

# CARBON MECHANISMS REVIEW

SPECIAL ISSUE  
INNOVATE4CLIMATE 2018

# Where roads meet

Public and private finance  
for climate protection



I4C 2018 Special

# Content

I4C Special 2018



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## Dear Reader!

Welcome to the second edition of the Innovate4Climate! As finance, business, and technology experts meet with policy makers in Frankfurt, the Carbon Mechanisms Review is proud to present a dedicated special I4C edition with a blend of carbon markets and climate finance topics. On the occasion, we selected for you a fine mix of current analyses and reports, complemented with articles from older issues on topics which are of particular relevance for the carbon markets & climate finance nexus and are therefore worthwhile a (re)visit.

The issue opens with a piece entitled „Navigating the transition“, which describes on the example of African CDM Programmes of Activities how synergies between the CDM and the Green Climate Fund can be leveraged. We then cover the latest developments on NACAG, an initiative which aims at making global nitric acid production climate-friendly through international cooperation.

In a regional feature, we then run two articles on activities to drive climate investment in Africa. Finally, we introduce a new tool which aims at quantifying significant SDG Impacts of NDC actions.

On behalf of the editorial team, I wish you a fruitful stay in Frankfurt!

*Christof Arens*



## Wuppertal Institut

Carbon Mechanisms Review (CMR) is a specialist magazine on cooperative market-based climate action. CMR covers mainly the cooperative approaches under the Paris Agreement's Article 6, but also the broader carbon pricing debate worldwide. This includes, for example, emission trading schemes worldwide and their linkages, or project-based approaches such as Japan's bilateral offsetting mechanism, and the Kyoto Protocol's flexible mechanisms CDM/JI. CMR appears quarterly in electronic form. All articles undergo an editorial review process. The editors are pleased to receive suggestions for topics or articles.

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# Navigating the Transition

## Case Studies show the potential of linking the carbon market and climate finance

by Stephan Hoch, Perspectives Climate Group and Sandra Greiner, Szymon Mikołajczyk, Climate Focus

The Clean Development Mechanism (CDM) mobilised more than 10,000 activities<sup>1</sup> but faces political uncertainty regarding its relevance post-2020. The key question is to which extent the Article 6 mechanisms of the Paris Agreement will build on the CDM. Still, the CDM has undergone comprehensive reforms in order to improve access from underrepresented regions. As the mechanism has evolved to include programmatic approaches and simplified methodologies for new project types, the African pipeline of registered activities has grown substantially. Today, the continent hosts one-third of all registered Programmes of Activities (PoA), which serve as a framework for scaled-up mitigation action ranging from large-scale renewable energy projects to decentralised sustainable energy access initiatives.

Leveraging the synergies between the CDM and the Green Climate Fund (GCF or Fund) provides an opportunity, as explored in a previous CMR issue (see key insights on table 1).<sup>2</sup> To date, the GCF Secretariat has approved funding for 29 programmes in Africa<sup>3</sup>, yet no CDM activities have directly accessed the Fund thus far.

The GCF competitively allocates climate finance to projects or programmes that can deliver on the six overarching investment criteria defined by the Fund's Initial Investment Framework<sup>4</sup>. In an effort to explore the fit between African CDM activities and the investment objectives of the Fund, we assessed the continent's CDM pipeline against these criteria. Figure 1 presents a summary of the results of this assessment,

### Key benefits of linking the CDM with the GCF

#### Strengthen the results-based focus of climate finance

The use of the CDM's robust MRV framework, in particular standardised and simplified CDM methodologies, can demonstrate the mitigation impact of climate finance without 'reinventing the wheel'.

#### Leverage the existing CDM pipeline

GCF support to additional CDM activities that are at risk of discontinuation due to the lack of CER revenues can rapidly mobilise a pipeline of mitigation activities.

#### Attract new sources of (private) climate finance

The GCF can leverage private sector investment by supporting high-quality CDM activities.

#### Pave the way for future demand

If governments are serious about the high ambition of the PA, all potential mitigation options need to be mobilised. This means that market mechanisms and climate finance need to work "hand in hand" to increase mitigation supply by at least an order of magnitude.

Source: Mikołajczyk et al 2016

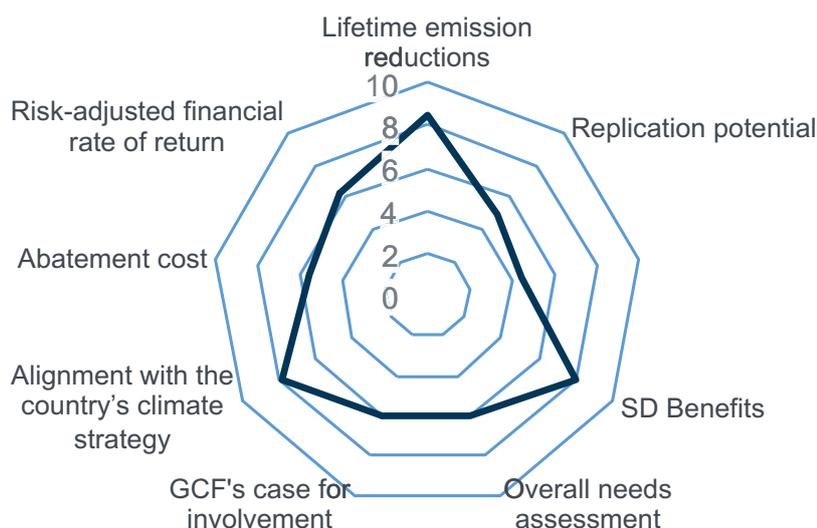
1 Single projects and PoA component projects combined, see UNEP DTU (2018), CDM Pipeline, PoA Pipeline, April 2018.

2 Szymon Mikołajczyk, Sandra Greiner, Stephan Hoch, Axel Michaelowa, Fabrice Le Saché (2016): Why linking the CDM with the GCF is a good idea Combining the forces of public and private actors to scale up climate action in a post-2020 climate framework, Carbon Mechanisms Review 02|2016.

3 GCF (2017) Portfolio dashboard. Available online at [www.greenclimate.fund/what-we-do/portfolio-dashboard](http://www.greenclimate.fund/what-we-do/portfolio-dashboard)

4 GCF (2015) Further Development of the Initial Investment Framework: Sub-Criteria and Methodology. GCF/B.09/07

**Figure 1: Ranking of selected African CDM projects and programmes against GCF investment criteria**



Source: Authors

ranking a selection of CDM projects and programmes against benchmarks for the investment criteria.<sup>5</sup>

The extent to which individual projects or programmes align with the benchmarks varies considerably. All CDM activities strongly deliver on the impact potential and offer a clear framework for measuring emission reductions. Yet, while single CDM project activities score poorly on replication, PoAs offer scalability that fits in well with the GCF's preference for programmatic funding. Individual programmes also scored high on sustainable development benefits and national climate strategies. Many activities are also managed publicly or through public-private partnerships, demonstrating strong national ownership.

Subsequently, we consulted host country governments and CDM project developers to evaluate the possibilities of bringing a funding application to the GCF. Missions to five African

countries have been conducted, including to the Democratic Republic of the Congo (DRC), Ethiopia, Kenya, Senegal and Uganda. The consulted stakeholders include National Designated Authorities (NDA), responsible for GCF projects, CDM Designated National Authorities (DNA), relevant ministry departments, private sector representatives, international development partners as well as UNFCCC and GCF secretariat staff.

## Navigating new bottlenecks

While conceptually the 'marriage' between CDM or its successor mechanism under Article 6.4 of the Paris Agreement and the GCF seems appealing, the realisation of this linkage is not without challenges. In the following, we will share practical lessons of how African CDM activities could access financing from the GCF, using country-specific case studies.

<sup>5</sup> The minimum benchmarks for the six overarching investment criteria are taken from Table 1 of the GCF/B.09/07 note.

## Finding a suitable Accredited Entity

The GCF encourages direct access modalities in which climate finance is channelled through regional, national and sub-national entities. Accreditation is a necessary pre-condition for accessing the GCF, and distinguishes between scale, type and risk category of the activities that are to be funded. Yet, to date the majority of approved GCF programmes targeting mitigation action in Africa have been submitted by international Accredited Entities (AE). As host countries lacking a national AE can only access GCF finance through regional or international AEs, the investment priorities and accreditation levels of these institutions impact the type of activities that reach the GCF secretariat.

Our experience with supporting a cook stove programme in the Democratic Republic of Congo (DRC) with a GCF concept note generated insights on the ways AEs operate and the difficulties small project proponents can face: two multilateral development banks active in the DRC were approached for collaborating on a GCF funding application. On both occasions, both banks could not identify sufficient synergies with the AE's own portfolio to take an application forward. Instead, the banks prioritised investments from their own project pipelines, and would not engage with activities that lacked a previous financing history with them. They also applied minimum co-financing thresholds, meaning that a funding application of below USD 10 million proved to be too limited in investment size. Other AEs reported being overwhelmed by the large number of requests to process GCF proposals. Due to the lack of a suitable AE, the submission of the DRC programme to the GCF had to be stalled.

Difficulties to secure a commitment from an AE due to non-transparent investment criteria, minimum co-finance expectations, or limitations to programmes that are developed in-house may generally hamper carbon market activities interested in accessing GCF finance. This is particularly challenging for micro-scale activities and private sector initiatives that have no existing ties with AEs. The GCF's launch of the dedicated private sector facility call for proposals from small- and

medium-sized enterprises is a welcomed effort in this respect.<sup>6</sup>

## How to attribute emission reductions

Many African countries intend to use carbon markets in meeting their NDC commitments. One example is Ethiopia, which intends to use carbon credits from the new Paris mechanisms or existing CDM activities to finance components of its Climate Resilient Green Economy strategy.

An open issue in seeking GCF finance for carbon market activities is clear guidance regarding the legal ownership of generated emission reductions in order to avoid double counting. Climate finance for investments into implementation (not technical assistance) typically requires – legitimately – that emission reduction certificates are cancelled and cannot be sold as offsets.<sup>7</sup> The GCF Board has adopted similar guidance for its pilot programme for results-based payments for REDD+.<sup>8</sup> The section “ownership, legal title and implications on NDCs” states that the “emissions reductions paid for by the GCF under this pilot programme will not be transferred to the GCF and should be retired.”<sup>9</sup> This makes it possible that the mitigation outcomes are counted towards achieving the host country's NDC target.

