

# Carbon Finance in Africa

## A Policy Paper for the Africa Partnership Forum

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### Executive Summary

The Clean Development Mechanism (CDM) has proven successful in generating emission reduction projects in many developing countries. As of end-2007, proceeds from the sale of emission credits from CDM projects amounted to about \$7.4 billion, a 50% increase in value over 2006, and triple the value in 2005. The overall carbon market has risen sharply over the past few years, reaching \$60 billion in 2007 or six times its value in 2005. However, Africa's share of CDM transactions is still relatively low with 5% in 2007.

The purpose of this paper is to undertake a review and analysis of the current status and future potential of CDM in Africa with the objective of developing recommendations that African policy makers, negotiators and experts can use to make changes under the current regime and to push for a revised CDM policy framework that will help to advance CDM project development, and carbon financing in general, for Africa's sustainable development.

The Kyoto Protocol states that contributions to the sustainable development of the host country and real and measurable reductions in greenhouse gases are the two main objectives of the CDM. Nevertheless, a legitimate and general concern about the CDM is that as a strict market mechanism with international oversight, it focuses primarily on the emission reduction component of projects. This paper argues that the CDM delivers a certain degree of development dividends by providing finance for the diversification and increased reliability of energy supply, reduced dependence on fossil fuels and rural electrification, among others. Adjustments in the current CDM modalities, paired with suitable financing, collaboration with international donors and a focused approach by African countries themselves, would significantly increase the contribution that the CDM can make to Africa's development.

There are several reasons specific to the way the CDM was set up that may inhibit the growth of the CDM in Africa. One is the limitation on types of projects currently eligible for CDM. The land-use sector, for example, holds the greatest potential for carbon finance as most African economies are highly dependent on agriculture. Under the current rules, however, project activities implemented in agricultural, forestry and other land-uses (AFOLU) are limited to narrowly defined afforestation/reforestation activities and a few activities involving GHG reductions from agricultural waste products. While there is increasing recognition of the importance of the forestry and agricultural sectors in general, including current discussions around "Reducing Emissions from Deforestation and Degradation" (REDD), Africa needs to develop and implement its own climate and carbon finance strategy, built on the recognition that the continent can contribute most effectively to mitigating climate change by promoting sustainable land use practices.

There are two main areas where the procedures governing CDM project development and approval could be improved and refined to increase the potential for developing countries to benefit more from this financial mechanism: small-scale and programmatic CDM.

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Small-scale CDM allows for a simplified application of the general CDM procedures in order to reduce the project development costs for projects below a certain threshold of emissions reductions. It was expected that the simplified procedures would be particularly beneficial for some types of projects and countries, including CDM development in Africa. It was thought they would in principle make it easier for local experts to develop projects and would facilitate CDM development in project types which are more common in the African context. In reality, this has not happened. The paper presents suggestions for unlocking the potential of small-scale CDM by channelling increased funding into a financing facility which would provide seed capital and support scoping studies to identify project opportunities. In addition, the development of additional simplified methodologies for sectors with high potential in Africa is encouraged.

Programmatic CDM allows project developers to create programmes which permit a grouping of multiple project activities of the same kind, using a single technology or single baseline methodology. Like small-scale CDM, the ability to undertake programmatic CDM could enable an acceleration of CDM projects in Africa – although so far this has failed to occur. The paper analyses the key barriers to programmatic CDM and makes a number of technical recommendations to overcome these barriers such as a revised allocation of risk and simplification of the monitoring process.

Sectoral CDM is a new approach that is now being actively discussed at post-2012 negotiations. It would allow states to shift from a project-based to a sector-specific approach by establishing sectoral baselines and granting carbon credits for emission reductions relative to these baselines. In addition to providing an easier path to quantifying emissions reductions, sectoral CDM would encourage policy interventions aimed at emissions-intensive sectors such as cement or chemicals and allow the state to reward high-achieving companies. This new approach would enable rapid progress on reducing emissions in energy-intensive sectors by reducing the transaction costs for companies, and would provide new financing opportunities for sectors presently under-represented under the CDM in Africa such as transport and agriculture.

It is important to recognize that most types of CDM projects are only able to raise a portion of total project costs from carbon finance, and this is for the most part cash flow following project implementation. Financial barriers to raising the required capital are therefore as much of a problem in CDM project development as in many other private sector activities in Africa. The paper reviews a number of finance mechanisms such as the increased use of ODA, insurance mechanisms and export guarantees to make core finance for CDM projects in Africa more readily available.

