

A man in a black tank top and shorts is kneeling on the ground, painting the interior of a bucket. He is surrounded by many other buckets, some stacked and some lying on the ground. The setting appears to be an outdoor workshop or a small-scale manufacturing area. The background shows some greenery and a dirt ground.

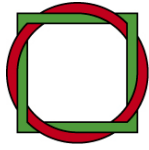
# JIKO POLICY PAPER

No. 03/2013

## Quo Vadis, Africa? Update on the uptake of the CDM in Africa

Nicolas Kreibich, Christof Arens, Lukas Hermwille





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

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### **Internet**

[www.jiko-bmu.de](http://www.jiko-bmu.de)

<http://wupperinst.org/en/projects/details/wi/p/s/pd/429/>

### **Contact**

Nicolas Kreibich

Email: [Nico.kreibich@wupperinst.org](mailto:Nico.kreibich@wupperinst.org)

Wuppertal Institute for Climate, Environment and Energy GmbH  
Döppersberg 19 • 42103 Wuppertal • Germany

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

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# Summary

Africa and particularly African Least Developed Countries (LDCs) have traditionally lagged behind other regions as host countries of Clean Development Mechanism (CDM) project activities. The regional unbalance has been recognized by the United Nations Framework Convention on Climate Change (UNFCCC) bodies and several measures have been undertaken to support project development in the region. In addition, the largest market for Certified Emission Reductions (CERs), the European Union Emissions Trading Scheme (EU ETS), put the emphasis of post-2012 CDM activities on LDCs, most of which are located in Africa. Against this backdrop, this policy paper analyses the current status of the African carbon market. The paper first undertakes a quantitative analysis of the African CDM pipeline and then looks at the current status of support measures for the CDM in Africa. Subsequently, the paper sheds some light on the buyer's perspective and findings from a quantitative analysis and telephone interviews with representatives of different buyer organisations active on the African carbon market are presented.

The quantitative analysis of the CDM pipeline shows that Africa's share of CDM projects is still low when compared to other regions. However, a significant uptake can be observed for CDM Programmes of Activities (PoAs). While a significant effect of the EU ETS' exclusion of Certified Emission Reductions (CERs) from non-LDC projects registered after 2012 is not visible in the African CDM pipeline, interviews revealed that large market players had strategies in place to engage more actively in African LDCs. These plans, however, had to be scrapped due to the price crash. This indicates that **it is possible to foster the development of CDM projects in specific regions through respective provi-**

**sions on the demand side** but that such a measure can only be effective and sustainable if respective demand for CERs is ensured.

Our findings reveal that **significant progress has been achieved in the establishment of CDM capacities in Africa, although limited capacities are still one of the main challenges** for carbon market activities in the region. In this regard, the timing of the carbon market price crash is particularly unfortunate: Now that capacities have been developed, the low CER price reduces demand for CERs, potentially leaving established capacities unutilized.

Regarding the future of the African carbon market, the findings indicate that while Africa's potential for the compliance market is considered limited, the region **holds significant potential for carbon market activities that entail large sustainable development contributions**. In general terms, interviewees expressed their expectation that the CDM will either become completely meaningless in the future or transform into a niche market.

Against the prospect of a future niche CDM potentially focusing on sustainable development benefits but also in the context of fostering national climate change mitigation policies, **financial support at the national and at the CDM project level** can be considered an issue of crucial importance. At the project level, we propose **three types of financial support for African CDM activities**. Generally, support measures should be rolled out as soon as possible to reduce a brain drain effect of CDM-related capacities.

1. Registered projects should be supported to ensure emission reductions are realized. Projects that have been registered but have not yet received any CERs should be

supported through grants if a limited financial support would allow a project to resume its activities.

2. New project proposals should be further supported through public support, e.g. by ensuring a minimum CER price level or a guarantee. This kind of support should be provided to projects with particularly high contributions to sustainable development or to projects that are being implemented in specific countries and sectors.
3. Projects that are particularly innovative in methodological terms should receive continuous support. This group of projects would for example comprise activities that use Standardised Baselines (SB) or a new programmatic, cross-sectoral approach. A focus should lie on projects that are integrated in host countries' overarching climate policy planning.

In addition to these financial support measures at the project level, donors will further have to continue capacity development measures at the national and regional level to smooth the way for establishing potential new (sectoral) market based mechanisms as well as in the broader context of effectively designing climate policy measures.





# 1 Introduction

Africa and more specifically African Least Developed Countries have traditionally lagged behind other regions as hosts of CDM activities. While the largest share of CDM projects is being implemented in emerging economies in Asia and Latin America, Africa was for a long time an unfamiliar territory for many global carbon market players. With many African countries, in particular in sub-Saharan Africa, suffering from extraordinarily low levels of development and given the fact that the CDM is not only intended to support Annex-I countries in their efforts of achieving their emission reduction commitments but also to support the projects' host countries in achieving sustainable development, this development is particularly distressing.

This regional unbalance has been recognized by the bodies within the UNFCCC and several measures were taken to support the upturn of CDM projects in the African region. In addition, an EU regulation on the use of CERs in the EU ETS, the world's largest market for CERs, put the emphasis of post-2012 carbon activities on LDCs, most of which are located in Africa. Against this backdrop, this policy paper will analyse the current status of the African carbon market.

We will first undertake a quantitative analysis of the current global CDM pipeline in order to assess whether there was an upturn of CDM activities in Africa and in African LDCs in particular. We will therefore first look at the overall share of CDM projects and Programmes of Activities, a modality which has been regarded to be particularly well suited to tap the geographically dispersed small emissions sources typical for this region. The examination is complemented by an analysis of the scale and the sectors of registered African projects and the time needed

for the validation, registration and verification of African projects.

The next section of this policy paper looks at the current status of recent support initiatives that have been initiated to directly or indirectly support project development in Africa by aiming at enhancing the regional distribution of CDM activities. One methodological support initiative is the introduction of Standardised Baselines, which allow for the systemic introduction of default factors and benchmarks in the development of CDM activities and which have been regarded to be particularly beneficial for the African region. Other initiatives analysed are the top-down development of Africa-friendly methodologies and the installation of Regional Collaboration Centres (RCCs). Financial support measures are also analysed, namely the CDM Loan Scheme and Carbon Initiative for Development (Ci-Dev).

The analysis of the project pipeline and the investigation of the current status of support initiatives is then complemented by an exploration of the demand side. This section first looks at the composition of the African carbon market buyers landscape by analysing the buyers' involvements in projects, their nationalities and whether they are public or private entities. Then, three typical buyer groups are identified and the results of interviews held with representatives of six entities are presented. This qualitative approach complements the quantitative analysis undertaken in the first chapter. The section will shed some light on the buyers' motivation for engaging in Africa, their experiences made and challenges encountered. We will present the consequences of the current low CER price levels for these companies and depict their expectations regarding the CDM in Africa and their future activities.

## 2 Has Africa's Share in the CDM Changed?

On the African continent, only South Africa and a number of northern African countries have been successful as host countries so far. Other countries, African LDCs in particular, have struggled to attract CDM projects. This section analyses the development of the CDM pipeline in Africa quantitatively. A special focus will be put on African LDCs. We will look into what project types and what sectors have been particularly successful in the region. The analysis is based on data provided by UNEP Risø.

The CDM pipeline can be analysed along multiple dimensions that each pose a slightly different perspective on the same development: Success of host countries can be evaluated by simply counting the numbers of projects, by adding up estimated annual CERs generated or by summing up CERs issued cumulatively. Furthermore, one can look into registered projects only or include the whole CDM pipeline including projects that are currently at validation and not (yet) registered.

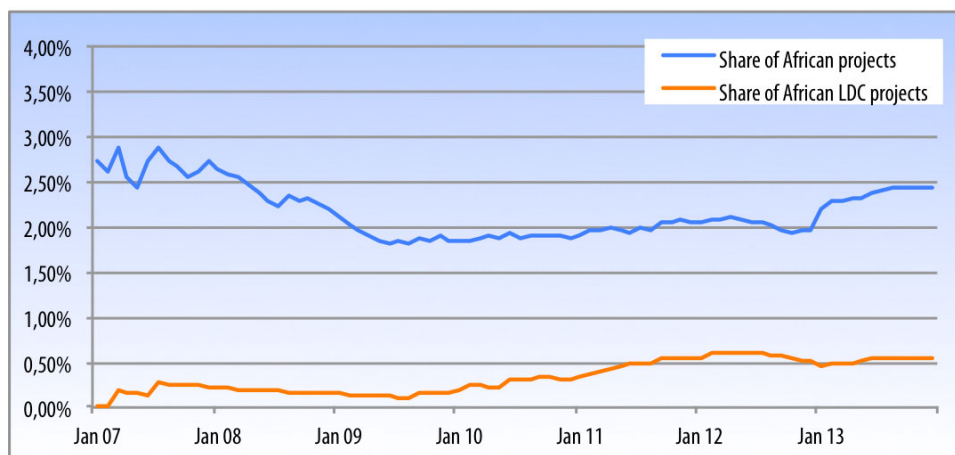
In Africa only 34 CDM projects have been issued CERs so far, only eight of which are based in African LDCs. Although the number of cumulatively issued CERs represents the ultimate output of the CDM, it is not possible to give an adequate picture of the CDM's performance due to the small incidence. Nevertheless, we will draw conclusions from this observation later on.