GCF funding for CDM activities needs to similarly ensure that emission reductions will be cancelled, which rules out that they could be sold, transferred internationally, or used for any other purposes (e.g. offsetting). While such GCF guidance relating to the CDM is absent, the ruling adopted by the GCF Board for REDD+ could be seen as a precedent for addressing the risk of double counting. However, as GCF funding only supports parts of larger, sometimes sector-wide activities, private actors investing in such programmes require assurance that this rule applies only to GCF-funded programme components, but not to additional activities that do not receive GCF support. This concretely implies that project boundaries must be clearly demarcated by AEs and that robust safeguards are to be put in place to eliminate the possibility that emission reductions are claimed twice.

6 For more information about the GCF's USD 200 million pilot scheme for Enhancing Direct Access, read more at <https://tinyurl.com/GCF-direct-access>

7 Examples include the International Climate Initiative (IKI), the NAMA Facility and KfW's REDD+ Early Movers Programme

8 GCF Pilot Programme for REDD+, GCF/B.17/13, page 14

9 GCF (2017) Pilot Programme for REDD+ Results-based Payments. GCF/B.17/13



Source: DFID / Flickr / CC BY 2.0

One-third of all registered CDM Programmes of Activities (PoA) are hosted in Africa. PoAs fit in well with the GCF's preference for programmatic funding, which opens up new opportunities to gain from climate finance.

Given that both the CDM and GCF operate within the UNFCCC, this approach could be replicated by retiring CERs in the CDM Registry hosted by the UNFCCC Secretariat. This could transparently safeguard the environmental integrity of using the CDM for results-based climate finance and avoid the risk of double claiming of emission reductions. By doing so, the CDM transitions beyond its original role of providing CERs as offsets for Annex I countries, and enables a harmonised accounting of cancelled CERs towards the host country's NDC goals.

Further precedents can be drawn from the German International Climate Initiative (IKI). The initiative restricts the sale of emission reductions from directly-funded implemented mitigation activities. If IKI funding supports carbon market-related readiness activities, generating emission reduction certificates from subsequent activities remains a legitimate source of co-financing.

<sup>10</sup> Annex III to GCF/B.09/23: Initial investment framework: Activity-specific sub-criteria and indicative assessment factors

## Mitigating the risk of double financing

Financing a particular mitigation action or mitigation outcome more than once would result in inappropriate subsidy levels and could lead to the crowding out of commercial finance. This concept is being referred to as 'double financing', and is especially relevant for guidance on how carbon markets and climate finance can provide different, but complementary forms of revenue. Neither the GCF nor the CDM preclude the existence of multiple funding sources for one activity, as long as they are complementary and additional.<sup>10</sup> Concessional climate finance and carbon finance can co-exist and even be mutually reinforcing – as upfront climate finance can enable projects to achieve financial closure. The ex-post character of carbon finance in turn delivers a strong incentive for transparent monitoring and reporting of progress, which adds value for climate financing institutions like the GCF.

Preparing the GCF Project Concept Note for an African rural electrification programme required demarcating the mitigation outcomes enabled through the GCF investment versus future results-based financing streams, in order to prevent double financing.

Alternatively, the risk of double dipping can be avoided altogether in a set-up where the CDM framework is only used to streamline measuring, reporting and verification (MRV) activities within GCF-funded projects and programmes by using CDM methodologies, without any payments tied to issued carbon credits.

## Need for scalability

The GCF aims at funding transformational activities that trigger a paradigm shift rather than isolated projects. While the CDM was initially limited to single project activities, its programmatic approaches enable unlimited additions of activity types that were approved in the PoA registration process, even across countries. Thus, PoAs facilitate a paradigm shift as they provide a framework for rapid replication with relatively little transaction costs and lead times. This is particularly relevant for Africa, since PoAs are the result of CDM reform efforts which broadened access to the CDM by underrepresented regions. Indeed, more than 30% of all PoAs are hosted by African countries, and more than 10% by LDCs.<sup>11</sup>

Most of these programmes are sustainable energy access initiatives with high sustainable development benefits, which are embedded in the priority sectors of African NDCs. Our initial assessment of the African CDM pipeline concluded that PoAs, in particular those that directly contribute to national policies, could emerge as attractive investment propositions for the GCF. Key arguments include that the combination of replication potential and sustainable development impacts enable a paradigm shift. Nevertheless, policy uncertainty on the future of the CDM, the scope of Article 6 and its linkages to the GCF have so far prevented programme proponents to harness the potential to build on established PoA frameworks to rapidly accelerate mitigation action.

## Importance of national ownership

Resulting from the ambition to achieve a paradigm shift, the GCF also places great importance on the national ownership of supported activities. The 'letter of no-objection' that GCF National Designated Entities (NDA) need to provide to authorise GCF funding applications may not substantially differ from a letter of approval issued by a CDM DNA. In practice, however, the limited number of AEs and the political relevance of channelling GCF funds through direct access for national AEs gives NDAs a more prominent role in light of the competition for the limited number of GCF proposals that a country can submit.

An increasingly relevant development is that public sector organisations often stand behind sector-wide CDM programmes. Cases in point are two CDM programmes that are coordinated by the Development Bank of Ethiopia (DBE): the 'Ethiopia Clean Cooking PoA' and the 'Ethiopia Off-grid Electrification PoA'. Combined, these CDM activities encompass a wide range of clean cooking (efficient biomass, ethanol and biogas stoves) and off-grid electrification technologies (mini-grid, solar lanterns and home systems, irrigation). Through these programmes, local private sector companies gain access to DBE financing instruments, which enable scale up that in turn increases the CER generation potential. Both CDM programmes are fully integrated with Ethiopia's sectoral policies and are highlighted in Ethiopia's NDC.

A similar example can be seen in Uganda's efforts to integrate CDM and NAMA financing offer insights into carbon market and climate finance linkages. Uganda has engaged heavily in building domestic CDM and climate finance capacity and as a result boasts the largest CDM portfolio among Least Developed Countries (LDC): 19 projects, 6 PoAs, 3.6 million issued CERs.<sup>12</sup> Uganda's NDC sets out a conditional target to reduce emissions by 22% until 2030 and highlights the intention to build on existing CDM activities.<sup>13</sup> These contributions are listed as "conditional", which implies that Uganda expects international support for their implementation, e.g. through the carbon market mechanisms or climate finance.

A specific case from Uganda where carbon market and climate finance linkages have moved from theory to practice is

<sup>11</sup> UNEP DTU (2018): PoA Pipeline, April 2018, Copenhagen

<sup>12</sup> UNEP DTU (2018) CDM and PoA pipeline

<sup>13</sup> Ministry of Water and Environment (2015) Uganda's Intended Nationally Determined Contribution

the 'Green Schools' NAMA which provides sustainable energy for off-grid rural schools through solar and biogas energy, as well as institutional improved cook stoves (IICS). The IICS component has been fast-tracked and selected for preparing a detailed funding proposal to the NAMA Facility. This 'Sustainable Finance Mechanism for the Uptake of Improved Institutional Cook Stoves in Ugandan Schools' matches the scope of registered CDM activities such as the ICSEA programme and others, cp. 'Facilitating Implementation' elsewhere in this issue. This provides one of the first cases for the integration of CDM and NAMA activities. Moreover, these examples from Ethiopia and Uganda show that there is already a critical mass of subsector-wide climate finance activities building on domestic carbon market pipelines.

## The Way Forward

Exploring potential linkages between African CDM activities and climate financing institutions has generated valuable insights. While CDM activities generally deliver strongly on the impact potential and offer a clear framework for measuring emission reductions, the extent to which individual projects or programmes align with the GCF's investment criteria varies considerably. The scalability aspect of PoAs combined with strong national ownership of publicly-managed carbon market activities align well with some of the Fund's key investment objectives. At the same time, bottlenecks surrounding the identification of suitable AEs and the complexities concerning double claiming of emission reductions and double dipping are expected to present challenges for carbon project developers interested in gaining access to climate finance.

Working towards synergies between the CDM and the GCF is an opportunity to scale up mitigation action on the African continent. Such linkages can furthermore serve as a bridge to navigate the transition from the Kyoto to the Paris mechanisms. African negotiators are involved in setting the rules for the Paris Agreement's Article 6 mechanisms and related transition options for Africa's CDM pipeline. It should be ensured that the Paris Agreement rulebook matches African circumstances and includes modalities for linking existing carbon market activities and international climate finance. Climate finance can play a critical role in scaling up existing programmatic activities in the absence of carbon market demand.

This is especially relevant for the ongoing negotiations on the rules for a new multilateral market mechanism under the Paris Agreement, as this mechanism might not be fully operational by 2020. This strengthens the importance to build on existing rules and activities. As a result, the GCF should consider inviting the CDM Executive Board to its existing dialogue with other UNFCCC thematic bodies. The Executive Board in turn should assess the extent to which the GCF's environmental, social and gender safeguards could be integrated into the CDM or its Article 6.4. successor.

Linking carbon markets and climate finance is also a two-way-street: while African CDM activities stand to gain from climate finance, the CDM also adds value to climate financing institutions such as the GCF by offering a rapidly available and scalable pipeline of mitigation activities, an MRV toolkit, as well as a tested governance framework. As the Paris Agreement requires all countries to report progress on their NDCs, the importance of harmonised, transparent and comparable MRV approaches is paramount. Drawing on the CDM's UNFCCC-approved MRV tools would strengthen the results-orientation of GCF's financing efforts. This includes drawing on CDM methodologies, even though some of these require further revisions, simplifications, or consolidations, or in other cases may be too complex or not applicable in the GCF context. Beyond methodologies, ex-post third party verification of emission reductions as practiced in the CDM enhances accountability and transparency in GCF-supported projects.

## Acknowledgements

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# A Transformative Policy Approach

## The Nitric Acid Climate Change Action Group (NACAG) - making global nitric acid production climate-friendly through international cooperation

by Enrico Rubertus, GIZ, and Thomas Forth, German Environment Ministry Advisor

In many ways, Paris was a turning point in climate change policy. Looking back, this naturally applies first and foremost to the new Climate Change Agreement. It also applies, though, to a range of climate change initiatives launched either before or during the Paris talks.

In contrast to the bipolar division of responsibilities under the Kyoto Protocol (between industrialised nations and developing countries), the focus regarding market-based mechanisms has been shifting away from pure offsetting potential for quite some time. Instead, attention has increasingly been placed on the additional effects of specific reduction activities and associated policies. The central aspects here are host countries' own capabilities and other forms of cooperation between funding countries and implementing states.