Finally, the paper looks at the collaborative role multilateral organisations and African governments can play in increasing local capacity to establish the right institutional frameworks in order to stimulate CDM project development. It reviews the Nairobi Framework, an agreement between key multilateral organisations to coordinate capacity building on the continent, and suggests ways in which it could be improved, for example by promoting the development of a formal pool of national experts. The paper draws on best practices among African governments to make policy recommendations to promote CDM on the national level.

The world's carbon market is very likely to continue to grow over the coming years, even if current negotiations to extend Kyoto fail or produce a weaker compliance regime. Interest in the voluntary market alone should sustain much of this growth. The carbon market will therefore continue to provide a significant opportunity for Africa to enhance private sector growth by stimulating the flow of carbon finance to the continent through market-based mechanisms for sustainable development. To ensure that the carbon market not only continues but expands, it is imperative that African governments, with the participation of other stakeholders, develop a clear African position for post-2012 negotiations, ensuring that their vital interests are fully taken into account in the revision of the CDM. By closely coordinating their positions, African negotiators can form a powerful block to achieve a much more favourable regime that could potentially increase the critical flows of carbon finance needed for the African continent, and thus help to meet the challenges of climate change and sustainable development.

## Key Recommendations

### For African Governments and Regional African Organisations (pre-2012):

1. **Develop regional sustainability frameworks** for greater consistency for the CDM, increased replicability of projects across countries and reduced project development costs, which will together increase the number of CDM projects and the overall contribution of the mechanism to sustainable development.
2. **Implement pilot projects on land use carbon.** African governments should ensure that industrialised countries support the design and implementation of pilot activities in avoided deforestation, forestry and agricultural activities. These early actions should be recognised in a post-Kyoto agreement.
3. **Encourage the development of an umbrella organisation for programmatic CDM**, i.e., an entity which functions primarily to locate potential project activities and guides them through the programmatic CDM process.
4. **Establish emissions baselines for energy-intensive sectors in each country**, ideally through coordination between local business organisations and the appropriate ministries in order to advance the case for sectoral CDM. This process should be supported by donors and financial institutions.
5. **Provide capacity-building for government officials outside of the DNA and develop a formal pool of national CDM experts** such as local consultants, academics, and engineers from the line Ministries and from appropriate government agencies such as rural electrification authorities or renewable energy agencies.
6. **Capacitate local financial and banking sectors and sensitise potential investors and the private sector in general** to the opportunities for obtaining carbon finance, e.g. through enhancing the capacity of national investment agencies to deal with CDM.
7. **Conduct national policy reviews to identify areas for the integration of CDM activities.** The development priorities of each country should be reviewed and analysed to assess the potential for the CDM and the potential synergies between CDM and national development goals.
8. **Establish a conducive policy framework for the effective implementation of the CDM.** Such a framework could make use of relevant fiscal instruments, standards and policies to facilitate CDM projects and tariffs to create incentives for clean energy.
9. **Increase involvement of the private sector in CDM.** Private investments are likely to surpass public funding by several orders of magnitude. The success of the CDM in the energy and industry sector in some countries has shown that the private sector is ready to engage in project activities.

### For the Parties to the Kyoto Protocol and the CDM Executive Board (pre-2012):

10. **Encourage the development of additional simplified methodologies for sectors with high potential in Africa**, focusing on standardised baseline determination and realistic monitoring requirements.
11. **Develop simpler procedures for allocating risk and for monitoring of programmatic CDM** in order to encourage participation by Designated Operational Entities, reduce costs and promote the use of this concept by smaller African developers.

12. **Expand the scope of forestry under the CDM** to include sustainable forest management, sustainable agriculture (including soil carbon enhancement) and wetland management under the current regime.
13. **Include “Reduced Emissions from Degradation and Deforestation (REDD) as a CDM activity.** New methodologies should be developed enabling countries to attract carbon credits for projects that reduce exploitation of forest resources (e.g., through new cooking technologies) or that involve controls on indiscriminate cutting of forests.

**For the Parties to the Kyoto Protocol and the CDM Executive Board (post-2012):**

14. **Integrate a reformed CDM as well as an emerging REDD agreement into a broader negotiation program** which at the end rewards all relevant emission reductions and removals from forestry and land use sectors.