The number of estimated CERs generated annually is heavily dependent on the projects' size and in turn on the CDM potential of a host country. The CDM potential of Africa and African LDCs in particular consist to a major extent

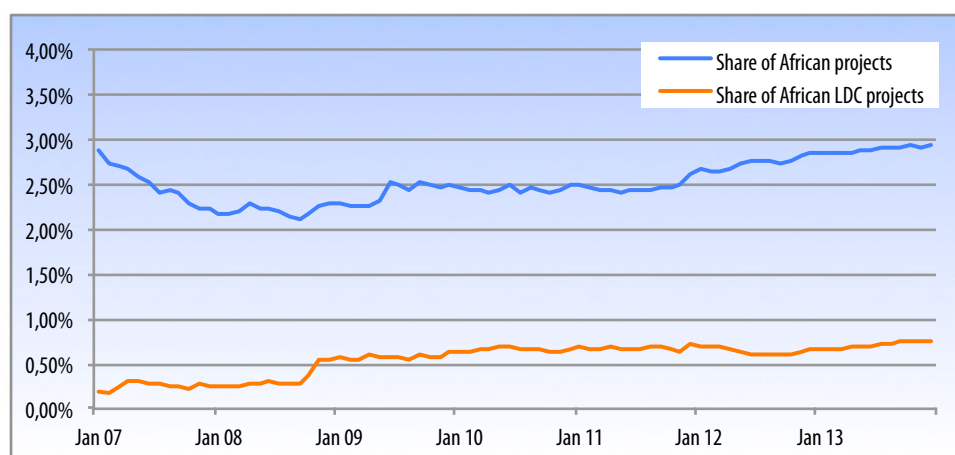
of relatively small-scale projects, due to the fact that industrial activities that feature greenhouse gas emissions of a significant scale are scarce. The number of projects instead reflects the effort to develop CDM projects most accurately. In this analysis we therefore resort to the number of projects registered and in the project pipeline respectively as our main means of comparison. Additionally, this allows us to also consider CDM Project of Activities as emission reductions cannot be projected ex-ante under this modality.

### 2.1 Overall Share of CDM Projects

After the end of the first commitment period of the Kyoto Protocol the share of African CDM projects is still very low. As of December 2013 only 179 African CDM projects have been registered, representing a share of 2.41% of the total 7400 registered projects. In African LDCs the situation is even worse. Only 40 registered projects exist, representing 0.54% of the total. With the CDM pipeline, the situation is very similar. 258 African projects including the registered projects are in the CDM pipeline, 68 of which are based in African LDCs. Of the 8752 projects in the CDM pipeline, this represents 2.94% and 0.77% respectively.



**Figure 1:** Share of registered African and African LDC’s projects from January 2007 till December 2013. Source: Wuppertal Institute based on UNEP Risø (2013).



**Figure 2:** Share of African and African LDC’s projects in the CDM pipeline from January 2007 till December 2013. Source: Wuppertal Institute based on UNEP Risø (2013).

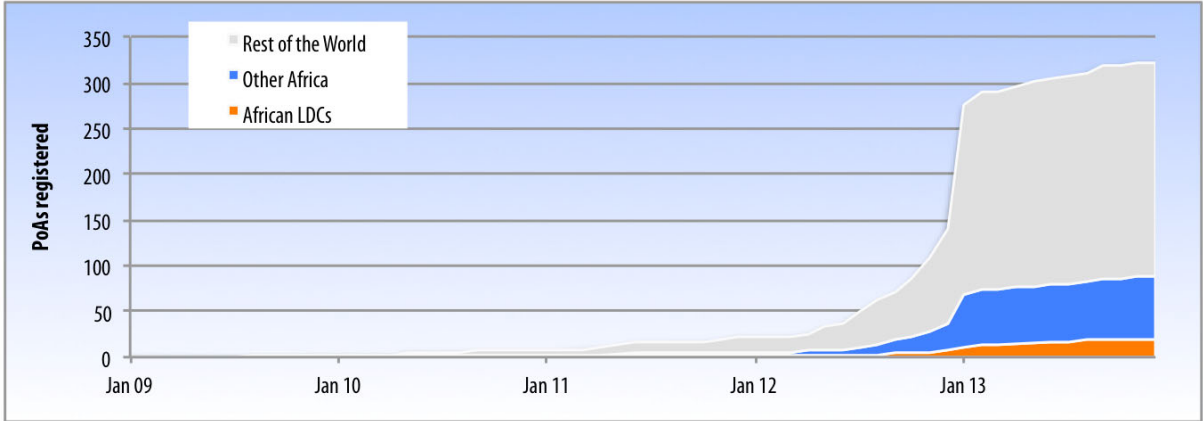
Speaking of market shares, one usually expects a pie chart to visualize the results. However, the market share of Africa and African LDCs in particular is so miniscule that it is hardly possible to produce a meaningful visualisation that way. We therefore reverted to a less common presentation plotting the share of African and African LDC projects from 2007 till 2013 (**Figure 1** and **Figure 2**).

Both figures show that, despite the efforts undertaken to support carbon markets in Africa, the share of CDM projects has been largely stable over the period and at a very low level.

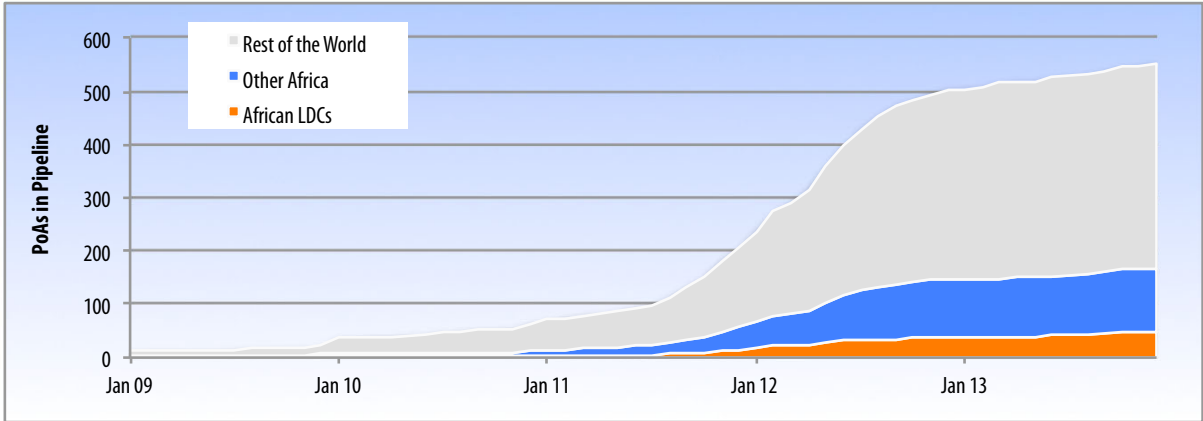
Already in April 2009, the European Union decreed in its Directive 2009/29/EC that after 2013 CERs issued to projects registered after 2012

would only be eligible for compliance in the EU ETS if they were based in LDCs. Since the EU ETS is by far the single largest source of demand for CERs, one would expect that this move should have had a significant effect on the CDM pipeline in African LDCs. This is, however, not the case. The share of African LDCs’ CDM projects has not shown any significant increase whatsoever.

With regards to the volume of projected CERs the situation is very similar. However, the CDM pipeline of African LDCs has been boosted by one particular CDM project in Angola. The ‘Angola LNG Project of Capture and Utilization of Associated Gas’ entered the CDM pipeline in November 2011 and is supposed to generate



**Figure 3:** Registered PoAs from January 2009 till December 2013. Source: Wuppertal Institute based on UNEP Risø (2013).



**Figure 4:** PoA pipeline from January 2009 till January 2013. Source: Wuppertal Institute based on UNEP Risø (2013).

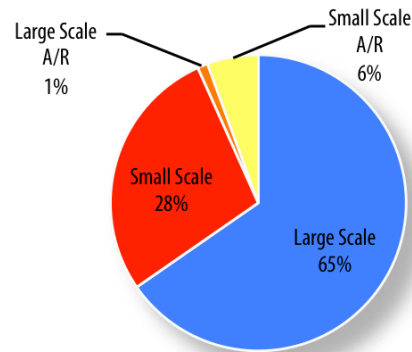
some 13 million CERs annually alone. Despite being in an LDC, the project is not typical for the region. The Angolan fossil fuel industry is highly developed and contrasts drastically with the rest of the country’s economy.

More positive is the development in the case of CDM Programmes of Activities (PoAs). In 2012 the development of PoAs and their registration accelerated drastically, not only worldwide, but also in Africa. Already early on, CDM PoAs were developed in Africa and especially African LDCs. To date (December 2013), 241 PoAs have been registered including 20 multi-country PoAs. 71 PoAs, 29% of the total, are situated in Africa, and 15 of them, around 6% of the total, in African LDCs. The future prospects are even better for African LDCs, as 31% of the 387 PoAs in the pipeline are located in Africa and 9% in African LDCs (See **Figure 3** and **Figure 4**).

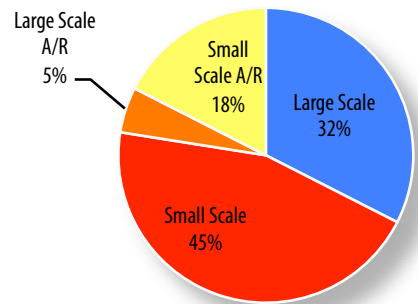
## 2.2 Scale and Sectors of CDM Projects

Although a major share of the CDM’s potential in Africa is in the form of rather small-scale activities, still the majority of African CDM projects are large-scale projects (**Figure 5**). In African LDCs the small-scale CDM potential is much better reflected, as almost half of the CDM projects are small-scale CDM projects (**Figure 6**). With the ‘Tough Stuff Solar Panel and Lamp Sales Madagascar Project’ there is only one micro-scale CDM project registered, yet.