For example, the Partnership for Market Readiness (PMR) approaches focus, in the broadest sense, on national-level market-based climate change policy goals in the host countries. Development policy aspects lie at the forefront of the Carbon Initiative for Development (CI-Dev), while the CDM with its results-based financing (RBF) is to be used as a supportive vehicle. With the Pilot Auctioning Facility (PAF), emission reductions achieved under the old offsetting market of the Kyoto Protocol are used to enable stranded climate change projects to be

continued with new funding models and also for models to be developed with which, on the basis of scarcity and competition, incentives can be introduced for entirely new emission reduction activities.

In Paris, transformative activities came to the forefront under two new programmes. These are the Transformative Carbon Asset Facility (TCAF) launched jointly in Paris by Norway, the UK, Sweden, Switzerland and Germany, and the German Nitric Acid Climate Action Group (NACAG). While TCAF is designed to support large-scale financing of transformative developments, NACAG hails a change at the level of climate policy management and long-term responsibility for emission reductions in a specific sector of nitric acid production.

### NACAG approach and aim

At the Climate Change Conference in Paris, Germany launched the Nitric Acid Climate Change Action Group (NACAG) with the aim of equipping all facilities used for manufacturing nitric acid with nitrous oxide abatement technology by 2020. This will stop N<sub>2</sub>O emissions in an entire sector. More than 200 million tonnes of CO<sub>2</sub>-equivalents can be saved by 2020. This would amount to approximately 500 million tonnes between 2020 and 2030. Estimated at about 70 million tonnes of CO<sub>2</sub>-equivalents, the



The required technology in operation: CDM project "Catalytic N<sub>2</sub>O Destruction Project in the Tail Gas of the Nitric Acid Plant PANNA 3 of Enaex S.A."

potential reductions achieved in 2020 represent almost one percent of the emissions gap that needs to be closed by 2020 to ensure that the 2 °C target is met. While in many sectors, achieving reductions is either difficult or costly, a range of mitigation technologies for the nitric acid production sector have already been developed. These are affordable and can quickly be installed in existing plants. The associated avoidance costs are comparatively low, at around € 2 to € 3 per tonne CO<sub>2</sub>eq. In the face of rapidly progressing climate change, this low-cost potential must be exploited without delay. The focus here lies exclusively on abatement of nitrous oxide emissions in nitric acid production. As the additionality of this abatement approach is highly questionable for facilities in which adipic acid is produced (which is eligible in principle under the CDM), the potential of equipping adipic acid facilities is not therefore addressed.

## The concept

One particularly important aspect of and contribution to sustainable development is that where facilities are refurbished or are equipped with new abatement technology, partner countries agree to continue the emission reduction activities as an own contribution under national policy after 2020. By taking over control of this reduction potential, the host countries gain the chance to use this cost-effective emission reduction potential for their own NDCs. The cherry picking seen under the CDM, whereby cost-effective reduction potential is transferred abroad, will thus stop as of 2021 – a situation from which host countries will likely benefit.

By integrating the host countries in policy terms, the NACAG initiative differs greatly from existing CER purchase programmes. Another significant differ-



Source: © Amazonen-Werke Dreyer, Hasbergen

*Reducing the footprint: Nitric acid is primarily a raw product for nitrogen fertilizers. Nitrous oxide (N<sub>2</sub>O) is created as an unwanted byproduct in nitric acid production.*

ence is that CERs acquired through NACAG cannot be used for offsetting or compliance purposes, but must instead be cancelled by transferring them to a special UNFCCC account. This means that the NACAG is funded via climate financing which uses a result-based finance approach (see below for details of how NACAG works in practice).

The clear intention is thus to strengthen climate change efforts, both before 2020 and beyond, and to signal the transfer of successful, market-based emission reduction activities from the Kyoto Protocol to the Paris Agreement. Many countries will understandably want to use the comparatively less costly reduction potential to reach their own targets under their NDCs, but they will need help in building the capacities needed to do so. The economic advantage of host countries using the low-cost reduction option needs to be transferred to the business logic of nitric acid producers. The fact that, thanks to the NACAG initiative, the sector will be best prepared by 2020 in that it provides both the financial resources

and the advisory services needed, should be an attractive incentive for those countries wanting both to tackle climate change at sectoral level and implement sustainable national policy.

It is important to understand that simply continuing with CDM logic beyond 2020 – meaning the sale of CERs to other countries – would prevent host countries from using this low-cost potential to achieve their own targets. This is why NACAG does not promote the financing of policy solutions which continue to rely on the sale of offsets. An additional effect of a long-term offsetting solution would be that the countries concerned could set more ambitious climate change goals.

## Replicability of the NACAG model

It is conceivable that the NACAG approach can be transferred to other emission reduction sectors and thus become a model which, as mentioned earlier, can be used to transfer successful

approaches from the Kyoto Protocol to the Paris Agreement in the course of the coming years. Also, it is important to understand that the transition from the Kyoto Protocol to the Paris Agreement is a short-term phenomenon. The underlying concept can, however, be combined not just with the CDM but with other mechanisms that will exist under Article 6. Central to all such considerations is the question of how transformative processes can be introduced. Questions which arise include: which bilateral agreements are needed? How can a cooperative approach be developed under the market mechanisms which is characterised by an increasing own contribution by host countries to avoid emissions? One thing that is completely clear, however, is that there will be no standard, one size fits all approach, but instead country-dependent and potential-dependent variations which will no doubt lead to customised solutions.

## How NACAG works in practice

NACAG makes consulting services available to partner countries and facility operators, covering both regulatory and tech-

nical issues in using the available abatement technology or catalytic converters.

The abatement activities are financed in eligible developing and transitioning countries using funds allocated to the NACAG secretariat by BMU. Eligible countries receive financial support for the installation and maintenance of the abatement technology. Partner countries declare that in turn for receiving this support, they operate the abatement technologies independently from 2021 onwards. Thus, the ownership of the activities is directly transferred to the partners.

Interested countries can express their interest by signing a membership declaration (see Box 1: Declaration). In this way, the partners strengthen their policy commitment to continue emission reduction activities beyond 2020 on their own account.

To implement the initiative, BMU has asked Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) to establish a NACAG Secretariat. The secretariat is the main point of contact for issues concerning the initiative and provides technical consulting services for facility operators and partner governments. It is also responsible for promoting the

## Transforming a sector

### NACAG Declaration on N<sub>2</sub>O Mitigation in Nitric Acid production

The international community has agreed to the common goal of keeping global warming below a threshold of 2°C. Countries and stakeholders are working on measures in all sectors. However, science tells us that we are still facing a mitigation gap of 8-10 Gt CO<sub>2</sub>eq in 2020. That is why we need an additional 8-10 Gt of emission reduction to remain on a 2° consistent pathway.

In light of these challenges, we cannot allow emissions that can be avoided with moderate efforts to continue.

N<sub>2</sub>O emissions in nitric acid production can be abated relatively easily and at a low cost. Abatement technology is available and can be installed quickly in existing plants.

Nitric acid is primarily a raw product for nitrogen fertilizers. Nitrous oxide (N<sub>2</sub>O) is created as an unwanted by-product in nitric acid production and frequently vented to the atmosphere without any treatment. It has a GHG effect 264 times that of CO<sub>2</sub>. A rough estimate puts the currently unabated GHG potential from nitric acid production at above 200 million tons of CO<sub>2</sub> equivalents until 2020. Abatement technology is however available and can be installed quickly in existing plants.

However, a significant part of the nitric acid producing installations worldwide, especially but not only in developing countries and economies in transition, are not abated yet – or even stop once started N<sub>2</sub>O destruction due to ongoing costs for abatement.

The signatories affirm their commitment to help ensure abatement of N<sub>2</sub>O from nitric acid production with the aim to globally phase out these emissions by 2020.



Source: Gijliland / Flickr / CC BY-SA 2.0

*Tapping the potential: fertilizer plant in China.*

initiative, offering informational products and trainings, and building a network that potentially boasts all stakeholders in the nitric acid production sector (governments, facility operators, technology suppliers, NGOs, science and research, and interested parties in the professional community).

## Cooperation partners

Germany also invites other funding countries as well as countries interested in transformation to join the German Nitric Acid Climate Action Group. To achieve the goal of reaching the entire nitric acid sector by 2020, the initiative is reliant on additional financial support and reduction pledges from developing countries because it is clear that the funds allocated by the German government to NACAG will not be enough to reach all nitric acid production plants in every country in the world. NACAG thus hopes to also attract membership of industrialised countries which have not yet achieved nationwide abatement of N<sub>2</sub>O.

Cooperation partners are a key prerequisite for NACAG's success, to penetrate the nitric acid production sector, generate acceptance for the approach and ensure sustainable emissions abatement. When it comes to the transfer of emission

reduction activities from the Kyoto regime to partner countries' NCDs under the Paris Agreement, both government representatives who are responsible for climate change policy and those who regulate the nitric acid production sector play an important role. The industry associations in the respective countries, and also global-level umbrella associations to which the chemicals industry belongs, can make a key contribution to technology and knowledge transfer. The German Chemical Industry Association (VCI) has joined the initiative early and is a strong partner. Non-governmental organisations (NGOs), especially those at local level, must be approached at an early juncture to explain the potential benefits of NACAG, not just with regard to global climate change effort, but also for local environment protection which is made possible, for example, through the use of tertiary catalytic converter technology to destroy NO<sub>x</sub> in addition to N<sub>2</sub>O.

The World Bank's Pilot Auction Facility (PAF) is another important partner for NACAG (see Box 2: PAF at a glance). Under the title 'Nitric Acid Climate Auction Program' (NACAP), the PAF's concept will be applied to nitrous oxide emissions from nitric acid production. Using the concept of a multiple rounds reverse auction, plant operators can purchase bonds with a guaranteed price for redeeming N<sub>2</sub>O emission reductions in the future.

### PAF at a glance

The Pilot Auction Facility is an innovative climate finance model developed by the World Bank Group to stimulate investment in projects that reduce greenhouse gas emissions while maximizing the impact of public funds and leveraging private sector financing.

Its results-based payment mechanism will set a floor price for future carbon credits in the form of a tradeable put option, which will be competitively allocated via auction.

The PAF is backed by several government donors and has a capitalization target of \$100 million. In a first phase, it has supported projects that cut methane emissions at landfill, animal waste, and wastewater sites facing low carbon prices. One auction on nitrous oxide emissions from nitric acid production has already been conducted. The NACAG will continue these activities.

Find out more at

<http://www.pilotauctionfacility.org>

## What membership of NACAG means

As mentioned earlier, countries, associations, businesses and civil society organisations can become members of the global NACAG Group. By joining, they signal that they want to contribute to the initiative's core objectives by using their respective capacities to equip the entire nitric acid production sector with nitrous oxide abatement technology. Based on their differing roles, partners can facilitate the transfer of knowledge and expertise – both at facility and government regulation level. NACAG is designed to build a proactive community and a knowledge network. By joining the initiative, new partners are in no way subject to financial or investment commitment.