**For Donor Countries and international organisations (pre-2012):**

15. **Support a financing or grant facility for small-scale projects** in particular, which would provide seed capital and support scoping studies for project identification.
16. **Raise the levels of CDM project development finance available from public sources** (e.g. non-Annex 1 governments, multilateral financial institutions) without conditions attached; in particular without the obligation to be repaid if the project does not generate credits according on schedule or not in sufficient quantities.
17. **Provide opportunities for South-South transfer of capacity** between project developers and governments through specific allocation of monies for this purpose by multilateral organisations and multi-country collaborations such as the Nairobi Framework;
18. **Sensitise potential investors and the African private sector** in general to the opportunities for obtaining carbon finance, e.g. through enhancing the capacity of national investment agencies to deal with CDM;
19. **Support further research, data collection and institutional strengthening for the land use sector.** There is further a need for institutional strengthening and capacity building to ensure that governments can effectively support local land-use carbon activities, as well as formulate and implement efficient policies. Research and technical assistance such as data collection is essential for the accurate accounting of carbon and for the building of local centres of excellence.

**For Donor Countries and international organisations (post-2012):**

20. **Allow more ODA to be utilised in the development and identification of CDM projects.** This should only be done within the context of a general expansion of ODA and must not compromise or reduce the use of ODA for institutional and human capacity development projects.

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## **1. Introduction**

### **1.1. Purpose, Objectives and Expected Outcomes of the Paper**

This paper aims to address the main barriers for increasing Africa's share in the global carbon market by providing a clear analysis of these barriers with practical recommendations.<sup>3</sup> The main driver for the carbon market in developing countries is the Clean Development Mechanism (CDM) but several constraints have limited its application in Africa, namely a lack of finance, capacity, and know-how. These are essentially the same constraints faced by other forms of investment into the continent.

Because of concerns over Africa's limited role in this market, the 10<sup>th</sup> meeting of the Africa Partnership Forum (APF) in April 2008 requested the preparation of a paper on carbon finance. This paper is the result of that request. It will provide recommendations on how to facilitate a more active participation of Africa in the carbon market. Its objective is to inform African policy makers and technical experts on how to tap into the potential value of the carbon market through existing mechanisms. The paper focuses on the CDM, the obstacles to expansion of this mechanism, and the contribution it could make to improving Africa's position on climate change and sustainable development generally.

The CDM is explicitly aimed at fostering sustainable development in the host countries, as outlined in the Marrakesh Accords,<sup>4</sup> and thus arguably delivers a certain degree of development dividends. However, one of the legitimate concerns about CDM is that it focuses primarily on the emission reduction component of projects. As a result, CDM developers concentrate on projects that generate large volumes of carbon credits cheaply to the neglect of much needed, smaller-scale projects in the areas of renewable energy and energy efficiency.

In addition to a review and analysis of the current status and future potential of CDM in Africa, the paper provides recommendations that African policy makers, negotiators and experts can use to make changes under the current regime and to push for a revised CDM policy framework that will help to advance CDM project development, and carbon financing in general, for Africa's sustainable development.

### **1.2. Background on the Carbon Market and Africa**

The Clean Development Mechanism (CDM) is one of the 'project based mechanisms' of the Kyoto Protocol on climate change. Under the CDM, buyers from developed countries<sup>5</sup> can acquire Certified Emission Reductions (CERs) for each tonne of greenhouse gas that is prevented from entering the atmosphere as a result of a CDM project in a developing country. This enables companies and governments which have legally binding GHG targets under the Kyoto Protocol to access a stream of externally sourced and independently verified CERs to partially offset these targets. Developing countries cannot trade these credits, but they can develop projects and sell the credits to entities (companies and governments) in developed countries.

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<sup>3</sup> There are many reasons why carbon market in Africa is at a lower level than in other world regions. These include factors not related to its mechanisms, such as the relative availability and cost of low-cost emission reduction potentials, high investment risks in some African countries and the overall policy framework in potential host countries. Although these factors are important, their analysis is beyond the scope of this paper.

<sup>4</sup> The Marrakesh Accords are the "rule book" of CDM, developed at COP-7 and ratified at COP-11. All of the basic rules and procedures for CDM are contained in these documents, and they are periodically reviewed and revised by the CDM Executive Board.

<sup>5</sup> Annex I to the UN Framework Convention on Climate Change (UNFCCC) sets out a list of developed countries economies in transition that commit themselves to achieve certain emission reductions. Developing countries that have ratified the Kyoto Protocol are listed as non-Annex I countries, which are the countries that can host CDM projects.