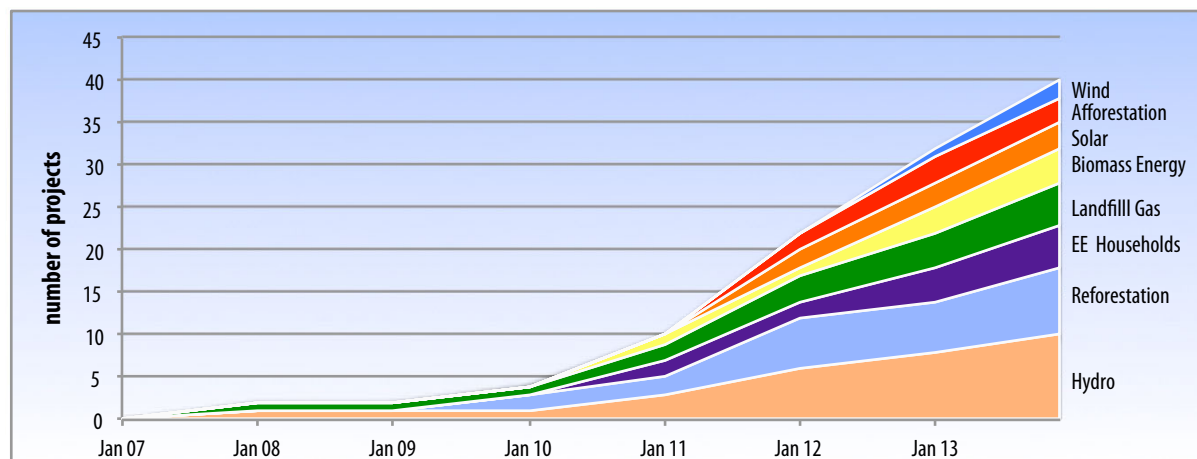
PoAs, by contrast, have been relatively successful in tapping micro-scale CDM potential. Micro-scale Component Project Activities (CPAs) are already registered under four PoAs. Four more are currently under validation. All of these PoAs are located in African LDCs.



**Figure 5:** Share of projects scale of African CDM projects (December 2013). Source: Wuppertal Institute based on UNEP Risø (2013).



**Figure 6:** Share of projects scale of African LDC's CDM projects (December 2013). Source: Wuppertal Institute based on UNEP Risø (2013).



**Figure 7:** Number of projects registered according to sector (January 2007 till December 2013). Source: Wuppertal Institute based on UNEP Risø (2013).

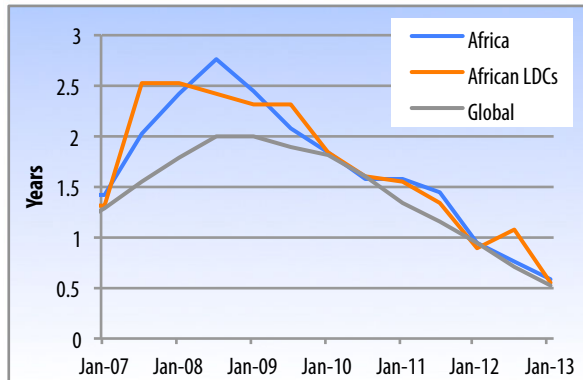
In Africa a wide range of sectors host CDM projects, the strongest being landfill gas and wind power. African LDCs deserve a closer look as numerous sectors still remain completely untapped there. CDM projects are registered in only 8 of 26 sectors as categorised by UNEP Risø. Furthermore, the wind sector, which features over 32% of all registered CDM projects, is only represented with two projects in African LDCs. At the same time afforestation and reforestation projects are particularly successful in African LDCs. 30% of all afforestation projects and 19% of all reforestation projects are located in African LDCs. Together, both forestry sectors make up for the largest share of registered CDM projects. The second largest is hydro power, followed by landfill gas and energy efficiency projects in households. In the future, the share of renewable energy projects is likely to increase as these make up for the majority of the projects currently under validation.

Among PoAs, energy efficiency projects are particularly successful in African LDCs. Eight of eleven registered PoAs are energy efficiency projects. Other projects include hydro power, solar power and a landfill gas project. Most projects in the PoA pipeline are energy efficiency projects in households or the service sector and different forms of renewable energy projects.

One methane avoidance PoA and one afforestation PoA are the only exemptions to this.

## 2.3 The Process of Validation, Registration and Verification

In the past, CDM projects in Africa and African LDCs in particular have taken quite some time from the date of the first comment on the project till its registration. There are a number of potential reasons for this: Project developers and DOEs had little experience with projects in this region. The delay could be caused by Designated National Authorities' (DNAs') lack of capacity to evaluate project proposals or an overly complex DNA approval process. **Figure 8** shows that in the initial phase the lead-time increased for all projects. This was mainly due to limited capacities at the UN level, at the CDM-Executive Board (CDM-EB) and UNFCCC Secretariat. The effect was, however, stronger in Africa. After 2008/2009 project lead times started to decrease again and from 2010 onwards they reached the global average again. This suggests that the above mentioned reasons are no longer delaying project lead times.



**Figure 8:** Average lead-time to register a CDM project. Source: Wuppertal Institute based on UNEP Risø (2013).

As mentioned before, only 34 African CDM projects and only eight CDM projects in African LDCs have been issued credits, representing 1.56% and 0.02% respectively of total CERs issued. Due to the fact that so few projects have been successfully verified and issued CERs it is not possible to analyse the delay of issuance of credits (time between registration and first issuance of CERs) in a statistically sound manner. However, it is remarkable that those African projects that have been issued CERs feature relatively long delays of issuance. There is also a number of projects that feature extraordinarily long delay times and still have not been issued any CERs, leaving room for doubt if these projects will create verified emission reductions at all.

## 2.4 Dark Clouds Overshadow the CDM in Africa

The pipeline analysis shows that the situation of the CDM in Africa in general and in African LDCs in particular is still grave. Despite numerous efforts, neither the share of registered projects nor the share of proposed projects in the CDM pipeline has increased significantly in the past. The role of Africa in the conventional CDM is still marginal.

The recent development of PoAs is the only gleam of hope. In 2012 the registration of PoAs

skyrocketed and a relatively large portion of these PoAs are located in Africa. Furthermore, the inclusion of micro-scale activities by many PoAs suggests that this modality is better suited to tap Africa's CDM potential.

However, the registration as such should not enter into the books on the credit side without taking into account the actual issuance of credits. The analysis of delay times between project registration and issuance of the first credits reveals that the vast majority of African CDM projects are struggling in this respect. Unfortunately, it is not possible to deduct if this observation reflects difficulties in the process of verification of emission reductions or if projects are plainly not being implemented (yet).

Against the backdrop of languishing carbon markets and extremely low CER prices, further research to investigate the reasons of this problem would be worthwhile: Are barriers hampering the verification of CDM projects and what are these barriers? To what extent are registered projects not carried out? However, within the scope of this paper these questions must remain unsolved.

# 3 What is the Status of Recent Support Initiatives?

## 3.1 Standardised Baselines

At the sixth session of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (CMP 6) in Mexico, Parties laid the cornerstone to introduce Standardised Baselines into the CDM world. While standardisation had been used in the form of default factors or benchmarks before, the Cancún decision allowed for a systemic introduction in the context of baseline setting and additionality demonstration. SBs are expected to simplify project development, as they avoid repetition of efforts in data collection and calculations for the targeted project activities. This in turn is expected to lower transaction costs, which is an important hurdle for project development in Africa and in LDCs. The CDM Executive Board subsequently started to develop guidelines and procedures for the establishment of sector-specific Standardised Baselines as well as further regulatory provisions. The first SBs were proposed mid 2012.

After a long process of assessment, the CDM-EB was able to register the first two CDM SBs in May 2013: the first approved Standardised Baseline (ASB 1) covers the Southern African Power Pool (SAPP) and provides a Grid Emissions Factor (GEF) which is valid in all nine countries covered by the common power transmission system of the SAPP. This will most likely push the development of CDM renewable energy projects in the region, which previously was hampered by the interdependencies of the power pool. Countries with a high share of hydro power generation so far featured a very low

national Grid Emissions Factor. In Zambia and the Democratic Republic of the Congo (DRC) it was even zero as the national electricity generation is dominated by large hydro power plants with no GHG emissions. In the past, these countries faced difficulties showing that renewable energy projects conducted on their territory result in CO<sub>2</sub> emissions reductions. The common SAPP GEF Standardised Baseline is going to change that because it looks at the interconnected, regional power grid and assigns the average GEF of the region to all of the member countries.

ASB 2 is about efficient charcoal production in Uganda. It foresees replacing the so far inefficient earth kilns by improved kilns such as the Adam retort kiln or other efficient production methods. The standardised baseline builds upon an approved SSC methodology (AMS-III.B.G.) and provides a positive list of kiln types which are automatically additional. Moreover, it comprises Uganda-specific default values for the fraction of non-renewable biomass (fNRB) and methane emissions per tonne of charcoal product. A standardised emission factor was derived from a range of performance tests in similar circumstances. Therefore, project developers simply can take the values in the standardised baseline and methodology and multiply them with the amount of charcoal produced by the improved charcoal kiln under their CDM project.

The UNFCCC pipeline currently comprises three more proposed SBs:

- Clinker production in Ethiopia (initial assessment)



- Energy use in the rice mill sector of Cambodia (initial assessment successfully concluded)
- Grid Emission factor for the Uzbekistan National Grid (initial assessment successfully concluded)

It is generally hoped that Standardised Baselines can improve regional distribution as the associated lowering of transaction costs will benefit especially LDCs, not least in sub-Saharan Africa. Sectors that are suitable for standardisation include rural electrification, cook stoves, brick kilns, and water purification (Mersmann / Arens 2012). Further SBs are currently under development, cp. section 3.4.