Under NACAG, the initiative lies with the financing partners, the funders and the facility operators themselves.

## Current Status of NACAG

Jordan, Tunisia as well as Bosnia and Herzegovina have already joined NACAG by signing the Declaration in support of NACAG's vision. Numerous other countries have expressed their interest in the initiative. Tunisia is the first country to have signed a Statement of Undertaking, confirming the continuation of abatement activities post 2020. This means that Tunisian nitric acid producers are now eligible to apply for funding from NACAG.

The NACAG Technical Support Unit has conducted workshops in various countries, among others in Mexico, Columbia, Tunisia, Vietnam, Thailand and Turkey. The workshops brought together plant operators and government representatives to discuss options to join NACAG.

## Outlook

In the coming months, NACAG aims at mobilizing more partners to become part of this global action group with the goal of the sustainable transformation of an entire industry towards climate friendly production. In order to achieve this goal, NACAG will continue providing technical and financial support for partners willing to join the group.

Furthermore, the World Bank will hold an auction on climate bonds. This auction will further incentivise the mitigation of N<sub>2</sub>O emissions, especially by those plants which participated already in the CDM. Details on the auction's timeline and other information will be released soon.

The feedback received in the last months by various stakeholders on NACAG's approach – providing substantial technical and financial support for long-term abatement commitment of partner countries and industry – was very positive and suggests that if the NACAG proves to be successful, its "hands on" approach can be applied to other sectors as well.

**Further information on NACAG can be obtained at**  
[www.nitricacidaction.org](http://www.nitricacidaction.org)

*This article is an enhanced version of a text which was first published in CMR #3/2016.*

# Quo Vadis Voluntary Markets?

## New Paris Agreement architecture puts business model to the test

by Lukas Hermwille and Christof Arens

The Paris Agreement (PA) has opened a window of opportunity for the development of new market-based instruments, but at the same time it challenges the Global Carbon Markets as we knew them in the past: Under the Kyoto Protocol, only developed countries faced formal mitigation obligations while under the PA, all countries are obliged to develop and communicate nationally determined contributions. This change especially affects the Voluntary Carbon Crediting Schemes (see box), as their business model largely depends on importing emissions reductions from developing countries with no reduction obligations into the capped environments of industrialised countries.

### State of play

Historically, the market for carbon units under international standards such as CDM & JI has dwarfed the voluntary carbon credit supply. Only in recent years, after CER prices collapsed, has voluntary supply gained shares.

In 2015, a total 84.1 million tonnes of CO<sub>2</sub>e were bought for voluntary purposes on international markets. This is an increase of 10 per cent against 2014 levels. However, due to falling average prices, the total market value fell by 7 per cent to USD 278 million. A total of carbon credits to the amount of 42 million tonnes of CO<sub>2</sub>e were issued in 2015 and 39.5 million credits were retired. Cumulatively, privately organised carbon schemes have credited emission reductions of 329.8 million tonnes CO<sub>2</sub>e, nearly half of which have been retired.<sup>1</sup>

### Challenges

The Paris Agreement for the first time obligates all signatories to set themselves climate change mitigation goals. This is the

decisive difference to the Kyoto Protocol, which was characterized by a “capped” and an “uncapped” environment, with caps being imposed for developed countries included in the UNFCCC Annex I only while developing countries (Non-Annex I) did not take on commitments.

#### Voluntary Demand and Supply: The changing structure of global carbon markets

The “voluntary market” was originally defined in contrast to the “compliance market”. Voluntary supply was provided by privately organised carbon crediting schemes who supply mitigation units to private buyers from industrialized countries. In contrast to the compliance market, where supply was regulated and under international oversight (CDM and JI), buyers on the voluntary market do not have emissions reductions obligations (such as a cap under the EU emissions trading system, EU ETS) and intend to compensate their carbon footprint for ethical reasons or reasons of corporate social responsibility.

The global carbon market has seen considerable fragmentation in recent years. Therefore, this clear cut distinction between voluntary market and compliance market does not longer hold: public entities including some states have purchased carbon credits voluntarily above and beyond their obligations under international law. Also, some emerging mandatory emission trading or offset schemes are contemplating to make units from private crediting schemes eligible. In theory, voluntary supply could even play a role in facilitating international “cooperative approaches” under the Paris Agreement’s Article 6.

<sup>1</sup> Kelley Hamrick and Allie Goldstein, ‘Raising Ambition: State of the Voluntary Carbon Markets 2016’.

Under the Kyoto Protocol, the majority of credits (both for compliance as well as for voluntary cancellation) were “mined” in countries without mitigation obligations. The host countries did not have any interest in attributing the realised emission reductions to their national climate policies and including them in their own GHG inventories. However, they had an interest in attracting investments in low-carbon technologies from industrialised countries. Both the CDM as well as various voluntary carbon standards helped to channel such investments.

In developed countries, for each certified reduction in a project-based mechanism, one of the host countries Kyoto-allowance would have to be converted as under JI or cancelled as practice in most voluntary crediting schemes.

This situation has fundamentally changed under the Paris Agreement: former host countries without mitigation commitments now face an obligation to reduce emissions themselves. They therefore have an incentive to keep as many emission reductions as possible in their own books. This is particularly true for low cost emission reduction potentials.

Yet some countries have limited their mitigation activities under the PA to some sectors and excluded others. Roughly one third of the countries that specified a GHG target limit this target to a subset of their economy, 12 countries have economy-wide targets excluding only the land use and forestry sector, and 8 countries did not specify the sectoral scope of their target.

Theoretically, the “mining” of carbon credits could therefore be continued in those sectors that fall outside the scope of what is covered by the NDCs. However, the remaining “mining claim” is much reduced.

For the vast majority of mitigation potentials, voluntary carbon standards face a serious challenge. Either they could continue to certify projects without formal acknowledgement and recognition of the host country. Any emission reduction achieved under the scope of a country's NDC would materialise in the host country's GHG inventory, provided the inventory's methodologies are of sufficient accuracy and granularity, and contribute to the attainment of that country's mitigation goal.

Therefore, transferring carbon credits from projects without a formal recognition in the host country's GHG balance sheet would necessarily result in double counting. Emission reduc-

tions would be claimed by a private entity that ends up buying the voluntary credits and by the host country of the credited activity.

One solution would be to devise a system that allows to transparently track and account transferred carbon credits. Under such a registry, it would be theoretically possible to balance the accounts of the host country of the activity and the country of residence of the entity that purchases and ultimately retires the credit. Such a registry would work most effectively and most economically centrally organised and under international oversight.

Another possibility to track transfers and address double counting would be to require all countries to transparently report on their exported and imported credits, including those of the voluntary carbon market. These reports, which could be submitted together with the national inventories, would allow to double check all transfers.

However, both solutions will have to be implemented at the international level by ensuring equal conditions for all countries participating in these transfers.

## Conclusion

If it wants to remain credible, the voluntary market must prepare to become part of the Paris architecture. Voluntary certification schemes will have to make sure that Parties report on the certificates transferred or set up an international registry that allows to track these transfers.

An alternative route for the suppliers of the voluntary markets is discussed inter alia by the Gold Standard Foundation. The idea would be to shift the business model from providing an offset scheme to a labelling scheme in which high-quality mitigation activities are certified including a quantification of the achieved emission reductions. Yet these reductions must not be used to consolidate the emissions account of whoever purchases the certificates.

**The underlying JIKO Policy Brief can be downloaded at [www.carbon-mechanisms/en/voluntary\\_market](http://www.carbon-mechanisms/en/voluntary_market)**

*This article was first published in CMR #1/2017.*

# Preparing for Article 6

## The West African Alliance on Carbon Markets and Climate Finance

by Tobias Hunzai (Climate Focus), Sandra Greiner (Climate Focus), Ousmane Fall Sarr (ASER)

West African countries have formed an Alliance to collaboratively engage on the topics of carbon markets and climate finance. Initiated and led by West African delegates to the UNFCCC negotiations, the Alliance aims to shine a light on West African interests and capacity needs, strengthen the region's voice in the debate and better prepare countries for cooperation opportunities arising under the Paris Agreement. A critical success indicator for the operationalisation of Article 6 of the Paris Agreement is that it allows all countries, including least developed ones, to fully participate in the new cooperative mechanisms. Members of the West African Alliance seek to collaborate with other partners in the formation of the new mechanisms to ensure that the lessons learned and the realities in the countries are adequately reflected in their design. The need for this engagement is reflected by the traction the Alliance has already gained among West African states. Since the launch of the Alliance in November 2017, 16 countries from the region have joined the Alliance, see box.

This article takes a closer look at the Alliance, why it is needed, what can be expected and how it fits into the landscape of the UNFCCC negotiations and related regional initiatives.

### What is new about the Alliance?

There are several aspects that make the Alliance unique.

The first is the focus on West Africa. Under the UNFCCC, West Africa is considered a sub-region within the African region and does not constitute a negotiating block. Yet, from an economic and political

### The West African Alliance on Carbon Markets and Climate Finance at a glance

*Member countries as of May 2018:*

Benin, Cape Verde, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Mali, Mauritania, Niger, Nigeria, Liberia, Burkina Faso, Sierra Leone, Senegal and Togo

*Date of launch:*

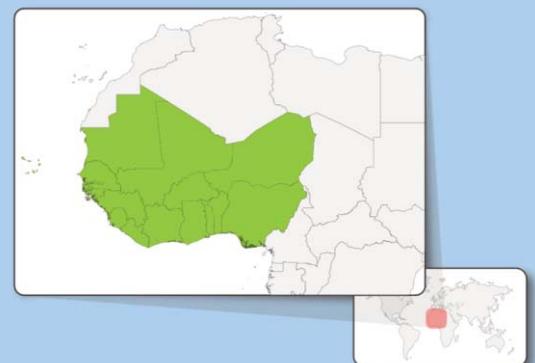
November 2017 (COP 23)

*Supporting organizations:*

BOAD, RCC Lomé, Enda Energie, Climate Focus, financial support from BMU

*Website:*

[www.westafricacimatealliance.org](http://www.westafricacimatealliance.org)



perspective, the member countries of the Economic Community of West African States (ECOWAS) and Mauritania are closely intertwined and are working towards the vision of a borderless region, harmonised policies and a single currency. This provides a suitable framework for the discussion of joint policies, mutual interests and approaches to carbon markets. The focus on West Africa is also conducive to peer-to-peer capacity building and knowledge exchanges between government representatives with similar backgrounds. While mainly French speaking, some member countries have English or Portuguese as their national language. Regional workshops therefore provide a good training ground for international negotiations as all discussions have to be held in the common English language. With more than 300 million inhabitants and as one of the world's fastest growing regions, West Africa is destined to play a decisive role in the implementation of the Paris Agreement long-term goal as well as the UN Sustainable Development Goals.

