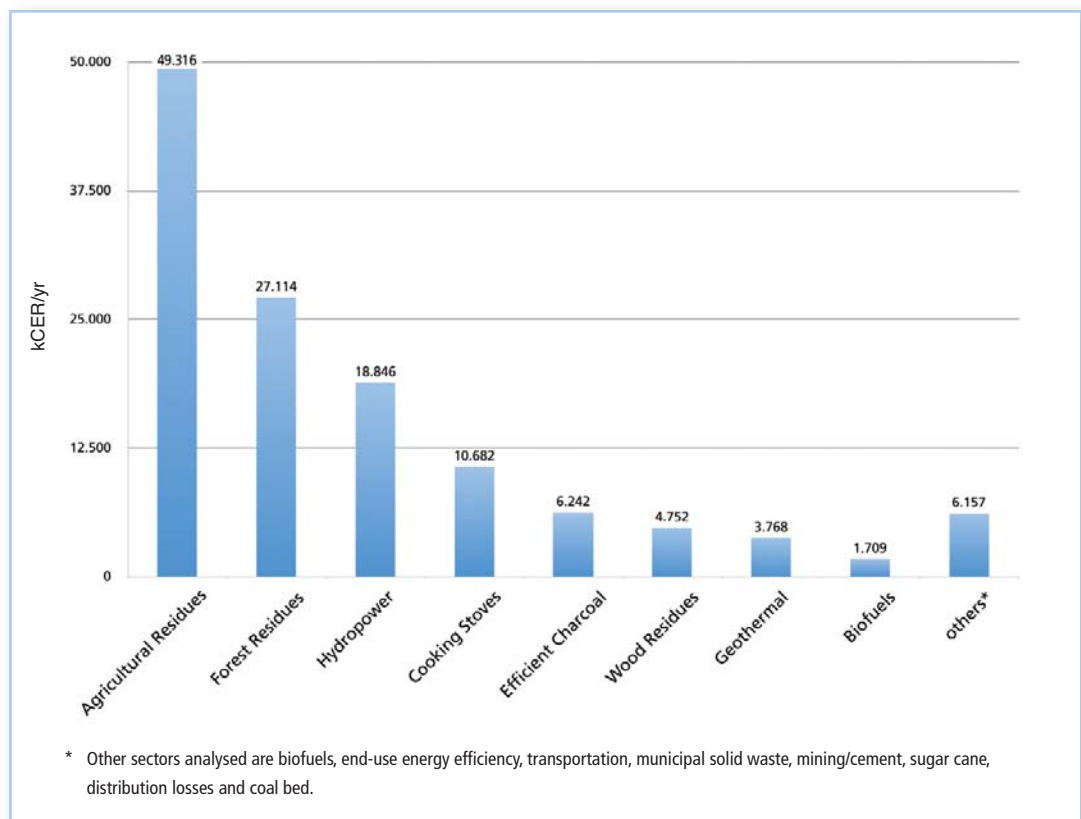


Figure 1:  
 Technical CDM potential in selected sectors in 11 sub-Saharan LDCs (in kCERs/yr)  
 Source: Arens et al. 2011

The largest potential in the sectors analysed was found for projects using biomass residues from agriculture, forests and wood production. Agricultural residues, for example, comprise waste materials left in the fields after harvesting as well as by-products, both of which can be used for energy generation cp. also the article Cane Trash to Energy elsewhere in this issue. For this sector, the study revealed a huge CDM potential of up to 894 projects and 9,606 MW installed capacity in the study region. Among the countries under consideration, Ethiopia and Tanzania have the highest potential for use of agricultural residues for energy production in CDM projects. For the eleven countries covered by the study, a potential of 49 million CERs/yr was identified for this sector. The analysis of the forest and wood residue sector also revealed high CDM project potentials amounting to up to 31.8 million CERs/yr.

Further promising project potential is seen in the distribution of improved cooking stoves, with an overall potential of 10.6 million CERs/yr (the greatest potential being in DRC, Tanzania and Uganda), and in the switch to efficient charcoal

production. Considerable potential for implementation of this project type can be found in Tanzania, Uganda and Zambia, amounting to an average 1 million CERs. There is also considerable potential for developing hydropower projects in the region; however, this project category depends on future climate variability and comes with social and environmental risks.