The regulatory framework for Standardised Baselines is still work in progress. While the basic body of regulation is there, the way how best to determine baseline and additionality thresholds is not yet decided upon (Hermwille et al. 2013). Other fundamental questions such as the question „should standardised baselines be mandatory or not“ once they have been approved (Spalding-Fecher / Michaelowa 2013) are subject to controversial debates within the CDM Executive Board.

Further questions influencing the success of the concept remain. The development of an SB, for example, is a time-consuming, data- and labour intensive process, which bears the question of who will be able to fulfil that task. Standardised Baselines will most likely be costly to develop, especially if data is not obtainable in the quality needed. The SB development process lays a heavy burden on Designated National Authorities: they need to approve proposed SBs that target their country and submit it to the UNFCCC, and they also have the duty to control the quality of the data used for that proposal. In sub-Saharan Africa and most other LDCs, DNAs have often only very limited financial and technical capacities. It is therefore unlikely that DNAs will develop many SBs under the current conditions without external support.

Project developers face similar challenges in data and financing needs for SB development, which makes development highly unattractive. This is worsened by the fact that an approved methodology for Standardised Baseline development will enter the public domain, so a developer cannot further commercialize the SB itself. As the development process is highly cost- and data-intensive, it is therefore not very attractive to develop SBs for commercial purposes, particularly under the current market conditions. As a result, the two approved Standardised Baselines have exclusively been financed by donors as a way to further develop the CDM process. Further attention should be given to alternative ways of financing SB development, such as a revolving fund in which Parties and other donors as well as project developers would spend seed finance, while projects using this baseline would reinvest a share of their revenues back into fund (Mersmann / Arens 2012).

### 3.2 Africa-friendly Methodologies

For some time now, the UNFCCC Secretariat has been developing CDM Methodologies top-down, in order to complement methodology development by project developers. This work focuses, inter alia, on underrepresented sectors and regions. With a view to Africa, eleven methodologies were developed by the secretariat, all of which belong to the small-scale category. They comprise, inter alia, project types such as renewable energy use in mini-grids (AMS-I.F), solar water heating systems (AMS-I.J), solar cookers (AMS-I.K) as well as a number of energy efficiency measures in the lighting and the building sector.

In the following, the uptake of these methodologies is analysed briefly from a quantitative point of view. All numbers refer to the pipeline

of projects in validation or in higher stages of the project cycle (UNEP Risø 2013). Please note that usage of these methodologies in world regions other than Africa is disregarded.

The most popular of the top-down methodologies is AMS-I.E “Switch from Non-Renewable Biomass for Thermal Applications by the User”. In projects located in Africa it is used 9 times. It is followed by AMS-II.G “Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass”, used five times. AMS-III.AR „Substituting fossil fuel based lighting with LED lighting systems” is used by four projects, while AMS-II.J “Demand-side activities for efficient lighting technologies is used three times. AMS-I.F “Renewable electricity generation for captive use and mini-grid” has been used once so far.

These numbers compare to the broader picture of methodology use in general as follows: overall, 58 methodologies are used by the currently 258 African CDM projects in the pipeline. The most widely used methodology is ACM 2 “Grid-connected electricity generation for renewable sources” (59 uses), followed by ACM 1 (landfill gas usage, 34 uses in Africa).

### 3.3 The CDM Loan Scheme

At CMP 5 in Copenhagen 2009, delegates decided to establish a vehicle to provide loans that are to support CDM project development in countries with fewer than 10 registered project activities. On the basis of the modalities and procedures for such a scheme, agreed at CMP.6, the UNFCCC Secretariat prepared the start of the scheme. In 2011, it selected and contracted the United Nations Office for Project Services (UNOPS) to administer the loan scheme. In April 2012, the CDM Loan Scheme was officially launched at the Africa Carbon Forum in Addis Ababa.

The CDM Loan Scheme provides interest-free loans in order to cover PDD development, validation, and first verification. Within the first window of application, 20 loans were approved. Supported projects came from all geographical regions, Africa leading with 15 projects, followed by Asia (three) and Latin America and the Middle East respectively (one project each) (UNFCCC 2013a).

By now, the fourth application period is closed. 128 applications were received in total, 71 of which came from Africa. 56% of all applications were from LDCs. In terms of scale, 62 applications were for PoA, 42 for large scale projects, and 23 for small scale (ibid).

Some observers have voiced concerns whether the loan criteria (obtainment, management and re-payment) are too tough for LDCs and that these provisions in fact favour non-LDCs (Differ 2012). Yet the figures on loan approval do not support this hypothesis: out of the 36 approved loans in phase one to three (the fourth phase is not fully concluded yet), 24 loans were granted for projects in LDCs, i.e. 67%. As for the geographical distribution, 23 of the so far approved loans were for projects in Africa, 8 loans go to projects in Asia, four to the Middle East, and one to a project in Latin America. In terms of scale, 20 loans were given to developers of Programmes of Activities, 9 to small scale projects, and 9 to large scale project activities. All in all, the total committed funds amount to US\$ 4,517,927 (ibid).

### 3.4 Regional Collaboration Centres

In 2012, the UNFCCC Secretariat began establishing so-called Regional Collaboration Centres that are to foster CDM capacity development in Least Developed Countries. These centres will be set up in different world regions, each in collaboration with a suitable regional partner or-

organisation that has been working in the broader field of carbon finance before. The idea is that these centres will host UNFCCC Secretariat staff for a short while, training experts and building up local capacity so that in the long term the local staff can provide continuous support for project developers and DNAs on their own. Core activities of the RCCs will include direct support for developing Standardised Baselines, the identification of potential CDM projects as well as for preparing PDDs and validation / verification of projects.

The first RCC was set up in Lomé / Togo in 2012, in collaboration with the West African Development Bank (BOAD), serving Francophone and West Africa. A second centre in Africa started its operation in April 2013 with the East African Development Bank (EADB) based in Kampala, Uganda, serving the rest of Africa. A third centre started operating in summer 2013 in St. George's / Grenada, while two more centres are planned in Colombia and a yet-to-be-defined Asian country, respectively.

Each centre develops its own work plan following an investigation of existing plans and of regional needs. The RCC Lomé, for example, focuses on developing grid emissions factors for the West African Power Pool and the Central African Power Pool as well as on cookstoves projects (standardised baseline and PoA development support). The recent pipeline development seems to support the approach: since the set-up of the centre, 26 new CDM projects from the region entered the CDM pipeline (UNFCCC 2013b).

### 3.5 Carbon Initiative for Development

The Carbon Initiative for Development is a new facility managed by the Carbon Finance Unit of the World Bank. It has a twofold objective: to provide technical assistance and results-based

payments for energy access projects in LDCs using clean and efficient technologies. The initiative has so far been financed by the Government of the United Kingdom, talks with other supporting institutions are underway.

Ci-Dev consists of two components: a so-called readiness fund and a carbon fund. The readiness fund aims at supporting the development of simplified methodologies, Standardised Baselines and other regulatory changes to streamline CDM processes. Work on this field is envisaged, for example, on gathering data at country or regional level in order to support SB development. Also the streamlining and simplifications of PoA requirements is in the focus of the initiative (World Bank 2012).

Moreover, this component features support to individual projects, both in the form of assisting design, validation, registration and verifications for projects or programs as well as specific activities such as structuring the work of the coordinating / managing entities of PoAs. It will also provide support to African and LDC UNFCCC negotiators (ibid).

The carbon fund is the second component of the initiative. It will purchase CERs from projects that deliver strong development benefits in low income countries. Where needed, these projects will further be provided with technical support by the readiness fund. The carbon fund is set to pay for CERs, which will not be sold to the market but retired. In this sense Ci-Dev will be pioneering the use of the CDM as a vehicle for supporting clean technologies projects through carbon-based performance payments.

In December 2013, the United Kingdom, Sweden and the Swiss-based Climate Cent Foundation pledged more than US\$125 million to the initiative, allowing Ci-Dev to launch its first round of request for project ideas.

Ci-Dev targets innovative, transformational projects with strong development benefits. Technologies supported include renewable energy

projects creating new energy connections or addressing suppressed demand, as well as energy efficiency and waste management and treatment projects. A strong focus is laid on sustainable development effects, especially at household or community level. Projects using Standardised Baselines and programmatic approaches will be prioritized.

Ci-Dev may also, to a limited extent, provide up-front grants to project developers, which could be later paid back by a portion of the generated CERs. It will also consider partnering with other initiatives such as the „Future of the Carbon Market“ Foundation to achieve a similar objective (World Bank 2013).

### 3.6 Support Initiatives Are Gaining Momentum while Significant Challenges Remain

Standardised Baselines have the potential to facilitate project development and to lower transaction costs, thus easing two important barriers for CDM project development in Africa. In this regard, it is an encouraging sign that the first two registered SBs were developed for African projects. Further “African” SBs are currently being developed, and the Regional Collaboration Centres are a good support for these activities.

Yet the development of SBs themselves is both data and cost-intensive. This makes the development of Standardised Baselines not very attractive for commercial purposes, especially because the benefits of the SB cannot be reaped by the developer, but by the general public. Furthermore, the responsibilities of DNAs in this context strongly collide with their limited capacities, especially LDC DNAs.

Furthermore, the regulatory framework for SBs is not yet fully developed and subject to controversies within the Executive Board. Yet the

recent proposals for revision seem to indicate a shift in this regard (UNFCCC 2013c).

The CDM Loan Scheme is well on its way, the first figures are indicating that it is indeed supporting project development in LDCs as intended. Yet it has to be seen how the scheme is going to develop in times of ultra-low CER prices. It should therefore be assessed if the original proposals for providing grants (Castro & Michaelowa 2011) could be taken up. This should be combined with efforts to increase the amount of funding available, which so far is limited to \$ 1-2 million per year.