A second aspect worth noting is the objective of the Alliance to serve as a bridge between the UN climate change negotiations and the activities on the ground. The Alliance thus aims to bring in-country experiences to the negotiations and -vice versa- support countries in preparing domestically for participation in Article 6.

The third interesting feature is the strategic link between carbon markets and climate finance, acknowledged in the title of the Alliance. Both are complementary means to the same goal of driving down emissions and supporting a low carbon development, considering that a variety of financial sources are needed to incentivise broad scale mitigation. This link is also reflected in the evolution of crediting mechanisms like the Clean Development Mechanism (CDM) itself. Beyond offsetting, the CDM and certainly the future Article 6.4 mechanism are increasingly perceived as disbursement tools for results-based climate finance.

## Why an Alliance on carbon markets and climate finance?

The experience with the CDM has shown that countries in the African region struggled to fully participate in the mechanism in the early years. On the one hand, countries were comparatively late in establishing the necessary structures and promoting its use domestically. On the other hand, the international rules did not favour African mitigation opportunities, many of which are decentralised and relate to emissions from the land use sector. Only with the introduction of Programmes of Activities (PoAs) was the context of African countries better reflected. As a result, ECOWAS countries have been among the least successful in attracting CDM projects in the past. However, they do have a growing pipeline in PoAs, particularly in programmes that promote energy access and go hand in hand with national development goals.

In order to avoid repeating the experience with the CDM, West African delegates need to be well-informed of the issues being negotiated in the UNFCCC arena, link them to their domestic situation and have a strong coordination in the UNFCCC discussions.

To this day, African countries' representation in the UNFCCC negotiations remains at a low level. With 54 countries, the African Group of Negotiators (AGN) is the biggest regional negotiating block, yet many of its country delegations are small due to limited travel budgets. Some technical negotiators take turns in attending UNFCCC meetings, while others find themselves responsible for covering a full range of topics, for instance all that are related to mitigation. This makes it difficult to follow technically and politically complex topics such as Article 6, let alone impact their design. Compared to the dynamic core of the discussions, many African delegates still find themselves on the outside looking in.

*"We have to make carbon markets accessible for West African countries to make sure least developed countries do not miss the train under the Paris Agreement as they did with the CDM"*

Ousmane Fall Sarr, Coordinator  
West African Alliance

New challenges also arise domestically. With the adoption of the Paris Agreement in 2015, the future of the CDM has become uncertain, putting CDM assets, expertise and capacity built in West African countries in limbo. In order to participate in Article 6 transactions, countries will need to assess how cooperative activities relate to their NDCs. Any transfer will need to be evaluated, authorised and reported under the enhanced transparency framework. Adjustments also have to be made to the country's NDC accounting for emission reductions that are sold abroad as internationally transferred mitigation outcomes (ITMOs). This calls for new capacities and expertise to be developed on the national level.

The West African Alliance on Carbon Markets and Climate Finance seeks to address these challenges by providing a platform for coordination vis-à-vis the UNFCCC negotiations, enabling consistent participation in relevant negotiation streams by its members and providing targeted support to in-country readiness activities.

## Relation to the African Group of Negotiators

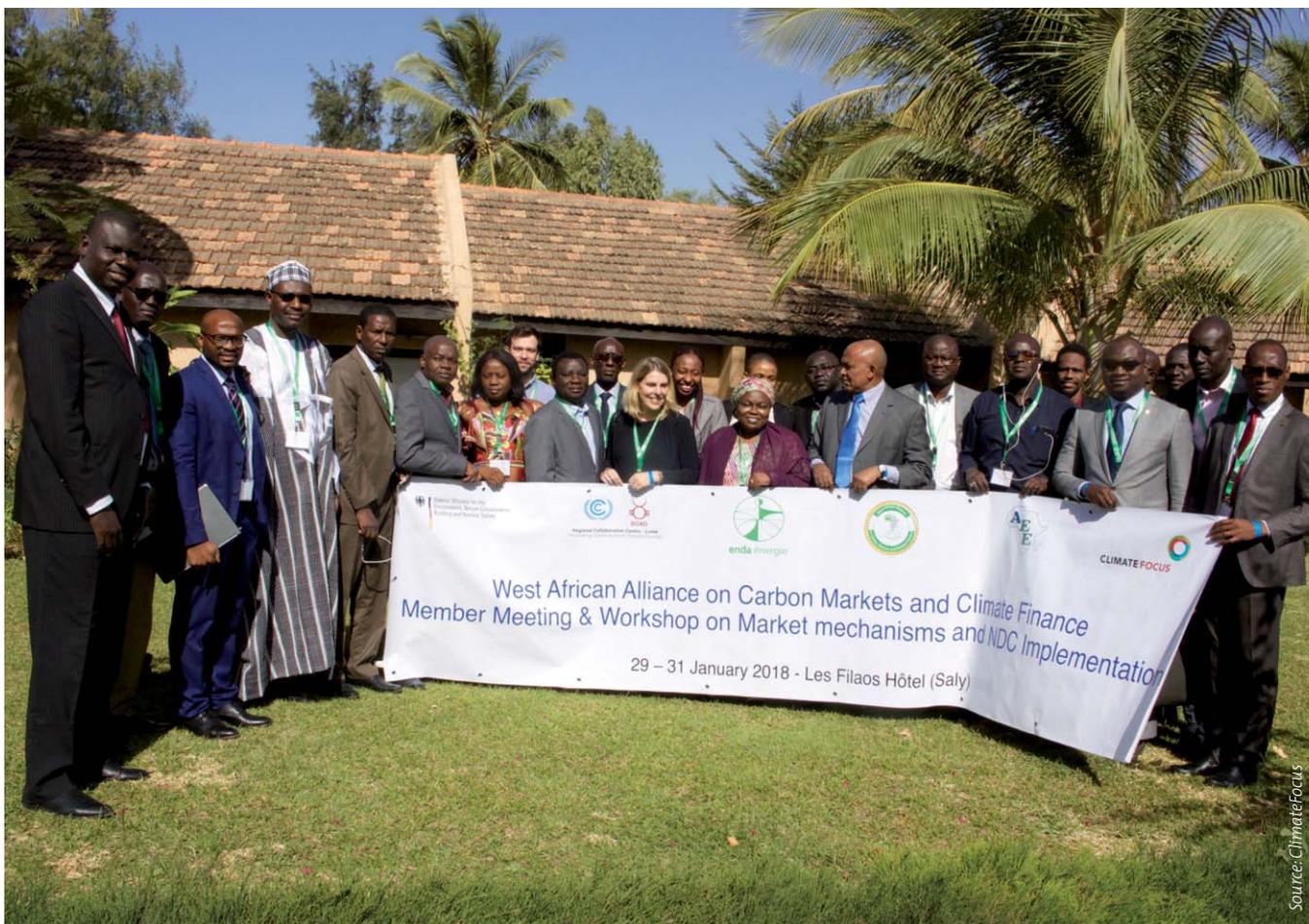
This issue deserves special attention as some have raised concerns that the Alliance might duplicate the work of the African Group of Negotiators (AGN) or weaken its position through the focus on the sub-region. The Alliance does not challenge the role of the AGN as the voice of African countries in the UNFCCC negotiations and has no aspiration of becoming a formal negotiation block. Rather, it seeks to strengthen the position of the AGN through supporting the dialogue and knowledge sharing on the issues under negotiations. To do so, it is important that relevant results are fed back into the AGN position building process. In this context it can also be noted that the West African Alliance has already inspired the formation of a sister Alliance in East Africa.

## What can member countries expect from participation?

In tangible terms, members can expect to benefit from the knowledge hub that the Alliance creates, as well as targeted in-country readiness activities and enhanced participation and coordination in the UNFCCC negotiations.

The Alliance builds a network of country representatives and other stakeholders that are active in the space of carbon markets and climate finance in West Africa. Through the networking infrastructure, members can benefit from experience sharing and remain informed about relevant developments. An important tool in this regard will be the soon-to-be-launched website of the Alliance. Other knowledge building activities include the organization of thematic working groups and workshops. The first workshop was already held in Saly, Senegal in January 2018, where participants discussed the role of carbon markets in the implementation of NDCs. The next workshop is planned for July 2018 in Lomé with a focus on the Article 6 negotiation text.

The Alliance is also welcoming partners to make use of its infrastructure to reach out to member countries in West Africa. Partners can engage with member countries through the Alliance, creating synergies with other initiatives. The Alliance has already built a network of partners ranging from regional organisations to international development organizations. The first workshop in Senegal included the participation of the African Development Bank, GIZ, NDC Partnership, UNFCCC and the ECOWAS commission. During the African Carbon Forum in Nairobi, the Alliance teamed up with the World Bank for a joint side event. Currently, the main supporting partner of the Alliance is the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), which is enabling through its contribution the operational set-up of the Alliance and the implementation of pilot activities. The contribution also provides direct support for key members of the



*Preparing for cooperation: West African Alliance Meeting in Saly / Senegal.*

Alliance to attend UNFCCC negotiations and participate in outreach activities.

To effectively support the in-country preparation, the secretariat of the Alliance strives to match support needs of its members with available expertise and resources. To this end, a competitive tender was organised among member countries, inviting applications for technical support needs. Six applications were received, in which countries identified their individual support needs in relation to Article 6. The secretariat has announced that it will support Nigeria and Togo as part of its initial activities, while seeking to identify further funding to be able to extend the support to more countries in future.

## Which topics are in focus?

As the name implies, the main working areas of the Alliance are carbon markets and climate finance. That said, related topics or those that are critical to the implementation of Article 6 are equally in focus. To foster the sub-regional dialogue on thematic issues, the Alliance has set up four working groups, organised and chaired by one of its members. These working groups form the core of the substance-related work and are currently structured around the topics of national MRV, markets and non-markets, climate finance and technology transfer. It is expected that the working groups will shape the debate within the Alliance, ensure that members stay

up-to-date on developments and identify relevant issues for capacity building. The chairs of the working groups have the role to carry messages to the members and partners of the Alliance and the wider negotiations community.