CDM can be used for any project-based activity which results in a reduction of greenhouse gas emissions compared to the baseline activity.<sup>6</sup> A baseline is the level of greenhouse gases that was emitted (or assumed to be emitted) before the start of the project, and serves as the basis for determining project emissions reductions.<sup>7</sup>

The principles and procedures for the Clean Development Mechanism (CDM) were laid out at the Seventh Conference of the Parties (COP-7) to the UNFCCC in Marrakesh, Morocco, in November 2001.<sup>8</sup> The procedures received final approval at the COP-11 in 2005 in Montreal, Canada.

The CDM has proven successful in generating emission reduction projects in many developing countries. As of end-2007, proceeds from the sale of emission credits from CDM projects amounted to about \$7.4 billion, a 50% increase in value over 2006, triple the value in 2005, and representing credits on 537 million tonnes of carbon dioxide-equivalent (CO<sub>2</sub>-e).<sup>9</sup> The overall carbon market has risen in leaps and bounds, reaching \$60 billion in 2007 or six times its value in 2005. Despite Africa's growing participation in the carbon market, African projects accounted for only 3% of CDM projects at the end of 2006 and 5% at the end of 2007.<sup>10</sup>

The main alternative to CDM for African project developers is the so-called voluntary market. The term "voluntary" refers to the fact that buyers in this market are not constrained by emissions targets or caps which force them to buy credits elsewhere; rather, they are buying carbon credits voluntarily to offset their emissions as a gesture of corporate good governance or to meet internal targets for emissions reduction.

Voluntary buyers generally place a premium on projects with sustainable development benefits, and, as a result, have demonstrated a preference for forestry projects over other types of projects. The voluntary market has enjoyed significant growth over the past couple of years, and is expected to grow even further in the future as more consumers and businesses offset their emissions as part of a growing trend towards environmental awareness and responsibility. The Voluntary Carbon Standard (VCS), a private standard developed by the International Emission Trading Organization, the Climate Group and the World Economic Forum Global Greenhouse Gas Register, is a global benchmark standard for project-based voluntary emission reductions that provides a degree of standardization to the voluntary carbon market. The VCS has been developed in a comprehensive consultative process led by international experts in the field. The Climate, Community and Biodiversity Alliance (CCBA) has also developed an additional design standard that certifies multi-benefit carbon projects and can be used as an alternative to the VCS.

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<sup>6</sup> CDM projects or a program of project activities must result in real, measurable and long-term greenhouse gas (GHG) emission reductions. Project developers must substantiate the fact that reductions in GHG emissions go beyond "business as usual" (in effect, the baseline activity) and are additional to any emission reductions that would occur in the absence of the project, or what is called 'additionality'. Participation in the CDM is voluntary for any public and private entity. The host country for the investment must be a developing country that has ratified the Kyoto Protocol and set up a Designated National Authority (DNA). The Executive Board (EB) is the supervisory body of the CDM and is responsible for the administration of CDM rules and modalities. Examples of CDM project sectors include energy efficiency, renewable energy, HFC-23 (hydrofluorocarbon) destruction, agriculture, afforestation and reforestation. Once a project has been documented, it must be approved by an organisation – called a "Designated Operational Entity" (DOE) – that is accredited by the EB. This is called validation, and once completed leads to formal registration of the project and issuance of credits.

<sup>7</sup> For example, if an industrial firm currently uses coal to fire its boilers, the greenhouse gas emissions from this current activity comprises the baseline. If the firm decides to reduce the amount of coal used by improving boiler efficiency or switching to another fuel such as natural gas, then they can claim the difference between the baseline emissions, and the emissions after the switch as carbon emissions reduction credits or CERs.

<sup>8</sup> The Marrakesh Accords & the Marrakesh Declaration, [http://unfccc.int/cop7/documents/accords\\_draft.pdf](http://unfccc.int/cop7/documents/accords_draft.pdf).

<sup>9</sup> The World Bank, State and Trends of the Carbon Market 2008,

<sup>10</sup> China and India together account for two-thirds of expected credits from proposed CDM project activities to 2012. This is not surprising since these two countries are the world's most populous and among the largest greenhouse gas emitters and thus have attracted larger levels of emission-reducing activity. However, recent studies have shown that there is significant emission reduction potential in Africa, especially in the land use sector, despite its low contributions to global emissions.