As regards the Regional Collaboration Centres, it is too early to evaluate their success. Involving and training local entities with CDM and / or project financing experience is an innovative concept which also helps sparing UNFCCC resources, as secretariat staff will be present in the regions for limited “kick-off” phase only. The first steps of the African Centres convey a positive image.

Initiatives like Ci-Dev complement other efforts such as Standardised Baselines and address different other barriers impeding project development in Africa such as lack of expertise. The focus on transformational projects with significant sustainable development benefits secures positive effects beyond the traditional CDM project world to the long-term benefit of the host countries.

# 4 Are there Changes on the Demand Side?

The previous chapters have approached the African carbon market from the supply side by inter alia analysing existing project activities, their scale, sectoral distribution and the current status of support initiatives. This chapter, in contrast, will shed some light on the other side of the coin: the demand for African CERs and related buyer activities. Our analysis will consider activities in Africa, putting a particular focus on African LDCs. This focusing has two reasons: From a development perspective, African LDCs are of particular importance since the sustainable development benefits CDM project are intended to contribute to are urgently needed in these poorest countries of the world. From a carbon market perspective, there is a strong interest to assess whether carbon market activities in this region have been fostered through the European Union's decision to allow CERs from projects registered after 2012 to be used for compliance in the EU ETS only if they are implemented in an LDC.

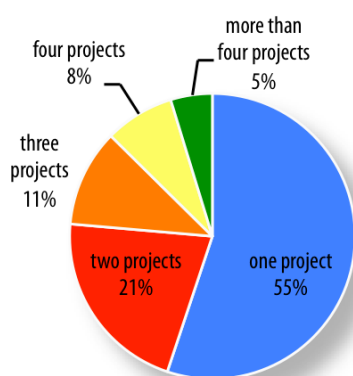
## 4.1 Buyers at the African Carbon Market and from Projects in African LDCs

In order to gain an insight into the African CER buyers landscape we analysed the CDM pipeline provided by UNEP Risø using a quantitative approach. However, there are some significant limitations that have to be considered when interpreting the data. The UNEP Risø pipeline contains only those buyer entities that have been issued a letter of approval by a buyer country. Hence, projects might have other buy-

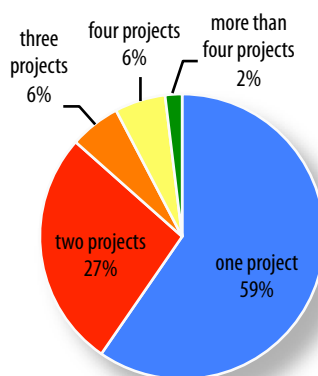
ers that are not listed in the UNEP Risø Pipeline. In addition, many entities listed as "buyers" are actually also active at the supply side, not allowing for a clear-cut separation between supply and demand.

Our analysis reveals that for around 41% of the projects of the African pipeline (107 of 258 projects) there is no information available on the investor. For African CDM projects that have already been registered, the share of projects where no investor has been listed lies at 32%. This picture corresponds with the global situation where about one third of the projects in the pipeline (36%) and 29% of the registered projects do not indicate an investor.

For projects that are being planned and implemented in African LDCs the situation is slightly different: 32% of the projects in the LDC pipeline do not list an investor, while this share lies at only 15% for registered LDC projects. One possible explanation for the smaller number of projects without buyer could be that projects carried out in LDCs often are associated with larger sustainable development benefits. Hence, buyers of CERs and investors could be motivated to communicate their supportive role more actively for promotional reasons. Another explanation could be that those projects without listed buyers are in fact unilateral activities, whereas there is not enough capacity in LDCs to implement unilateral projects.



**Figure 9:** Number of projects per buyer entity in Africa. Source: Wuppertal Institute based on UNEP Risø (2013).



**Figure 10:** Number of projects per buyer entity in African LDCs. Source: Wuppertal Institute based on UNEP Risø (2013).

#### 4.1.1 The African Carbon Market: A Small Market with a Large Number of Players

Hence, the number of African projects with information on the buyer organisations available is limited to a total number of 151 projects. The number of buyer entities involved in these projects lies at 135.

The analysis of these investors reveals that the African carbon market displays a large number of buyers engaged in a limited number of projects. While the number of investors who are participating in several African CDM projects is rather small, the absolute majority of the buyer organisations (55%) is limiting its buyer activities in the African carbon market to one CDM project. Less than one quarter of the buyers (21%) is further engaged in a maximum of two African projects while the remaining project participants are active in three or more African projects (**Figure 9**). This situation is even more pronounced for projects that are being implemented in African LDCs (**Figure 10**).

#### 4.1.2 Private vs. Public Involvement

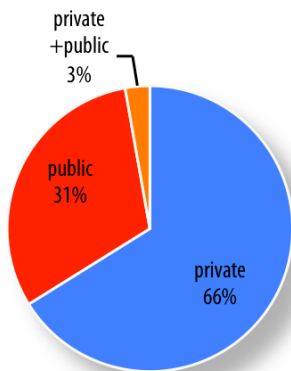
The analysis of the entities involved in these projects indicates that the private sector is playing a pivotal role as a buyer of CERs: In overall Africa, private entities are involved 167 times, corresponding to a share of 66%.<sup>1</sup> In contrast, with a total of 78 participations and a share of 31% the role of public institutions and funds remains rather limited (**Figure 11**).

In African Least Developed Countries, the situation is similar: About two thirds of the participations (67%) can be attributed to the private sector, while 33% of the participations are public (**Figure 12**).

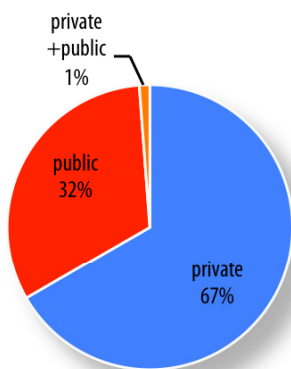
It should be noted, however, that the mere fact that a (private or public) institution is listed as a buyer organisation cannot be directly translated into its importance for the project and its implementation. Buyer organisations can acquire different volumes of CERs and adopt very different roles: They can be involved from the beginning and support the entire project development process or only function as a mere buyer that approaches the project developer

<sup>1</sup> Please note that one project can have multiple buyers. Therefore, the number of participations of buyer organisations does not add up to the total number of projects.

when the development process has already been completed.



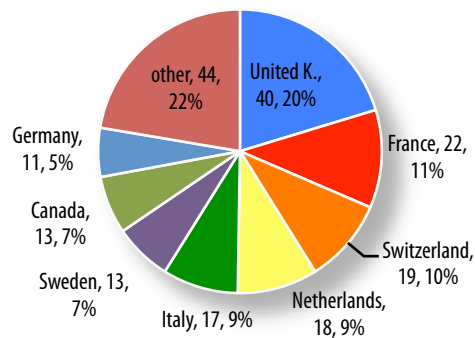
**Figure 11:** Private and public involvements in Africa. Source: Wuppertal Institute based on UNEP Risø (2013).



**Figure 12:** Private and public involvements in African LDCs. Source: Wuppertal Institute based on UNEP Risø (2013).

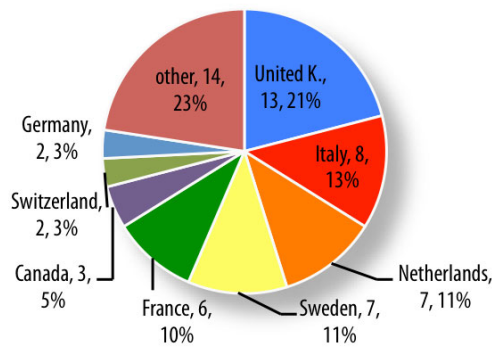
### 4.1.3 The Nationality of Buyer Entities

When looking at the nationality of the buyer organisations involved in African CDM projects, the United Kingdom is the leading buyer country: The UK is involved in 40 projects, corresponding to 20% of the total number of project participations identified. Other countries involved in a large number of projects are France (22 projects, 11%), Switzerland (19, 10%), the Netherlands (18, 9%), Italy (17, 9%), Canada and Sweden (both 13, 7%) and Germany 11, 5%) (Figure 13).



**Figure 13:** Nationality of buyer entities involved in CDM projects in Africa. Source: Wuppertal Institute based on UNEP Risø (2013).

The UK is also leading the African LDCs market, holding a share of 21%. It is then followed by other European countries: Italy (13%), the Netherlands (11%), Sweden (11%), France (10%) and others. Interestingly, buyers from Switzerland are playing a rather limited role in African LDCs compared to their engagement in Africa as a whole: they are only involved in two African LDC projects (Figure 14).



**Figure 14:** Nationality of buyer entities involved in CDM projects in African LDCs. Source: Wuppertal Institute based on UNEP Risø (2013).