While specific topics will evolve over time, subject to the work of the working groups, there are a number of topics and themes that members have already identified as critical areas for engagement.

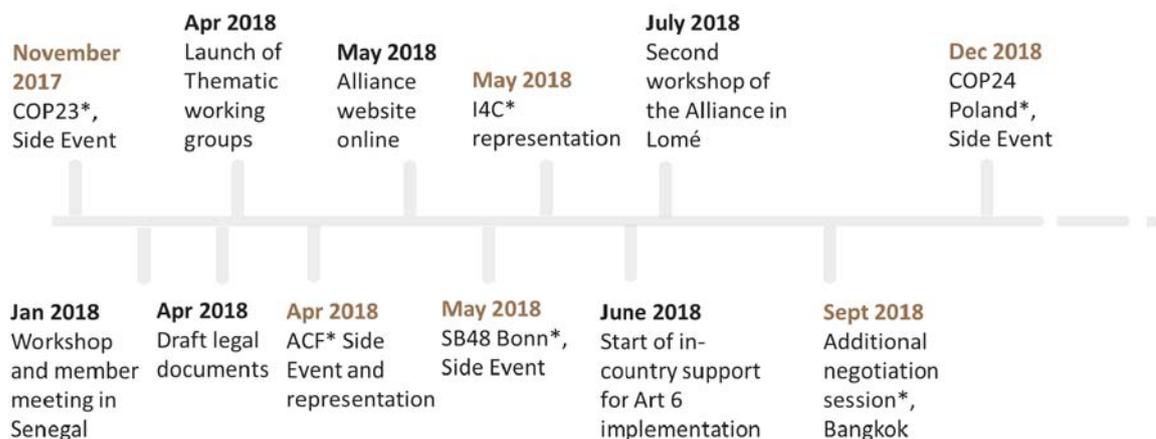
- The 'in-country support need' requests were most of all concerned with the assessment of sectors within NDCs that are suitable for carbon markets or climate finance support. It is a concern that the transfer of emission reductions outside the country may negatively affect the ability to deliver on NDC pledges. Therefore, members wish to identify and close data gaps as a basis to engage in Article 6 transactions and increase MRV capacities. Transitioning existing CDM capacities towards the Paris framework has also been identified as an open question and a support need, as well as the necessary gover-

nance structures within countries to assess and regulate carbon market activities.

- Another key area of interest is finding cooperation partners to harness mitigation opportunities in the region and gain access to demand for West African carbon credits. The Alliance seeks to make a contribution in this field by first of all mapping the region's active CDM portfolio, an activity which is already ongoing, and secondly to support a joint marketing effort.
- Future areas of engagement, where members have already expressed interest, relate to the link between long-term low carbon development strategies and international cooperation through carbon markets or climate finance, as well as the harmonisation of carbon pricing approaches within West Africa.

The Alliance seeks to regularly disseminate the lessons learned of its engagement through side events, presentations, articles and on relevant websites.

## Alliance activities 2017-18



\*travel support for up to 5 Alliance representatives

## How is the Alliance organised?

The Alliance has been initiated by West African delegates with the vision of providing a stable format in which member countries can coordinate and build their capacity. It is anchored in institutions that already serve the West African region with regard to carbon markets, technology transfer and climate finance. The secretariat of the Alliance is hosted by the West African Development Bank (BOAD), the Regional Collaboration Centre Lomé (UNFCCC RCC Lomé), ENDA Energie and Climate Focus. Together, this consortium of organizations serves the Alliance through its existing infrastructure, network, expertise and own contributions in order to support the sustainability and continuity of the Alliance. While the secretariat together with the coordinator of the Alliance, Mr Ousmane Fall Sarr, implements the ongoing activities of the Alliance, it receives its guid-

ance from the member countries. The Alliance is a member-driven initiative, in which participating countries through their climate change focal points, appoint government representatives that are involved in the negotiations on markets and/or climate finance. The institutional set-up and process through which members can participate is currently being formalised through a membership agreement and rules of procedures.

### Further information:

The alliance is going to hold a side event at the I4C on Thursday 24 May, 1pm, cp. programme at the end of this issue.

Regular updates will also be published at <http://www.carbon-mechanisms.de/en/initiatives/market-development/west-african-alliance-on-carbon-markets-and-climate-finance/>

# Facilitating Implementation

## Supporting carbon markets and climate finance activities in the East African region

*by Gloria Namande, Project Coordinator GIZ Global Carbon Markets Programme Uganda/East Africa*

The German Development Cooperation (GIZ) Global Carbon Markets Programme with support from the Germany Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) has for the past few years supported countries in East Africa to optimise and tap into the existing carbon market opportunities. This has been achieved through capacity development for the public institutions on carbon markets and climate finance approaches, development of tools and methodologies to facilitate implementation of emission reduction projects and support to the private sector to engage in carbon markets.

Through the programme, capacity building for climate change negotiators in the region on Article 6 mechanisms under the Paris Agreement has been conducted. The training has improved the understanding of negotiators in the East African region on the dynamics of international climate negotiations, and equipped them with skills regarding the negotiation process. The training has also enabled negotiators to effectively support their delegations on the developments specifically under Article 6 of the Paris Agreement. Over 80 climate negotiators from the East African countries have been trained and have gained a clear understanding on Article 6 of the Paris



*Where climate change mitigation and sustainable development go hand in hand: ICSEA cook stove programme*

Agreement and the relevancy of carbon markets in the different climate change mitigation approaches.

Furthermore, on 13th April 2018, the third day of this year's African Carbon Forum held in Nairobi, the Global Carbon Market Promotion Programme of GIZ Uganda and BMU in collaboration with the UNFCCC Regional Collaboration Centre (RCC) Kampala and Carbon Africa held a side event on the role of Design-

nated National Authorities (DNAs) in the transition from the Kyoto Protocol to the Paris Agreement. The event brought together representatives from African countries to identify specific support needs and readiness required at both national and regional levels in regards to the options Article 6 presents for transferring mitigation obligations. Participants also shared experiences on the technical, financial and

institutional support available in the implementation of carbon market related initiatives in the region. A key recommendation from this meeting is that national authorities could be responsible for all mitigation actions under Article 6, for example, managing the transfer of Internationally Transferred Mitigation Outcomes (ITMOs) and also oversee the approval of projects to certify that the mitigation outcomes at the country level involve no double counting. The outcomes of this DNA event will feed into and support the African position on Article 6 within the UNFCCC negotiating process specifically on the rules, modalities and procedures of Article 6.4.<sup>1</sup>

The programme has also supported the development of tools and methodologies specifically standardised baselines to support countries in the calculation of emission reductions for specific sectors such as renewable energy, energy efficiency, and biomass. Countries including Uganda, Rwanda and Ethiopia have been supported in the development of sector-specific standardised baselines. In Rwanda, support has been provided to the development of a standardised baseline on sustainable charcoal production while in Uganda and Ethiopia, standardised baselines have been developed on improved institutional cook stoves. In Uganda, the standardised baseline for efficient cook stoves is being used as a key Monitoring, Reporting and Verification (MRV) tool for the Green Schools Nationally Appropriate Mitigation Action (NAMA). The NAMA aims to promote the use of efficient cooking technologies in both public and private institutions in the country, cp. 'Navigating the Transition' elsewhere in this issue.

Moreover, the programme has supported Coordinating / Managing Entities in the region to include small-scale energy projects into existing carbon market programme of activities. For example, it has supported the Uganda Carbon Bureau to identify potential projects for inclusion as Component Project Activities (CPAs) into the Improved Cook stoves for

East Africa (ICSEA) PoA. So far, 10 projects have been supported to get included into the ICSEA PoA. This has reduced the transaction costs incurred by these individual projects to access carbon finance, cp. CMR #1-2013.

In addition, the programme has supported countries in the region to define and explore explicit and implicit carbon pricing instruments. Carbon pricing is seen as being synonymous to international carbon markets, with the main objective of financing mitigation actions. A consultative dialogue was organised in collaboration with the World Bank's Carbon Pricing Leadership Coalition (CPLC), African Development Bank, the UNFCCC and BMU in October 2017 in Nairobi, Kenya, to discuss the role and potential for carbon pricing instruments in African economies. It gathered around 25 public and private sector experts from various African countries, including Benin, Cameroon, Democratic Republic of Congo, Cote d'Ivoire, Ethiopia, Kenya, Senegal, South Africa, Uganda, Zambia, and Zimbabwe. Given that many countries have included measures to increase energy efficiency and renewable energy in their NDCs, there is a significant scope to explore how carbon pricing instruments can expedite such efforts. Based on a closer reflection and while accepting a broader definition of carbon pricing, it is clear that there are a range of measures and instruments presently in use that implicitly already put a price on carbon in the Africa context.<sup>2</sup>

Overall, the programme has strengthened the capacities of both state and non-state actors in the East African region to effectively optimise the opportunities under carbon markets, supported the development of specific tools and methodologies to facilitate the development of emission reduction projects and enabled negotiators in the region participate effectively in international climate change negotiations.

<sup>1</sup> The event's report can be viewed at [https://unfccc.int/sites/default/files/resource/2018\\_04\\_DNA\\_transition\\_side\\_event\\_outcome\\_report.pdf](https://unfccc.int/sites/default/files/resource/2018_04_DNA_transition_side_event_outcome_report.pdf)

<sup>2</sup> Key outcomes from this dialogue can be found on the CPLC website at <https://www.carbonpricingleadership.org/news/2017/10/27/enabling-collaborative-action-on-carbon-pricing-in-africa>

# Tracking the Impacts

## Quantifying Significant SDG Impacts of NDC Actions

by Dr. Alexandra Soezer, Dr. Harun Warui, Yvonne Nyokabi and Mercy Kamau, UNDP

In 2015, two important frameworks that are expected to drive the world towards a more circular and sustainable future were adopted, namely the Paris Climate Agreement and the Sustainable Development Goals. The Paris Agreement is built on national commitments to take mitigation and adaptation actions within specific country contexts - termed 'Nationally Determined Contributions' (NDCs). It is expected that countries will measure and report progress made on their NDCs and subsequently set increasingly ambitious targets to tackle climate change. The Sustainable Development Goals (SDGs) outline 17 globally defined goals, with 169 targets which have been agreed by all countries to be universally achieved. Each country is expected to establish national frameworks to achieve these goals, and define them in their national contexts. SDG 13 defines targets to tackle climate change but several other SDGs will also be impacted by SDG 13.