The voluntary carbon market is flexible and recognizes project classes that are not eligible under regulatory schemes. The market lacks however the liquidity needed to stimulate larger investments. At least 65 million tonnes of carbon credits were transacted in the voluntary market in 2007, a 165% increase over 2006, but still a fraction of the 2.6Gt traded in regulated markets (a ratio of about 1:40).

There are numerous constraints to the development of CDM in Africa, many of which are not unique to CDM. On the CDM side, constraints include:

- The relatively low emission levels of African countries. This undeniably affects the number of mitigation projects available, but ignores the fact that many CDM opportunities will arise from sequestration, which remains a complex and risky area for project development at present. At the same time, the current low emissions are often due to a lack of development, and the expected rapid growth in African economies will radically change this.
- The complicated procedures that are needed to ensure the integrity of the carbon market, including the very detailed methodologies used which require high levels of technical expertise.
- A lack of dedicated financing and perceived high risk, mostly on the part of local financial institutions for which CDM is an unknown quantity.
- Low capacity and lack of awareness about the potential of CDM, which varies from country to country but is a problem even in the more industrialised African countries, e.g. South Africa, Nigeria, and Egypt.

On the non-CDM side, constraints include:

- Barriers to trade and investment, which may inhibit access to new technologies,
- The high investment risks in some African countries, which result in potentially lower prices for CERs; and
- The overall policy framework in potential host countries, which may include policies not conducive to CDM, e.g. high levels of taxation, high interest rates, lack of support for foreign direct investment, uncertainties around fiscal policy.

## **2. The CDM and Sustainable Development in Africa**

As stated above, promoting sustainable development (SD) is one of two major objectives of the CDM. Responsibility for defining and assessing the sustainability of a CDM project is vested exclusively in the Host Country for the project. In this regard, the experts validating CDM projects as well as the CDM Executive Board who finally register the project are concerned only with whether Host Country approval has been granted by the country's Designated National Authority (DNA) for CDM. In other words, the UN approval process does not apply separate criteria for sustainability of the projects, but rather accepts the Host Country decision.<sup>11</sup>

Defining the sustainability criteria for CDM is a critical activity for the Host Country, providing them with an opportunity to limit exploitative or inappropriate uses of this mechanism and to ensure that the benefits of

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<sup>11</sup> An exception to this statement is the Gold Standard, an independent organisation based in Switzerland which gives accreditation to CDM (and voluntary) projects with exceptionally high sustainability characteristics.

CDM projects are both comprehensive and measurable. Sustainable development is an important way for developing countries to shape the implementation of the CDM on a national level.<sup>12</sup>

A recent survey of DNA representatives<sup>13</sup> has shown that the CDM can contribute to SD in many different ways: through the diversification of energy supply, reduced dependence on fossil fuels, increased reliability of energy supply, increased access for rural populations to modern energy sources and job creation, and improving the social livelihoods in the region where the project is taking place. Given this wide range of options, it is clear that African countries could re-examine CDM's role in achieving sustainability, and that collaboration between countries could further enhance this process.

Host countries often have very different criteria for assessing the sustainable development contribution of CDM projects. These can range from a 'minimal compliance' approach to a 'context-specific' approach where concerns are focused on national priorities, to a more 'operationalised or comprehensive' approach assessing all types of sustainability (economic, social, environmental). As an example of the "minimal compliance" approach, a host countries could assess sustainable development solely against national renewable or biomass energy targets, to see if a CDM project is consistent with the country's own targets and modalities for reducing dependence on fossil fuels; or, it could simply define sustainability as meeting the country's environmental impact assessment guidelines. Some African countries, such as Morocco and South Africa, have developed complex, multi-criteria screening systems, and included priority sectors and project types as part of the DNA assessment process.<sup>14</sup>

Host countries are not responsible for the monitoring of sustainable development. This is a major gap in the CDM process. Even countries such as South Africa, with a very detailed and robust set of sustainability criteria, have not implemented the kind of monitoring procedures which might establish whether a project has met its CER requirements but failed to achieve the promised SD benefits.

Although SD is undeniably an important factor in CDM, and Host Countries are entitled to address this issue on their own terms, it is essential that imposing robust SD criteria does not create a barrier to meaningful and truly sustainable development through the CDM. In the following section, we suggest a number of ways in which African countries could modify their SD criteria and procedures to incentivise CDM projects without adversely affecting investor interest.