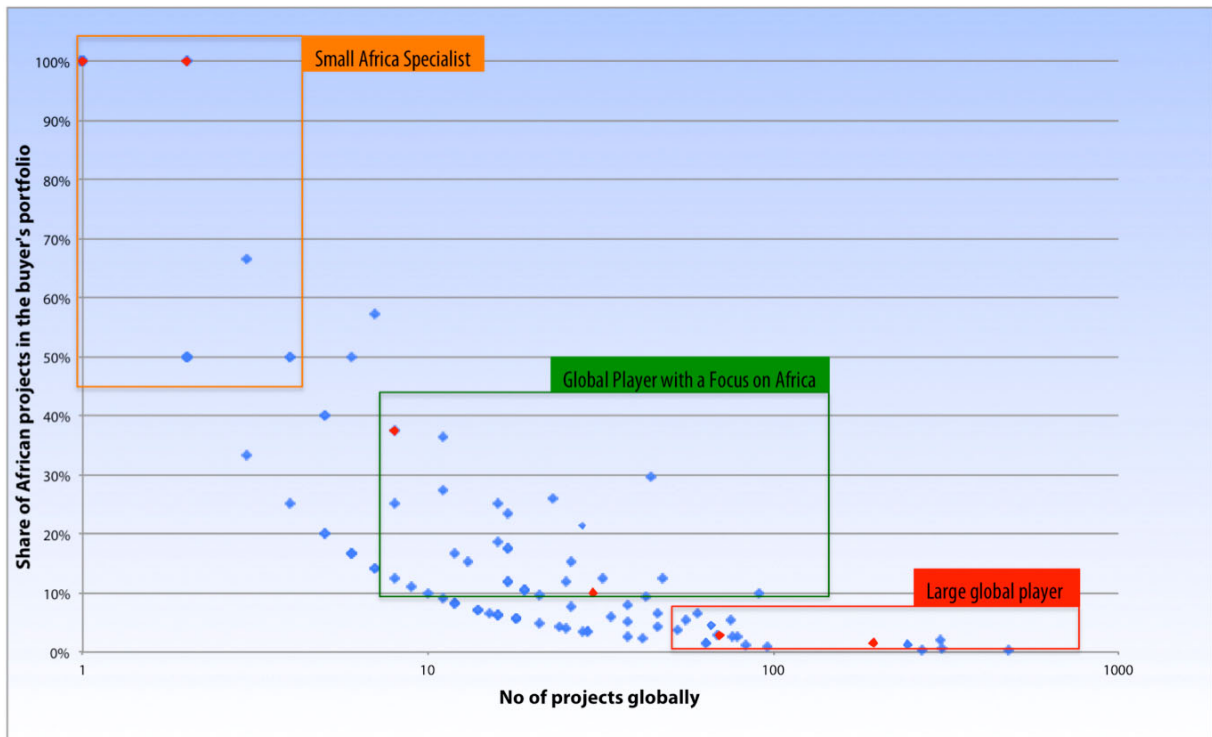
## 4.2 Investing in the African Carbon Market: Three Typical Buyers

While this first quantitative analysis allows for a first impression of the African carbon market

and its composition, more in-depth analysis is needed to get a more comprehensive picture. Therefore, we took a closer look at the buyer companies and organisations involved in the African carbon market.

Our analysis was guided by the following questions: Are these buyers exclusively focusing on the African market or do they also buy CERs from projects outside Africa? And what about those firms who are the most active buyers at global scale: Are they also active in the African market? We approached these questions by first analysing two factors: The entities' share of the global pipeline and the share of African projects in the entities' pipeline. This led to the identification of three groups of typical buyer entities (**Figure 15**).

In order to allow for a more complete picture, we then selected two entities of each group and conducted telephone interviews with their representatives. The aim of this approach was to get a clearer picture of exemplary buyer



**Figure 15:** Three different groups of CER buyers at the African carbon market (entities interviewed are displayed in red). Source: Wuppertal Institute based on UNEP Risø (2013).



companies: To what degree are companies involved in the projects and how are CERs used? Furthermore, we wanted to get an insight into the motivation of buyer organisations to engage in Africa, and to learn about their experiences and expectations. Interviews were held anonymously.

#### **4.2.1 The Large Global Player**

The first group of African CER buyers comprises entities that are involved in several CDM projects at the global scale but whose engagement on the African carbon market remains very limited. There are twenty entities engaged in the African carbon market who are active in 50 or more CDM projects worldwide. However, only four entities have a project pipeline where the share of African projects lies at 5% or above.

One example for a large global player is the private firm EcoSecurities. Being engaged in six African CDM projects, EcoSecurities ranges among the most active buyers in the African carbon market. However, with a global portfolio of more than 300 projects, the share of African CDM projects in EcoSecurities pipeline is less than 2%. Further, the firm is not engaged in any African LDC project. Other examples for this group of buyers are Vitol and Tricorona, both private companies participating in more than 200 CDM projects worldwide. The share of African projects in the companies' project pipelines lies at only 1%. The group of large global players is however not restricted to private entities. The Danish Ministry of Climate and Energy is active as a buyer organisation in more than 70 CDM projects worldwide, with only four of them being located in Africa and one in an African LDC.

For our interviews we selected two large companies with a large CDM portfolio and limited numbers of African projects. One interview was conducted with a representative of an entity that inter alia administers a large CDM purchase

fund, whose CERs are used by compliance buyers. Its mixed portfolio is typical for a large primary market buyer, containing a very limited number of advanced projects. In most cases, the entity gets involved in the project at an early planning stage. The second interview was held with the representative of a large company involved in several CDM projects as a EU ETS compliance buyer. The company is engaged along the entire project cycle, acting as a project developer in the majority of cases.

#### **4.2.2 The Global Player with a Focus on Africa**

The second group of investors engaged in Africa is the global player with a particular focus on African CERs. This type of investor is engaged in projects at a global scale; we have set a minimum threshold of eight project involvements globally with at least 10% of the projects being implemented in Africa.

Examples for this investor type are the International Bank for Reconstruction and Development (IBRD), which is the top buyer in the African carbon market, being involved in 13 projects. This corresponds to a share of about 30% of its project portfolio. Another buyer with a particular focus on the African carbon market is the Standard Bank: it is involved in 23 projects, six of them being implemented in Africa. Other global players with a focus on Africa are the private companies ORBEO, Statkraft and N.SERVE. These companies are engaged in 48, 28 and 17 projects worldwide, with the share of African projects in the entities' pipeline lying at 13%, 21% and 24%, respectively.

We held interviews with two buyer entities with differing structures: One entity is focusing exclusively on the voluntary market and uses the CDM as a certification standard. It gets involved at a very early stage of the project phase. The second entity, instead, has a much broader spectrum: It is developing projects for the com-

pliance and for the voluntary market and also manages a purchase fund.

### **4.2.3 The Small Africa Specialist**

Beyond these two groups there is a significant number of entities who are specialised in African projects, meaning that more than 50% of the projects they are involved in are being implemented in Africa. However, the majority of these entities are limiting their global activities to a very small number of projects, one or two in most cases. Examples of investors that are active in only one project are the Austrian company Carbon Projektentwicklung and the German NGO Lernen-Helfen-Leben. Scott Wilson and CO<sub>2</sub>logic, both active in two CDM projects that are or will be implemented in Africa, are another two companies that can be considered small Africa specialists.

Interviews were held with representatives of two companies with a rather small overall number of projects, all of them being implemented in Africa. While one company is reselling its CERs to compliance market entities, the second company is implementing forestry projects for the compliance and the voluntary market, a sector particularly successful in Africa (see section 2.2). Both companies are involved in their projects as project developers.

## **4.3 Buyer's Experiences and Views on the African Carbon Market**

### **4.3.1 Reasons for Engaging in Africa**

With regard to the reasons to engage or having engaged in Africa interview partners highlighted very different aspects.

From a large global players' perspective (1), one interviewee stated that there was little financial incentive to invest in the African carbon market

before the plans to exclude CERs from non-LDCs from the EU ETS after 2012 became public. Only then the African continent and its LDCs were focused on by compliance market players. The shifting of the focus towards LDCs in 2011 resulted in plans to engage more actively on the continent and a dedicated strategy for investing in Africa was developed. The EU decision on the post-2012 exclusion of CERs from non-LDC projects was also a central motivation for the second large global player to engage in Africa. More generally, however, the aim was also to diversify the project portfolio since in comparison to the active involvement in Latin America and Asia, Africa was clearly missing.

Among the global players with a focus on Africa (2) engagement in the region was due to different reasons depending on the entities' orientation and business model. The first buyer interviewed is using the CERs for the voluntary market to offset emissions from private persons and companies. According to the interviewee, Africa is particularly well suited for the specific project type in the forestry sector the company is focusing on. This suitability and the large sustainable development contributions of these projects represent central reasons for their engagement in the region. As outlined above, the second entity of this group has a multiple role: The company is managing a CER purchase fund while at the same time developing own projects. Furthermore, it is active in the voluntary market. With regard to its compliance market activities, the company's main motivation for the engagement in Africa were the large project potentials that were unexploited. In LDCs, the engagements' aim was primarily to maintain access to the EU ETS.

The third group of buyer entities, the Africa specialist (3), pointed at other reasons for their engagement. One interviewee stated that the company's engagement in the region was mainly due to personal contacts and local part-

ners, which provided the ground for project implementation. Similarly, the second company built on its experiences from ongoing activities in the region. Local expertise and strategic suitability of the sector activities were main advantages for the engagement in the region.

### **4.3.2 Proposed Measures to Support the CDM in Africa**

In the context of support measures for the CDM in Africa, interviewees highlighted several barriers for project implementation. In general terms, the risk profile of investments in the African carbon market was stated as a central challenge for the engagement in the region. Besides a generally poor investment climate interviewees highlighted that the delay in CER delivery and variability in the CER volumes are a challenge with particular relevance for compliance market players.

Low levels of capacity were also mentioned as a challenge for project implementation, with local consultants often being unable to deliver the expertise and performance required. A similar observation was made with regard to the national level, where lack of capacity leads to DNAs sometimes acting as a bottleneck in the project approval process (see section 2.3 on delay of the CDM processes).

Several interviewees further criticised the complexity of the CDM rules as a main barrier for the expansion of the CDM in Africa. One interviewee considered that the bureaucracy and complex rulings lead to a large dependency on external consultants. In this context, measures to simplify the CDM procedures were proposed. One interviewee maintained that PoAs are generally too complex for the application in the African context, an observation that clearly contrasts with the success of PoAs on the African identified in section 2.2. According to one interviewee, the implementation and monitoring of CDM projects is generally too complex to be financially viable for the compliance market.