With regard to the geographical distribution of project potential, the study revealed the largest CDM project and CER generation potential to be in Ethiopia and Tanzania, followed by DRC and Uganda. Figure 2 illustrates the distribution of the project opportunities across the 11 countries analysed.

### Overcoming Barriers

To tap the region's CDM potential, a number of significant hurdles have to be overcome. Numerous support initiatives have been carried out in Africa in order to foster CDM project development. The limited awareness of the local financial sector, for example, is being addressed by the re-

Find out more about the report and the project at [www.jiko-bmu.de/996](http://www.jiko-bmu.de/996)

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Overcoming Barriers, Mobilising Potential

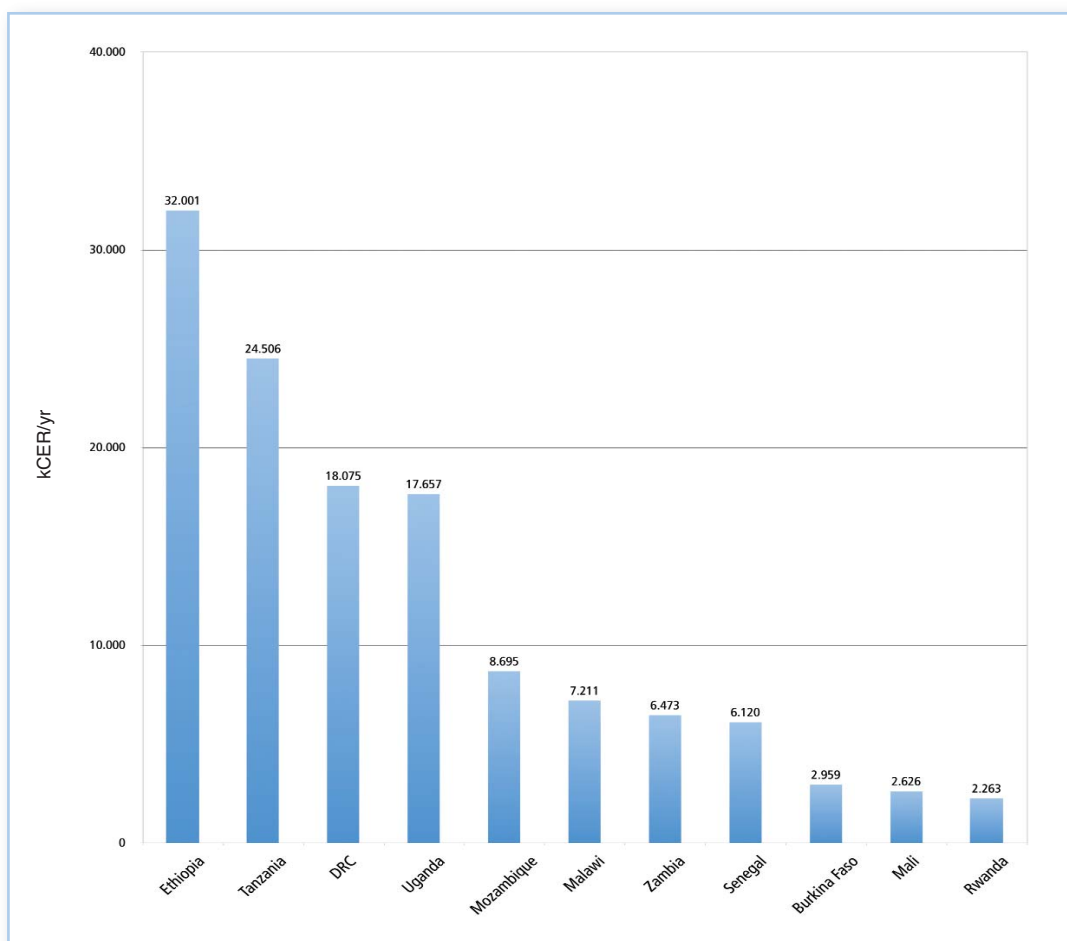


Figure 2:  
CDM potential in selected sub-Saharan LDCs by country  
Source: Arens et al. 2011