A steep increase in investments in green infrastructure is required to achieve these transformational SDG and NDC goals<sup>1</sup>. An investment gap of US\$48 billion a year by 2030 exists just to alleviate energy poverty<sup>2</sup>. Innovative financing mechanisms are needed to close the investment gap and among innovative financing mechanisms, crowdfunding has emerged as a new form of alternative finance that can attract and efficiently leverage public and private financial flows at scale. The market for crowdfunding has been growing rapidly - from US\$16 billion in 2014 to US\$35 billion in 2015 - with a forecasted market value of US\$100 billion by 2025<sup>3</sup>.

A recent study by the Global Impact Investing Network (GIIN)<sup>4</sup> has found the SDGs to be a simple and attractive entry point

for investors. However, lack of access to verified and quantifiable information on the social and environmental returns on investments has made it difficult for the private sector, both corporates and individuals, to value the contribution of their investments.

Coherently addressed, SDGs and NDCs offer an unprecedented opportunity to increase investor readiness in climate finance. UNDP has developed the Climate Action Impact Tool (CLIP-Tool)<sup>5</sup> as a bottom-up tool, providing a series of questions and prompts to track 'significant, direct SDG impacts' of climate actions.

Ultimately, this will allow investors to obtain independently assessed information about social and environmental impacts. Investors will be enabled to make informed decisions which will ultimately result in increased levels of investment to projects with the highest impact on beneficiaries. In the future, the CLIP-Tool shall further help assessing a country's implementation progress vis-à-vis its NDC and SDG objectives and goals.

## Technical Features of the CLIP-Tool

The CLIP-Tool is separated into seven impact categories that are linked to the relevant SDGs. The user will be prompted to provide a series of data and information under each category which will then be used to quantify and track the impact of the given mitigation and adaptation actions which contribute to NDCs and to the SDGs. The user is expected to at a minimum complete the qualitative sections to receive a visualisa-

1 World Resource Institute, 2015

2 Energy For All: Financing Access for the Poor 2011, International Energy Agency

3 World Bank, 2013.

4 GIIN (2016) Achieving the Sustainable Development Goals: The Role of Impact Investing.

5 <https://climateimpact.undp.org/#!/toolbar/about-the-tool>

tion of ex-ante impacts. It is recommended that indicators considered significant should include quantitative information with indicative targets set for regular monitoring.

## Risk Assessment

Before assessing an action's positive impacts, a thorough screening for potential negative impacts should be undertaken and - where risks are identified - commensurate management approaches be defined. The section "risk screening" is compliant with UNDP's social and environmental screening procedures.<sup>6</sup> The impact and probability of an event occurring will need to be graded from 1 to 5 with 1 being low (e.g. low level of impact or low probability of event occurring) and with the level of significance automatically calculated. Only those indicators that are defined as significantly high will need to

be provided with additional information on a proposed risk mitigation approach.

## Defining Elements of the Impact Assessment

The CLIP-Tool provides the flexibility to the user to define themselves which impact can be considered significant and direct – and is an outcome (short-term or long term, intended or unintended) of the proposed action. The 5 principles below provide the user with a basis for making this decision.

Moreover, the CLIP-Tool provides an assessment criterion to decide whether the impact is significant enough to warrant additional information by (i) defining the likelihood that an impact will occur and (ii) estimating the expected magnitude of each impact as per the guidance in table 2.

**Table 1: Principles for selecting indicators to assess impacts**

<b>Relevance</b>	Ensure the assessment appropriately reflects the sustainable development impacts of the action and serves the decision-making needs of users and stakeholders, both internal and external to reporting entity. Applying the principle of relevance depends on the objectives of the assessment, broader policy objectives, national circumstances, and stakeholder priorities.
<b>Completeness</b>	Include all significant impacts in the assessment boundary. Disclose and justify any specific exclusions.
<b>Consistency</b>	Use consistent accounting approaches, data collection methods, and calculation methods to allow for meaningful performance tracking over time. Transparently document any changes to the data, assessment boundary, methods or any other relevant factors in time series.
<b>Transparency</b>	Provide clear and complete information for internal and external reviewers to assess the credibility and reliability of the results. Disclose all relevant methods, data sources, calculations, assumptions and uncertainties. The information should be sufficient to enable a party external to the assessment process to derive the same results if provides with the same source of data.
<b>Accuracy</b>	Ensure that the estimated impacts are systematically neither over or under actual values as far as can be judged, and that uncertainties are reduced as far as practicable. Achieve decisions with reasonable confidence as to the integrity of the reported information. Accuracy should be pursued as far as possible, but once uncertainty can no longer be practically reduced, conservative estimates should be used.

Source: Principles based on the Initiative for Climate Action and Transparency

<sup>6</sup> <http://www.undp.org/content/undp/en/home/librarypage/operations/undp-social-and-environmental-screening-procedure/>

**Table 2: Defining the significance of indicators**

Likelihood	Description
<b>Very likely</b>	Reason to believe the effect will happen (or did happen) as a result of the action (for example, a probability in the range of 90-100%).
<b>Likely</b>	Reason to believe the effect will probably happen (or probably happened) as a result of the action (for example, a probability in the range of 66-90%).
<b>Possible</b>	Reason to believe the effect may or may not happen (or may or may not have happened) as a result of the action (for example, a probability in the range of 33-66%).
<b>Unlikely</b>	Reason to believe the effect will probably not happen (or probably did not happen) as a result of the action (for example, a probability in the range of 10-33%).
<b>Very Unlikely</b>	Reason to believe the effect will not happen (or did not happen) as a result of the action (for example, a probability in the range of 0-10%).

Source: Definitions based on the Initiative for Climate Action and Transparency

## Outputs of the CLIP-Tool

The CLIP-Tool will compile and visualise information about the impacts of the project on the targeted beneficiaries and can, if applied across sector NDC actions, feed into the country's progress reports on NDC and SDG implementation. The CLIP-Tool also has the provision for inclusion of information such as stakeholder feedback and UNDP's social and environmental safeguard assessment.

The outputs of the CLIP-Tool can be broadly categorised into three categories:

- Descriptive elements of the CLIP-Tool can be collated into a single summary report that provides an overview of the planned actions.
- Qualitative elements of the CLIP-Tool provide a graphic visualisation of links to SDGs.

- A quantitative assessment that will directly feed into the MRV section of the CLIP-Tool, drawing on quantitative data provided on the project.

## Quantifying Significant Impacts of Scaled-up, Private-Sector Led NDC Actions in Kenya

UNDP and the impact investment platform TRINE announced their first ever partnership<sup>7</sup> in the off-grid solar industry with the objective being to accelerate energy access in developing countries. Trine allows investors to invest as little as € 25 towards a solar campaign. In Kenya, Trine has partnered with BBOX, a next-generation utility that deploys off-grid solar systems, to launch a € 6 million investment initiative for off-grid solar solutions aimed at expanding BBOX operations in Kenya.

The first joint initiative of UNDP and Trine assesses and monitors the impacts of Trine-financed BBOX projects in Kenya using the CLIP-Tool, which shall facilitate effective measure-

<sup>7</sup> UNDP press release from 26th April 2018: <http://www.undp.org/content/undp/en/home/news-centre/announcements/2018/partnership-to-scale-up-private-investment-in-high-impact-energy.html>

ment, monitoring and reporting of the impacts of Trine's investments and its partner BBOXX.

## CLIP-Tool Application Results

The assessment with CLIP-Tool was carried out in two levels; firstly, a company-level assessment, by way of face-to-face interviews of key personnel and by desk research. Secondly, consumer assessments through telephone interviews of simple randomly selected customers from a sampling frame made up of the full list of beneficiary households that was provided by BBOXX. Other stakeholders interviewed were local government officials, retail shop managers, sales agents and field technicians.

## Linkages of BBOXX NDC Actions to National Policies

Access to modern energy is a key enabler of socio-economic development. Solar energy can significantly enhance energy access especially for the 6.1 million Kenyans who live in isolated areas with no access to the grid. These communities rely on kerosene for their lighting requirements which is expensive and linked to various negative impacts on health of users while Kenya receives solar radiation all year long at 4-6-kilowatt hour/m<sup>2</sup>/day. Therefore, the government has prioritized the accelerated distribution of solar energy technologies in various policies and strategies, these include the: Draft Energy policy, 2015; Kenya's NDC, Kenya Climate Change Action Plan amongst others. Under Kenya's NDC<sup>8</sup>, distributed solar systems are expected to contribute to emission reductions of 1.8 MtCO<sub>2</sub>eq country-wide per annum.

## CLIP-Tool Impact Analysis

The CLIP-Tool assessment shows that BBOXX actions have an impact on 10 out of the 17 SDGs: These are SDG 1 -reduction of poverty; SDG 3- good health and wellbeing, SDG 4 -quality education, SDG 5 - gender equality; SDG 7 -enhanced access to affordable and clean energy; SDG 8 - decent work and economic growth; SDG 9 Industry, infrastructure and Innovation, SDG 10 on reducing inequalities, SDG 13 – Climate Action and

SDG 17 – partnership for goals (through an international financial partnership with Trine).

In the following, key impacts towards selected SDGs and NDCs targets of Kenya are highlighted; for a full analysis, please refer to table 4.

### SDG 1: No Poverty

Solar Home Systems allow households to make significant savings from the avoided cost of kerosene and allow for students to study, which opens future opportunities and strengthens livelihoods. BBOXX has an inclusive business model that serves a large proportion of low-income households<sup>9</sup>. 73% of the customers said the BBOXX Solar Home Systems are the first products they had bought on credit, hence this provided access to finance to those that did not have it before. BBOXX has also ventured into Kakuma refugee camp in north-western Kenya. The camp is home to 185,000 refugees from neighboring countries and is in a region where only 2.7 per cent of the population has access to electricity<sup>10</sup>. By setting up in the camp, BBOXX is providing affordable, clean energy to displaced communities reducing the vulnerabilities of refugees and ultimately aid in the rebuilding of their lives. This action contributes to the country's SDG 1 target of ending poverty by ensuring access to appropriate new technology and financial services.

**IMPACT IN NUMBERS BY 2018:** Through BBOXX activities in Kenya, 580 people will be lifted out of poverty and additional 206 people will have social security.

### SDG 13: Climate Action

Results from the impact assessment show that BBOXX is contributing to Kenya's mitigation efforts by reducing 15,041 tCO<sub>2</sub>eq through the switch from kerosene to SHS and will increase this to 84,000 tCO<sub>2</sub>eq by the end of 2018 bringing the total contribution to 4% of the target for the distributed solar sub sector of 1.8 MtCO<sub>2</sub>eq<sup>11</sup> country-wide per annum by 2030.