A support measure considered crucial by several interviewees (one of each group) is additional financing. Financing of the initial project phase is particularly challenging for projects at the household level, given the difficult investment climate in several African countries. Therefore, a financing guarantee was proposed as a measure to allow for proper project planning and implementation. This could allow private investors to participate in projects that are publicly supported. In this context, the CDM Loan Scheme, which was being used by several companies, was considered to point in the right direction. Similarly, publicly guaranteed minimum CER prices were proposed as a measure to make the engagement in Africa financially viable.

### **4.3.3 Are CERs from African Projects Sold at Higher Prices?**

Interviewees were asked whether, according to their perception, CERs from African projects are currently achieving higher prices than those from other regions.

One interviewee stated that there was no real market price at the moment and that the current EU ETS price cannot be considered a real market price since it lies below the abatement costs of projects, in particular for African projects. There seems to be a common understanding among the market participants that CERs cannot be traded below their abatement costs, resulting in very small numbers of transactions activities. These transactions are limited to public purchase programmes and voluntary market players. With market players referencing to each other, there is a common price region for CERs, lying in between 5 and 15 EUR/tCO<sub>2</sub>e.

According to the interviewee, under the current market conditions, the purchase criteria are defined by the buyers. These vary between voluntary market buyers and public buyers: For the voluntary market, the price is defined by the project type involved and directly related to the specific project and its co-benefits. For compli-

ance purchase activities, in contrast, the price is more dependent on whether the project is being implemented in a LDC and if it is targeting a specific sector. However, according to one interviewee, compliance buyers are partly also willing to pay a higher price for CERs from projects with co-benefits for CSR-reasons.

In general and more specifically for the voluntary market, the individual project seems to be crucial for the price arrangements, while the region as such does not directly influence the price. However, Africa is currently meeting several purchase requirements of compliance market and voluntary market buyers, resulting in more transactions and potentially higher prices.

#### **4.3.4 Consequences of CER Price Development**

The drop of CER prices had severe consequences for the Africa activities of most companies interviewed, in particular for those who directly depend on the compliance market.

One “large global player”, for instance, had developed a genuine Africa Strategy during 2011 but finally decided in 2012 not to further pursue this strategy and to phase-out existing purchase activities due to market developments. This decision also had direct consequences for the project activities on the ground: A plan was developed on how to deal with existing projects and some of the projects had to be stopped while others are still running. With regard to the decision whether to stop a project or to continue with its implementation there was, however, no special treatment of African projects. Similar actions were taken by the other “large global player” interviewed: The original plans to engage more actively in African LDCs were put on hold. At the project level, the consequences for the activities in Africa are comparable to those in other regions and ongoing projects keep running while new activities are not initiated.

The entity of the group “global player with a specific focus on Africa” with a direct link to the compliance market suffers similar consequences and future investments in the CDM have been reduced. At the project level, however, one interviewee stated that active projects will not be put on hold despite the price crash, while new projects are waiting for the market to recover. For the second “global player with a specific focus on Africa” who is engaged in the voluntary market the situation is much more relaxed: According to the interviewee, the prices in the voluntary market are still stable and individuals are willing to pay a defined price independently from the price level in the compliance market. This allows to further implement projects. However, the search for large business investors for scaling-up existing projects became more difficult.

The companies of the “small Africa specialist” group have a very different experience: While the project of one company had to be put on hold due to the price developments, the second company who is focusing the African forestry sector mentioned not to suffer directly from the market developments despite part of its activities being directly linked to the global compliance market: With forestry credits being excluded from the EU ETS, the price development in the scheme has not negatively affected these projects. Against this background, the company is continuing its activities to validate a new CDM project in Africa.

#### **4.3.5 Expectations and Future Engagement**

Interviewees were asked about their expectations with regard to the CDM and its specific role in Africa. Furthermore, they were asked about the companies’ future engagement in the region.

Generally, interviewees expressed a clear disappointment with regard to the evolution of the CDM in general and more specifically in Af-

rica. According to one interviewee, the timing of the crisis was fatal, since prices crashed at a moment when projects were starting to run and capacities had been finally developed. In the light of this development, most interviewees suppose that the CDM will not recover from the crisis, resulting in low expectations regarding its future.

While one “large global player” showed clear disappointment about the CDM, the other “large global player” expects the CDM to reduce into a niche market, with Africa being one of the main spots. However, the interviewee also pointed at the fact that the CDM will not be able to solve all development problems in the region and highlighted that the potential for further development is rather limited.

Similarly, the expectations among the “global players with focus on Africa” were generally low: The representative of the company working in the voluntary market expressed clearly not to have any expectations regarding the future of the CDM. The representative of the compliance buyer stated that while he doesn’t expect the market to recover in the next 7 years due to the lack of an international agreement on climate change, political signs as well as potential demand from emerging compliance markets might give a little sign of hope. Their general impact, however, will be very limited.

In contrast, the two “small Africa specialists” interviewed showed more reluctance in concluding that there will be no future for the CDM. One interviewee expressed hope that the CDM might recover from the current crisis while the other refrained from taking a clear position and said he will wait and see what the future might bring.

## 4.4 The Use of African Credits: The Example of CERs in the EU ETS

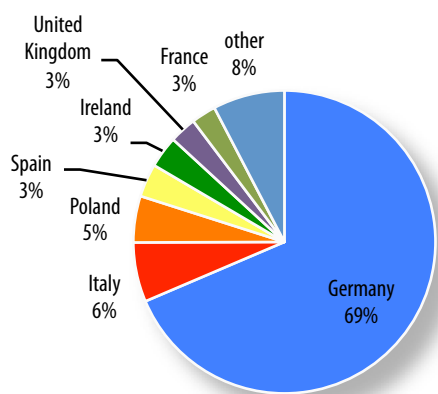
As has been mentioned above, a clear cut distinction between demand and supply side is not possible, since entities that are listed as buyers of CERs might also assume the role of project developers. As the interviews with buyer entities has shown, CERs are used in very different ways: While some entities are acting as intermediaries and sell these credits to other companies, others are using the CERs for compliance with obligations under the EU ETS. Others, in turn, cancel CERs directly for voluntary market end consumers.

Given this large diversity in the use of CERs among buyers, the interviews were complemented by an analysis of the African CERs surrendered in the EU ETS. This analysis is based on data provided by the British NGO Sandbag.

### 4.4.1 Use of African CERs in the EU ETS by Country

As mentioned in section 2 above, only 34 African CDM projects have been issued CERs and only eight of these are based in African LDCs. As of July 2013 a total of 5.35 million CERs have been surrendered in the EU ETS. All CERs stem from ten projects based in four countries, all of them non-LDCs: Egypt, South Africa, Nigeria and Morocco. The largest part of the CERs stem from projects in Egypt (61%), followed by South Africa (35%) and Nigeria and Morocco (both 2%).

German installations have surrendered the largest part of African CERs, more than 3.6 billion. This corresponds to a share of almost 70%. Installations in other countries used 6% or less of these CERs, as can be seen from **Figure 16**.



**Figure 16:** Share of African CERs surrendered in the EU ETS by country, Source: Wuppertal Institute based on Sandbag (2013).

#### 4.4.2 Use of African CERs in the EU ETS by Company

About 200 installations covered by the EU ETS have surrendered CERs from African CDM projects. Many of these individual installations are owned by large parent companies. The analysis of the distribution of CERs by parent companies shows that the largest share of African CERs was used by Evonik Industries. The German chemical company used 54% of all African CERs surrendered in the EU ETS. The remaining 46% of African CERs were used by a large number of other companies holding a considerably smaller share lying between 4% (Volkswagen), 3% (E.ON), 2% (Vattenfall, Edison, CEZ, Tereos, Energias de Portugal), 1% or less.

### 4.5 The African Credit Buyers Landscape: Manifold Motivations, Experiences and Expectations

The application of the combined quantitative and qualitative approach in this chapter sheds some light on the buyers and the activities in the African carbon market. The quantitative

analysis of the African pipeline shows that there is a large number of predominantly private buyers engaged in a market with a limited number of CDM projects. The large number of buyers who are only engaged in one project indicates that several activities might be born out of individual initiatives, an assumption that was confirmed in our interviews with the group of small African specialists.

The quantitative analysis provided the basis for the identification of three typical market players groups. Interviews with representatives of these buyers groups revealed that many buyers engage at an early point in the project cycle.

Interviewees reported on their experiences in Africa and stated that limited local capacities, a high risk profile of investments and difficult access to financing were the main challenges in the region, particular in African LDCs. Several interviewees proposed to further strengthen financial support measures (loans, financing guarantee, guaranteed minimum CER price) to allow projects to successfully complete the first project phase until CERs are issued.

With regard to the buyers' motivation to engage in Africa, there seems to be a clear distinction between compliance and voluntary market players: The exclusion of CERs from projects based in non-LDCs that are registered post-2012 can be considered crucial for the engagement of buyers active in the compliance market, in particular for the large global players. Voluntary market players, by contrast, have indicated that the engagement in Africa is due to suitability of specific project types and respective co-benefits.

With regard to transactions and CER prices, interviewees provided important insights into the current situation: There seems to be a very small number of transactions currently taking place, mostly limited to public purchase programmes and the voluntary market. Prices in these transactions are not based on the EU ETS levels but depend on the project's abatement

costs and additional criteria, such as additional social and environmental benefits for the voluntary market, and if it is implemented in a LDC and targeting a specific sector for public purchase programmes. According to the interviewees, African projects do not necessarily achieve higher prices but since many African projects meet the requirements of voluntary market buyers and public purchase funds it is here where the transactions take place. More generally, the individual project seems to be more relevant for the price level than the region.