Find out more at [www.acadfacility.com](http://www.acadfacility.com)

Download the PoA Handbook at <http://www.climatefocus.com...>

cently implemented African Carbon Asset Development (ACAD) facility. The facility financially supports project developers in the early to middle stages of project development using local financial institutions. This makes it possible to complete critical steps such as PDD development and validation for projects that are not immediately fully financially viable. Also, ACAD provides technical assistance and capacity building for local banks and investment funds, enabling them to better identify and handle carbon investment opportunities.

An important step forward for the CDM in Africa came with the introduction of PoAs. These allow addressing small and diffused GHG sources, which although typical of the region, are difficult to tap with stand-alone CDM projects. The KfW's Programme of Activities Support Center provides advice and support to institutions and businesses implementing PoAs. It has, among other things, supported the South African Solar Water Heater

(SWH) Programme, coordinated by Unlimited Energy, a medium-sized South African service company (see JIKO Info 02/2010). Recently, Climate Focus and the African Development Bank presented a Handbook for Programmes of Activities in Africa, which provides a look at successful pioneering initiatives. The book also discusses the opportunities arising from NAMAs, and the possibility of framing PoAs within them.

An important success factor, however, is the development of CER demand. The scaling up of CER supply from LDCs is going to need considerable engagement from buyer countries. By becoming project participants and directly supporting project development, Annex I countries and businesses can significantly contribute to transferring knowledge, mobilising capacities and, eventually, to fully tapping the potential.

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## JIKO Report

### South African Climate Policy – Beyond Coal

by Steve Thorne, SouthSouthNorth

At COP 15 in Copenhagen, South Africa voluntarily pledged to take on emissions reductions measures. These pledges were to reduce emissions of greenhouse gases by 34% against business-as-usual by 2020 and by 42% by 2025, conditional upon an international legal framework being constituted and that technical and financial resources were mobilized to assist in achieving the reductions. South African goals were informed by Long Term Mitigation Scenario studies commissioned by government and developed in participation with leaders of various sectors in the economy. This article looks at the current situation of South African climate policy and sheds some light onto the country's share in CDM and the emerging NAMA debate.

The general concept that framed the sectoral studies anticipates an increase, a leveling and decreasing profile of South Africa's aggregated

greenhouse gas emissions. The pledges are considered to be ambitious in the light of a carbon intensive economy that is locked into further coal fired power generation and expansion plans for coal and gas to liquids, a small renewables sector and an immature energy efficiency realization, despite targets in both of these latter areas.

A plan to achieve the emissions reductions has not yet been formulated, but the recent publication of a National Climate Change Response Strategy white paper (October 2011) has outlined an approach. The Paper proposes both short and medium term adaptation and mitigation strategies that are consistent with existing legal requirements and development goals at sectoral and sub-sectoral levels. The principle under which the mitigation efforts will fall is summarized as follows:

The Climate Change White Paper can be downloaded at <http://www.info.gov.za/view/DownloadFileAction?id=152841>



How to transform South Africa's carbon intensive industry and energy sector? Mining operations by Sasol, South Africa's petrochemicals giant.  
Photo: Sasol/MediaClubSouth Africa.com

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**Steve Thorne**

is a chemical and energy engineer and director of SouthSouthNorth Africa. He has worked in industry, as an energy policy researcher and more recently a clean energy project developer in Southern Africa.