**IMPACT IN NUMBERS by 2018:** BBOXX activities contribute up to 84,000 tCO<sub>2</sub>e to Kenya's target for distributed solar systems in this sub-sector.

<sup>8</sup> Government of Kenya, 2015, Kenya's NDC.

<sup>9</sup> Acumen, 2018: Energy Lean Data: Baseline in Kenya.

<sup>10</sup> Press release: Energy 4 Impact Leading innovative clean energy and Livelihood initiatives for Kakuma can be downloaded here: <http://www.sun-connect-news.org/news/details/press-release-energy-4-impact-leading-innovative-clean-energy-and-livelihood-initiatives-for-kakuma/>

<sup>11</sup> Ministry of Environment and Natural Resources, NATIONALLY DETERMINED CONTRIBUTION SECTOR ANALYSIS REPORT, 2017

**Figure 2: Visualization of the SDG impacts of BBOXX Kenya, Ltd**



Screenshot: UNDP CLIP-Tool

### SDG 7: Affordable and Clean Energy

The financing model by both TRINE and BBOXX is accelerating deployment of clean energy technologies in the country. BBOXX's inclusive model allows for the purchase of solar lighting kits by those who need it most.

The BBOXX solar home system allow for access to affordable, reliable and clean technology as it comes with a 50W roof-mounted solar panel that can be purchased on a 3-year payment plan. The payment plan starts from Ksh. 30 (US\$ 30 cents) per day, which gives access to 3 LED bulbs and 1 portable torch. For Ksh. 80 (US\$ 80 cents) a day, clients can access a system with 4 bulbs, 1 portable torch, a radio and a 24-inch television. The systems' sustainability is ensured through various internal mechanisms such as track-

ing of defects, refurbishment and redeployment of systems.

The pay-as-you-go financial model of BBOXX's affordability of energy services is made possible through crowdfunding which allows BBOXX to access affordable financing that is not available locally.

**IMPACT IN NUMBERS BY 2018:** Kenya's BBOXX activities will make clean energy accessible and affordable through its innovative business model for 300,000 people in rural communities.

**The SE4All Target of Kenya** aims at 100% connectivity by 2022; this includes off-grid connectivity through solar home systems and mini grids.

## Conclusion

The CLIP-Tool assessment of measurable and quantifiable impacts of NDC actions allows for a comprehensive yet simple 2-layer analysis of impacts at 2 levels. The first layer is a qualitative assessment that visualises the expected impacts. This can be done at an early stage of project development. The second layer is an assessment of quantified impacts that can be derived from literature review, in-person interviews and on-site visits to ensure data are reliable.

While the primary assessment is done at action level, a compilation of data from all on-going post-2015 NDC and SDG actions allows to review progress towards the NDC and SDG targets, understanding whether the actual outcomes are meeting the intended objectives. If progress is not on track in relation to the NDC and SDG objectives and goals, MRV can inform corrective actions. Such a reality check can help decision makers to increase their national ambitions and negotiate increased access to international finance. The CLIP-Tool has an additional MRV functionality to track progress towards the NDCs and SDGs. The CLIP-Tool thus provides a starting point for MRV and data collection with the aim of aligning the action-level efforts to national reporting requirements of the UNFCCC for NDCs and to track progress made towards the SDGs.

**Table 4: Overview of the additional qualitative and quantitative impacts of BBOXX activities in Kenya**

Impacted SDG	Qualitative Impact	Quantitative Impact by 2018
SDG 3 – Good Health and Well-Being	The replacement of kerosene lamps with solar home systems (SHS) has a positive impact on consumers' health and it is expected to reduce flu-like symptoms and eye problems which have been reported as key health impacts of indoor air pollution.	300,000 people will get access to clean energy and 206 people will receive health insurance.
SDG 4 – Quality Education	SHS improves children's learning environment at home, whereby children can do their homework and study in the evenings using cleaner, safer and better-quality light. BBOXX 17 <sup>12</sup> was also found to be a suitable system to support digital learning programmes.	An average of two out of five beneficiaries of the BBOXX systems are school-going students. Hence, about 60,000 pupils will be able to study for longer hours.
SDG 5 – Gender Equality	BBOXX hires female employees on both permanent and temporary basis, including female technicians and in key decision-making positions.	57 women will be employed and trained and finance of SHS for up to 75,000 women in rural communities will be provided.
SDG 8 – Decent work and economic growth	BBOXX is expanding its market to the Kakuma Refugee Camp. By supporting refugees to establish enterprises such as solar kiosks or service centres, they will be actively increasing the number of people involved in the clean energy value chains as distributors or technicians.	BBOXX provides decent work conditions and stable income to fix term 147 employees and additional 228 sales agents across the country.
SDG 9 – Industry, Innovation and Infrastructure	Trine is offering an innovative model of raising finance through crowd investing. BBOXX makes their products more affordable through its innovative pay-as-you-go model that utilizes mobile money platforms. BBOXX is also introducing smart solar systems with a remote monitoring system and an energy service fee for repair and maintenance to achieve the maximum lifetime of the technology.	Trine raised € 6 million of impact investment and offered access to affordable finance for BBOXX. Through BBOXX's pay-as-you-go model the costs of SHS will become affordable and accessible to 46,000 rural households in Kenya.
SDG 12 – Responsible Consumption and Production	BBOXX promotes recycling of batteries and other waste such as printed Circuit Board (PCB), metals from written off control units and panels and plastics from TV casing, torches and other appliances as well as cables from bulbs and torches through a partnership with Associated Battery Manufacturers (ABM).	BBOXX ensures appropriate recycling and disposal of 20,789 kg of batteries and 1,586 kg of other E-wastes.

Source: UNDP

<sup>12</sup> BBOXX 17 is one BBOXX lighting kits, specifications of the product can be downloaded here: <http://www.bboxx.co.uk/wp-content/uploads/2014/01/BBOXX-BB17-KIT-DATASHEET.pdf>

# German Pavilion at the Innovate4Climate 2018

**From May 22 to 24, 2018, the focus will be on German involvement in carbon markets and climate finance in Frankfurt (Main).** Under the umbrella of the German Pavilion at Innovate4Climate, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), the Federal Ministry for Economic Cooperation and Development (BMZ) and 14 other exhibitors present themselves to more than 1,000 visitors of the international conference.

All of them are invited to discuss current topics and new studies with the various projects, initiatives, companies and think tanks in ten workshops, 20 panel discussions in the German Pavilion as well as 6 pitch hub events. The official opening of the German Pavilion will take place on Tuesday, 22nd May at 6pm.



Source: adelphi



**The German Pavilion hosts 16 exhibitors from Germany:**

1. BMU
2. BMZ
3. adelphi
4. Climate Focus
5. DEHSt - Deutsche Emissionshandelsstelle im Umweltbundesamt
6. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
7. Ecofys, a Navigant company
8. EnergieAgentur.NRW
9. Frankfurt School-UNEP Collaborating Centre for Climate & Sustainable Energy Finance
10. FutureCamp Climate
11. Gold Standard
12. KfW
13. NewClimate Institute
14. Perspectives
15. verico SCE
16. Wuppertal Institut



## Tuesday 22 May

### Events at the German Pavilion

12:00 to 12:45

*Perspectives Climate Group*

Linking carbon markets and climate finance in Africa

13:00 to 13:45

*EcoBusiness Fund, KfW, Finance in Motion*

Engaging the financial sector in green agriculture in Latin America

14:00 to 14:45

*Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH*

Talanoa Dialogue: How do market mechanisms help us get there? GIZ's worldwide experience in supporting transformation to low-carbon economies and climate-resilient societies

15:00 to 15:45

*International Carbon Action Partnership (ICAP)*

Offset elements in domestic ETSs – trends and prospects

16:00 to 16:45

*NewClimate Institute, Wuppertal Institut*

Ambition raising through Article 6 – opportunities and challenges

## Wednesday 23 May

### Events at the German Pavilion

12:00 to 12:45

*adelphi*

Financing Climate Smart Enterprises – a link to SDG implementation

13:00 to 13:45

*KfW*

Lessons Learnt from GETFiT Uganda – attracting private investment for renewable energy generation

14:00 to 14:45

*German Emissions Trading Authority at the Federal Environment Agency (DEHSt)*

EU Emissions Trading System reloaded – a new dawn in phase IV?

15:00 to 15:45

*Ecofys, a Navigant Company*

Past climate performance is not a guarantee of future climate performance; managing your investments in a changing climate

16:00 to 16:45

*Gold Standard*

Investor shift to impact: How to accelerate low-carbon investment

17:00 to 17:45

*Wuppertal Institut*

Governing Paris Article 6.4 – what roles and functions for the Article 6.4 supervisory body?

## Thursday 24 May

### Events at the German Pavilion

10:00 to 10:45

*NewClimate Institute*

Aligning development finance with the Paris Agreement

11:00 to 11:45

*Ecofys, a Navigant Company, Kommunalkredit Public Consulting*

Sustainable Finance – integrating ESG criteria into investment decisions

12:00 to 12:45

*verico SCE*

MRV capacities and NDC implementation

13:00 to 13:45

*Climate Focus*

Preparing Africa for the implementation of Article 6: East and West African Alliance on Carbon Markets and Climate Finance

14:00 to 14:45

*Agentur für Wirtschaft & Entwicklung / DEG Invest*  
Private sector climate investments showcased by a DeveloPP climate project

15:00 to 15:45

*Frankfurt School - UNEP Collaborating Centre for Climate & Sustainable Energy Finance*

Global Trends in Renewable Energy Investment Report 2018 – banking on sunshine



# CARBON MECHANISMS REVIEW

## Ambition raising under Article 6

In order to achieve the climate targets agreed in Paris, Parties must urgently raise their ambition. Article 6 of the Paris Agreement is to contribute to this objective. Against this backdrop, three new papers explore how Parties using Article 6 can increase their mitigation ambition.

Download at

[www.carbon-mechanisms.de/en/raising\\_ambition](http://www.carbon-mechanisms.de/en/raising_ambition)

## Climate Action in the German Coalition Agreement

Prior to taking office mid-March 2018, the three parties forming the German government had agreed on a coalition agreement, the climate action part of which is documented on carbon-mechanisms.de now. It can be viewed at

[www.carbon-mechanisms.de/nc/en/politics/germany/](http://www.carbon-mechanisms.de/nc/en/politics/germany/)

## Glossary

All Carbon Market terms and abbreviations are explained in detail in the glossary on the JIKO website. You can view the glossary here:

[www.carbon-mechanisms.de/en/service/glossary/](http://www.carbon-mechanisms.de/en/service/glossary/)