The CER price drop led to severe consequences for many companies interviewed, with large compliance market buyers being particularly hard hit. At the organisational level, this led to a reorientation or complete suspension of buyer activities. Strategies to focus on the African LDC market were not further pursued. At the project level, some companies had to stop ongoing activities while others continued with the implementation of projects. In this regard, African projects are treated equally to projects in other regions. Voluntary market players, in contrast, have a completely different experience and prices continue to be stable.

Interviewees expressed different expectations regarding the future role of the CDM: While some maintain that there will be no future for the CDM, others think it will become a niche market. Regarding the future price development buyers shared a sceptical view, not expecting prices to recover soon.

## 5 Conclusions

This policy paper has undertaken a threefold analysis, looking at the current status of African projects in the CDM pipeline, at support initiatives for African carbon market activities, and at African CERs' buyers and how the CERs are being used.

We first analysed the **CDM pipeline** in order to assess whether there has been a significant change on the supply side of the African carbon market. The analysis shows that the CDM in Africa in general and in African LDCs in particular is still underperforming compared to other regions. Neither the share of registered nor the share of proposed projects in the CDM pipeline has increased substantially. For PoAs, in contrast, there has been a significant uptake. A considerably large share of the programmes registered recently is located in Africa, many of them in African LDCs. However, whether the number of registered projects and programmes will actually translate into a respective number of CERs seems questionable since there are already many projects featuring extraordinarily long delay times without having been issued any CERs yet. This raises the question whether these projects are being implemented at all or if the delay is due to procedural difficulties.

In the next section we looked at the current status of **support initiatives**, namely the role of Standardised Baselines and Africa-friendly methodologies, the CDM Loan Scheme, Regional Collaboration Centres and the newly established Carbon Initiative for Development. The analysis of Standardised Baselines has delivered positive as well as worrying signs. On the one hand, there is substantial potential of SBs to ease project development and reduce transaction costs in Africa, as they avoid the repetition of efforts in the collection and processing of data needed for baseline setting and

additionality demonstration. On the other hand, the development of SBs entails significant challenges since it is costly and requires a good data basis. In addition, the regulatory framework is not yet fully developed and has been repeatedly subject to controversies within the Executive Board. With regard to financial support, the CDM Loan Scheme seems to be on a good way and first figures indicate that it is actually supporting project development in LDCs, as intended. Regarding the improvement of local CDM capacities, the African Regional Collaboration Centres can present first successes as new CDM projects are entering the pipeline. However, it is not yet possible to evaluate their overall success. With the World Bank's recently established Carbon Initiative for Development Africa, an innovative concept that incorporates technical and financial support has been established. The initiative supports the development of methodologies and SBs at country or regional level while at the same time supporting transformational projects providing technical assistance and by purchasing of CERs.

The last section of the paper looked at the **buyers' perspective** and presented findings of qualitative interviews held with representatives of buyer organisations. With regard to the challenges encountered in Africa, the interviewees stated that limited local capacities, a high risk profile for investments and difficult access to financing were the main challenges in the region, particular in African LDCs. Several financial support measures (loans, financing guarantee, guaranteed minimum CER price) were proposed to allow projects to successfully complete the first project phase until CERs are issued. The interviews revealed a clear distinction between compliance and voluntary market players regarding both the motivation to en-



gage in Africa and the consequences of the current low CER price levels. The EU ETS's focus on LDCs can be considered crucial for the engagement of compliance market players, in particular for the large global players, while voluntary market players have highlighted Africa's suitability for specific project types and respective co-benefits. Similarly, the CER price drop had different consequences: Compliance market players, in particular large companies, experienced particularly severe consequences forcing them to even stop individual project activities, while voluntary market players were less affected and prices continue to be stable. With regard to CER transactions there is currently a very low activity level, mostly limited to public purchase programmes and the voluntary market. Prices in these transactions seem to depend on the specific buyer requirements, which are met by several African projects. The future role of the CDM is seen differently by the interviewees: While some expect the CDM to entirely lose its relevance, others maintain it will become a niche market. However, with regard to the role of Africa for the compliance market, the future price development is seen sceptically and prices are not expected to recover soon.

Taken together, these three sections allow to paint a more comprehensive picture of the former and current status of the CDM in Africa and allow to draw some conclusions regarding its future. Regarding former attempts to foster the supply of African CERs, our findings allow to deduct that **the EU ETS exclusion of CERs from non-LDC projects registered after 2012 would have had a large impact on the African carbon market if demand for CERs had not crashed.** While there is no direct effect of this policy visible in the African CDM pipeline, interviews revealed that large market players had strategies in place to engage more actively in African LDCs. With the price drop, however, these plans were blighted. Hence, fostering the development of CDM projects in African LDCs through respective provisions on the demand

side, as attempted by the EU, has the potential to affect the geographical distribution of projects. However, such a measure can only be effective if respective demand for CERs in general is ensured. With the current lack of ambition in terms of emission reduction targets of Annex-I countries the effect is, however, very limited.

**Lack of capacities was one of the main issues** identified in all three sections of the paper, indicating the importance that must be attributed to this aspect in the future. The CDM pipeline analysis revealed that many African projects had in the past suffered from large time lags between first comment and registration. Our interviews confirmed that this can inter alia be attributed to little experience of project developers in the area, limited capacities of local consultants as well as DNAs' lack of capacity.

However, the pipeline analysis shows that the average lead-time to register an African CDM project was significantly reduced, reaching global average levels from 2010 onwards. This development corresponds with the observation made by one interviewee, who stated that significant capacities had been established in the past. Against this backdrop, **the timing of the carbon market price crash is particularly unfortunate: Now that capacities have been developed, the low CER price reduces demand for CERs to a minimum.** In addition, and despite the progress achieved, lack of capacities is still an issue, as was also stressed in our interviews. The need to further develop capacities among local DNAs is particularly relevant in the context of the SB development, which puts a significant burden on DNAs in terms of SB approval and controlling of data quality.

With regard to demand side activities, our interviews showed that there is currently only a very limited number of CER transactions taking place, also in the African carbon market. However, many **African projects seem to meet the**

**voluntary market and public buyer's criteria and achieve higher prices due to their contributions to sustainable development.** This as well as the interest in the support measures (CDM Loan scheme, RCCs) shows that there is currently still a significant interest in the African market, mostly from voluntary market buyers and public purchase programmes. In this context, co-benefits are becoming a crucial asset of these projects. At the same time, however, the prospects for the CDM in Africa are gloomy: Interviewees maintain that monitoring and reporting of African projects is too complex and costly for the compliance market and that **the CDM will develop into a niche market.**

Financial support for the development of SBs but also of CDM project activities more generally can be considered an issue of crucial importance. Given the current market situation and the high costs involved in the development of SBs as well as limited DNA resources and capacities, public support will have to continue being their main source of finance. In the light of this issue, Mersmann and Arens (2012) discuss a revolving fund, which could be filled initially by Parties, other donors and project developers. SB developers could then use these resources to co-finance baseline development for a certain project activity. Projects using this SB would then reinvest a share of their revenues into the fund, thus replenishing the fund for the next developer.

With regard to the support of individual projects, the urgent need for financial support, in particular during the initial phase of the project cycle, is essential. In this context, the installation of the CDM Loan Scheme can be regarded as a first step in the right direction. However, the support this instrument can provide is limited in terms of volume. Further, in times of CER prices hitting record low levels and the carbon market in crisis, other types of financial support may be required, such as minimum CER prices

or the installation of a guarantee. In addition, the provision of grants could be an option.

The adequate type of support will depend on the characteristics of the individual project activity as well as on the donors' expectations regarding the future development of the carbon markets and the individual elements donors are willing to safeguard.

Depending on these factors, we propose **three types of financial support for African CDM activities.** Generally, support measures should be rolled out as soon as possible to reduce a brain drain effect of CDM-related capacities.

1. **Registered Projects should be supported to ensure emission reductions are realized.** Projects that have been registered but have not yet received any CERs should be looked at more in-depth to assess whether financial support could trigger CER generation. In those cases where a limited financial support would allow a project to resume its activities donors could provide respective grants.
2. **New project proposals should further receive public support,** e.g. by ensuring a minimum CER price level or a guarantee. This kind of support should be provided to projects with particularly high contributions to sustainable development or to projects that are being implemented in specific countries and sectors. To identify these high quality projects specific criteria should be established. An example for a support measure of the first and second type is the recently launched NEFCO Norwegian Carbon Procurement Facility, NorCaP (NEFCO 2013).
3. **Projects that are particularly innovative in methodological terms should receive continuous support.** This group of projects would for example comprise activities that use Standardised Baselines or a new programmatic, cross-sectoral approach. A focus

should lie on projects that are integrated in host countries' overarching climate policy planning. This type of activity is partly covered by the World Bank's Ci-Dev initiative.

In addition to these financial support measures at the project level, donors will further have to **continue capacity development measures** at the national and regional level, in particular with regard to standardisation. The capacities for measurement, monitoring and verification are crucial for establishing potential new (sectoral) market based mechanisms as well as in the broader context of effectively designing climate policy measures. Ideally, these capacity development measures would always be linked to activities on the ground, providing direct support to CDM projects and programmes.

In sum, the expectations regarding the future role of the CDM in a new post-2020 climate regime will be decisive for arranging these support measures in the most effective way. Will the CDM in the future become a public financing tool to achieve low-carbon development with sustainability benefits? Or will it continue to be an instrument to support industrialised countries in complying with their emission reduction targets? In any case, **demand for the results from future CDM activities must be ensured**, be it sustainable development benefits, be it climate change mitigation effects.

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Nicolas Kreibich, Christof Arens and Lukas Hermwille

**Wuppertal Institute**

for Climate, Environment and Energy

P.O. Box 100480

42004 Wuppertal

GERMANY

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