*“South Africa’s approach to mitigation... balances the country’s contribution as a responsible global citizen to the international effort to curb global emissions with the economic and social opportunities presented by the transition to a lower-carbon economy as well as with the requirement that the country successfully tackles the development challenges facing it.”*

The paper suggests a range of instruments that could be used, including:

- Measuring National emissions trajectories
- Defining desired sectoral and sub-sectoral emissions reduction outcomes
- Adopting a “carbon budget” approach to provide “flexibility and least-cost” mechanisms for companies
- Requiring companies, sectors and sub-sectors mitigation plans
- Developing and implementing a range of policies, measures and actions that optimize mitigation, job creation and other sustainable development benefits
- Employment of economic instruments to support outcomes, such as correct carbon pricing (read carbon taxation), offsets or trading mechanisms
- Monitoring and National data collection to support analysis of impacts of mitigation measures

The paper goes further to list and briefly describe “flagship” near-term priority programmes in public works, water conservation and demand management, renewable energy, energy efficiency and demand side management, transport, waste management, CCS and adaptation research. The strategy mentions neither NAMAs nor the Clean Development Mechanism specifically, while both are implicit within the proposed range of policy instruments, national and international incentives, and other measures.

A number of the flagships have been informally presented as draft NAMAs by South African delegates at UNFCCC events in the past, though none have enjoyed official sanction until now. One of the more interesting flagships is the National Sustainable Settlements Facility, which up-scales Africa’s first CDM project, which improved the thermal performance and introduced solar water heaters and efficient lighting to low-income subsidized houses. The programme into account the suppressed demand for energy services in accounting for carbon so as incentivize a leapfrog over fossil lock-ins in new and existing dwellings.

### South Africa to Announce Renewables Initiative

At the Durban Climate Change Conference, the South African Government is going to unveil the South African Renewables Initiative (SARi). The programme envisages a scaling up of renewables capacity at around 1–3 GW per year, building up to at least 15% of the electricity grid by 2020-2025. The country is seeking international support for financing the ambitious programme. Find out more at <http://blog.sari.org.za/>.

It is interesting that such a carbon intensive economy as South Africa’s has seen so little activity under the Clean Development Mechanism. The failure to make use of the flexible mechanisms at scale begs for an analysis of the barriers that may be peculiar to South Africa and strategies of energy, industry and mining sectors with respect to the international opportunities that the mechanisms afford.

One of the main barriers in the South African economy includes access to the national grid for electricity, regulations governing municipal finance, and low levels of leadership in a crowded development agenda. The deficit of public and private leadership in low carbon development that could achieve employment and sustainable development goals while reducing global climate

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impacts is certainly interesting and deserves examination too.

South Africa has good potential resource, financial and technical know-how to lead the low carbon development agenda in Africa. The response strategy is a good starting point for the policies, processes and institutional requirements that could operationalise the agenda. Regulation around renewable energy feed-in tariffs delayed for years at last shows signs of enabling access for independent power producers, and the rapidly in-

creasing price of energy will certainly impact on a wasteful culture that has dominated modern energy usage in the country. COP 17 will no doubt bring climate change into sharp focus for South African leadership and civil society and may provide the momentum to achieve goals outlined in policy particularly if short and medium term flagships were to be resourced through COP pledges.

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# Cane Trash to Energy – A Business Case for the East African Sugar Sector

by Daniel Blank and Joachim Schnurr, GFA ENVEST



**Dr. Daniel Blank**

has been engaged in climate change mitigation since the start of his career. He developed an economic-ecological model for the simulation of mitigation scenarios in EU agriculture at the University of Hohenheim. In 2007, he joined GFA ENVEST as a CDM/JI Consultant.

**Biomass is a major source for energy production in Africa. A recent study carried out by GFA ENVEST therefore analysed the East African sugar sector's potential for CDM projects. The findings confirm that while the use of sugar fibre (bagasse) for energy production is common practice, using sugar plant residues (leaves, tops) for energy production is a new financially viable option which is still widely untapped. Also, energy efficiency measures in sugar mills offer further potential for GHG reduction activities. Such investment projects could be used to test and demonstrate which international climate policy mechanisms (CDM, PoAs, Sectoral Approaches/NAMAs) might provide the best opportunities for implementing industrial-scale mitigation activities in African LDCs in the coming decade.**

Sugar is one of the most important commodities in eastern and southern Africa, where 63% of African sugar is produced. The sugar sector harbours vast unutilized potential for climate mitigation projects focused on energy efficiency and generation of biomass-based energy. Recognizing this potential, the German Environment Ministry (BMU) supported a study of potential in Kenya and Tanzania. These two countries provide relatively good framework conditions characterized

by a positive investment climate, the availability of feed-in tariffs and guaranteed grid access. From the countries' perspective the sector offers not only potential for additional and renewable electricity generation, but could also contribute to rural electrification. For Tanzania, bioenergy produced by installations of less than 10MWel receives a guaranteed feed-in-tariff of 5.5 ct€/kWh for a period of 15 years. Kenya offers a general indicative maximum tariff of 5.4 ct€/kWh.

Worldwide, the sugar sector has already hosted a considerable number of CDM projects primarily addressing the utilization of unused bagasse for energy recovery. Bagasse is the fibre that remains after sugar extraction from cane, and has very good combustion properties. Because of its attractiveness, the potential for additional energy recovery from bagasse is almost exhausted. This is the case in Tanzania and Kenya. However, three other measures with significant potential have been identified:

- **Cane trash to energy:** Apart from bagasse, sugar cane offers a second source of biomass in the form of the plants' leaves and tops (known as 'cane trash'). Based on regional cane yields of 75 t/ha, this gives 28 t/ha of

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### Joachim Schnurr

has worked at GFA Consulting Group, Hamburg, since 2001. Initially responsible for setting up the new Environmental Investment business sector, he became Managing Director of GFA ENVEST when the company was established as a subsidiary of GFA Group in 2006. As a consultant, Schnurr provides strategic advice to the private sector, governments and other public institutions on carbon and renewable energy related issues.

**Untapped potential:** Sugar cane production offers numerous opportunities for climate change mitigation projects.

Photos: © Hannelie Coetzee, Rufine Uribe, David Manniaux/wikimedia.org

cane trash from which 11 MWh/ha of electricity can be generated in a regular power plant. A precondition here is 'green cane harvest', meaning refraining from burning standing cane to facilitate manual harvest as is still practiced in Tanzania. The overall potential offered by this measure in Kenya and Tanzania is estimated at some 220 GWh/yr, which is equal to around 140 ktCO<sub>2e</sub>. The agronomic potential – using 60% of all available cane trash – is much higher.

- **Energy generation efficiency:** The extraction of sugar from cane is an energy intensive process requiring superheat steam. In East Africa, heat is mainly generated in steam systems with pressure ranging from 20 to 25 bars. This results in system efficiencies of only 10%. Increasing pressure using state-of-the-art technology with 66 bars could result in system efficiencies of 25%. Conservatively calculated, this switch could tap a potential 32 GWh per year for an average mill. The overall potential of this measure in Kenya and Tanzania is estimated at 860 GWh/yr, which is equal to around 550 ktCO<sub>2e</sub>.
- **Energy utilization efficiency:** As the sugar extraction process mainly consumes thermal energy in the form of steam, the process efficiency is typically indicated in tons of steam per ton of cane crushed (steam% cane). Efficient plants achieve values of 45%. Improving process efficiency from 55% to 45% and utilizing saved process steam in a standard back-pressure turbine could recover around 11 kWh per ton of cane crushed.

A first financial analysis delivered the following results: In the case of cane trash to energy, investment costs cover the equipment for cane trash logistics and additional energy generation capacities comprising of boiler, turbine, and generator. In some cases, the latter might be achieved by retrofitting existing equipment. Because investments are case-specific only the gross margin was considered. The gross margin is around €3 to €8/t of cane trash if the harvesting system is switched to green cane and can be higher than €20 if combined with other measures like semi-mechanized green cane harvesting and improved logistics using compaction trailers. As for the energy generation efficiency measures, investment costs in improved energy generation systems are substantial. Costs for a 60 bar pressure plant are estimated to be at around US\$1.8 million per MWeI. This would translate into US\$45 million for an average sugar mill. For higher pressure systems, investment costs increase disproportionately. The costs for efficiency improvements in the energy utilization process cannot be estimated, as there is no definition of standard equipment that would be necessary to achieve the targeted efficiency. However, internal rates of return are generally rather high for this kind of activity, ranging at a two-digit level.

### Tackling methodological and technical problems

The utilization of cane trash is not currently practised in the region. In Tanzania, the harvesting scheme would have to be switched from burnt to green cane. Slower cutting speed needs to be compensated for to avoid increased costs. Here,



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semi-mechanization might provide an employment-neutral, socially-responsible solution. Further, the physical properties of cane trash are different from those of cane, thus demanding an adapted logistics chain. Compaction of cane trash for transport seems to be a promising solution. Therefore, presentations of operational technology such as mechanization for harvest operations, post-harvest preparation of cane trash, and a logistics system that facilitates long distance transportation are required to prove feasibility to the mills, local banks and potential investors.

As for the technological aspects, it must be remembered that sugar mills are complex industrial facilities in which process heat demand is satisfied by steam boilers (superheated steam) and where electricity is generated from the exhaust of the process steam (saturated steam) as by-product in a later stage of the steam cycle. Modifying any of these three functional compartments will also require a modification of the remaining two compartments or at least a compatibility check. This step might require very detailed planning by specialized engineers. However, step-by-step implementation of individual measures bears the risk of losing large synergy effects.

Hence, optimisation of an entire sugar mill can only be facilitated by providing long-term and specialized advisory services to the mills. Immediate assistance should concentrate on exploiting free energy generation capacities for additional renewable energy generation or on single efficiency equipment like heat exchangers.

The CDM provides methodologies for the development of renewable energy projects. These also cover supply-side energy efficiency improvements. Other CDM methodologies cover demand-side energy efficiency measures in industrial facilities. But as the sugar mills are usually pure biomass plants, the improved demand-side energy efficiency, in combination with the fixed availability of biomass, can only translate into additional power export by the sugar mills. This scenario could generally be depicted by existing methodologies, but will require clarification on monitor-

ing by the CDM Executive Board. The largest problem at the moment is simultaneous implementation of the individual measures. Any solution on the CDM side should fulfil the following conditions:

- Provision of a CDM umbrella under which several measures can be developed:
  - Energy generation, utilization efficiency and renewable energy generation from cane trash;
  - Separate implementation of cane trash to energy and energy generation efficiency on one side, and energy utilization efficiency on the other.
- The umbrella should be applicable for programmatic and/or sectoral approaches, as stand-alone projects will not recover transaction costs.
- The approach should be able to reflect the need to first create pilot activities which act as starting points for implementing further project measures.

## Conclusion

Bearing these preconditions in mind, we recommend starting with the development of a regional Programme of Activities, which should be set up as a Small Scale PoA due to the typical project size. The programme could then be transferred into a national sectoral approach depending on the results of the international climate negotiations. The activities conducted under such a scheme would lend themselves to the expansion activities planned by many sugar mills in the region. They would also contribute to future price stability and could make the region less dependent on imported energy.

## JIKO Report

# Taking the next Step: PoA Working Group Acts as Change Agent

by Matthias Krey, Perspectives Climate Change



**Matthias Krey**

Managing Director Perspectives, holds a degree in Industrial Engineering and Management. With his practical CDM experience and strong technical background from numerous CDM projects, Matthias Krey is now responsible for the company's services in low carbon growth and NAMAs.

In 2005, a new project type entered the CDM world: "CDM Programmes of Activities" (PoA) allow for a number of similar emission reduction activities to be registered as a single CDM programme. This makes it possible to reduce complexities, lower transaction costs and make carbon finance accessible for projects that benefit the 'least common denominator', one example being efficient cooking stove projects in a least developed country (LDC). Yet since 2007, when the new framework was opened for project developers, progress has been slow despite the further development and improvement of the PoA regulatory framework. Current PoA rules rely heavily on single CDM project regulations which defy the logic of reducing barriers and speeding up the PoA validation and registration process.

With the financial support of the Federal German Environment Ministry's CDM/JI Initiative, Perspectives Climate Change recently initiated the establishment of a CDM PoA Working Group. This group is tasked with a twofold objective:

- To provide a platform for dialogue, experience sharing and coordination between members of the Working Group with regards to current PoA development, tackling existing challenges and developing workable solutions.
- To act as a 'change agent' to reform the PoA regulatory framework with the active partici-

pation of the international stakeholder community including UNFCCC, country based CDM institutions, Designated Operational Entities, project developers, and financiers.

Invitations to the first meeting to join the PoA Working Group have been extended to several key actors such as the World Bank, KfW Bankengruppe, and CDC Climate Asset Management, all of whom have been actively involved in the development of the PoA market since its inception. This group will agree on a work program, and will set out the priorities for the topics that need to be dealt with and for the distribution of work. Additional invitations can then be sent out to interested parties at a later stage. The Working Group will then focus on delivering continuous, coordinated inputs for rules to remove barriers and allow for the full exploitation of PoA potential.

### Understanding Barriers

As of October 2011, the CDM pipeline has identified a mere 12 registered PoAs and a further 125 in various stages of the validation/pre-registration process due to a recent spurt of activities with the approaching 2012 deadline. Nearly 77% of these projects belong to one of three categories: solar (domestic solar water heaters), demand side energy efficiency (replacing conventional lights with CFL, efficient cook stoves) and waste management (municipal solid waste). Unlike in the case of conventional CDM projects where the three countries of China, India and Brazil account for the bulk of the registered projects, many PoAs are being developed in least developed countries. This clearly highlights the characteristics of PoAs: multiple units, each accounting for a small emission reduction, spread over a wide geographical area and located in countries with poor infrastructure and access to historical data.

**Example 1:** PoAs involving CFL lamps require the installation of thousands of homogeneous lamps

Reducing emissions, helping the poor: Efficient cooking stoves are a common PoA activity.  
Photo: RWE press image



under individual CPAs (CDM Program Activities). By the very nature of project type and technology, several CPAs are registered under an umbrella PoA while project developers try to restrict PoAs under small-scale methodologies because these are less complex and have reduced requirements. This leads to CPAs of relatively small size. The current rules demand evaluation of all CPAs through a process of sampling thereby significantly increasing the unit cost for monitoring.

**Example 2:** PoAs involving efficient cooking stoves require an understanding of existing household biomass consumption for baseline setting of each CPA. As sufficient historical data is absent in most under-developed countries, this leads to the need for expensive surveys despite household cooking and fueling patterns being fairly homogeneous for certain regions (e.g. East Africa).

**Example 3:** PoAs involving domestic solar water heaters can be quickly implemented, are usually located over multi-city locations and involve multiple stakeholders. The current rules for implementation of individual CPAs are quite restrictive: the CPA start date cannot be prior to the start of PoA validation, leading to postponement of water heater installation. Further, the complex nature of the documentation required for registering a PoA together with higher upfront costs leads to additional delays.

### Discussing Solutions

A large number of organizations such as the World Bank, the Project Developers Forum and many others, have been in the forefront of recognizing these challenges and have been actively pursuing them with the CDM Executive Board to overcome the present shortcomings of the regulatory framework. The following are among the many suggestions raised:

- Standardization of parameters (e.g. greater use of default values) and streamlining of procedures (e.g. sampling methods, benchmarks for additionality) can go a long way in supporting the objectives of a PoA. Standardization would also support the EU's higher policy objectives for sector-specific use of conservative standardized baselines.
- Fast track approvals of certain types of PoAs and inclusion of CPAs could dramatically lower transaction costs, thereby reducing risk and speeding up the PoA project cycle without endangering environmental integrity. The World Bank notes that a better system of categorization based on threshold limits for the number of individual units in CPAs (as opposed to the current capacity based categorization) can greatly benefit the baseline setting and monitoring issues discussed above.

### Outlook

Built on their understanding of the ground realities that each have faced when implementing PoAs, the collective experience of the Working Group members will allow them to provide advanced input for the further improvement of the regulatory framework as called for by the CDM Executive Board.

The second meeting of the PoA Working Group is scheduled to take place in February 2012, when one of the topics on the agenda will be PoAs in LDCs. JIKO Info will continue to report on future activities within the group.

### Glossary / Abbreviations

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

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