## **2.1. How Can CDM Be Used to Promote More Sustainable Development?**

Some critics have suggested that the CDM would have minimal impact on sustainable development given that high transaction costs inhibit investor interest. Equally, high costs and complex criteria may persuade project developers to minimize the cost of activities that support sustainable development in the host country, such as investing in local communities or undertaking rigorous monitoring of sustainable development protocols. This undermines the sustainability goals of CDM and indeed of African climate initiatives in general. It is therefore essential to ensure that sustainable development criteria are practical, transparent and easily monitored.

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<sup>12</sup> A recent survey of DNA representatives has shown that the CDM can contribute to SD in many different ways: through the diversification of energy supply, reduced dependence on fossil fuels, increased reliability of energy supply, increased access for rural populations to modern energy sources and job creation, and improving the social livelihoods in the region where the project is taking place. Given this wide range of options, African countries could re-examine CDM's role in achieving sustainability to identify those types of project which are most likely to optimise sustainability benefits. Collaboration between countries could further enhance this process.

<sup>13</sup> "Clean and sustainable? An evaluation of the contribution of the Clean Development Mechanism to sustainable development in host countries", IOB Evaluations, The Hague, No. 310, April 2008, [www.minbuza.nl/iob-en](http://www.minbuza.nl/iob-en)

<sup>14</sup> Small-scale CDM Projects in Morocco, presentation by Pieter De Meyer – GERERE, 2004.

An additional challenge arises when we move outside of CDM to the so-called “voluntary market.” Some voluntary market standards permit less stringent sustainability criteria than does the CDM, and also eliminate the need for self-monitoring by the host countries; while others, such as the Gold Standard (see below), actually strengthen the sustainability value of projects, whether CDM or voluntary, and can therefore command a higher price for CERs. It is therefore important for African countries to evaluate the sustainability impact of the different carbon finance mechanisms available to them, and ensure that they give preference to those mechanisms that include measurable international benchmarks on sustainable development, while also respecting individual countries’ right to establish (and enforce) sustainability criteria.

**Box 1: The Gold Standard<sup>15</sup>**

The Gold Standard is a certification scheme that recognises the best projects in the CDM, Joint Implementation (JI) and voluntary offset markets. The brand has value because over 44 non-governmental organizations endorse the Gold Standard method and many buyers favour or request Gold Standard credits.

Fully integrated into the standard CDM procedures, it features three additional, easy-to-manage screens that preserve environmental integrity, bring lower delivery and reputational risks to buyers and developers and help host countries’ DNAs to assess the contribution to Sustainable Development. It also includes post-registration monitoring of sustainability.

**Project-type screen:** Renewables and energy efficiency only are eligible – for the long-term benefit of the host country and the climate.

**Additionality screen:** Strict guidelines allow sound proof of additionality – leaving no shadow of doubt over the project and the registration process.

**Sustainability screen:** Identify risks up-front through a comprehensive set of indicators and stakeholder consultation guidelines.

## **2.2. Introducing Regional Sustainability Criteria**

The fact that each host country can impose unique sustainability criteria may impact adversely on the number of CDM projects being developed because it increases project development costs and limits the replicability of projects in different countries.<sup>16</sup> Depending on their complexity, national sustainability criteria may require country-specific modifications to the project design and thus significantly increase the time required to obtain host country approval, increasing project development costs.

One solution to this dilemma is to work towards harmonisation of national sustainability criteria on a regional or sub-regional level. This could provide greater clarity for developers seeking to meet these criteria, without undermining the role of national authorities.<sup>17</sup> It would also allow international project developers to enter the African market more easily as well as enable African project developers to replicate CDM projects from other African countries.

## **2.3. Sustainable Development – Recommendations**

The uncertainty and risks which CDM developers face in trying to meet sustainability requirements suggests that African countries need to review this issue in greater detail, and increase their capacity to develop, monitor and evaluate CDM projects as part of their Host Country commitments. They also need to

<sup>15</sup> [www.cdmgoldstandard.org](http://www.cdmgoldstandard.org)

<sup>16</sup> This is of particular concern for programmatic CDM, which in theory can be multi-country but only if each host country agrees that the programme addresses its sustainability criteria. This places an additional burden on programmatic CDM developers and is likely to inhibit development of multi-country programmes.

<sup>17</sup> A similar approach is being used in biofuels development for the SADC region, where member States have formed a “Biofuels Working Group” and are moving towards a regional sustainability framework which would ensure that biofuels produced in southern Africa meet the very stringent criteria being established, for example, by the EU.

ensure that CDM fits within the scope of national development plans and national environmental and socio-economic frameworks. Finally, they need to consider harmonisation of national criteria at the regional or even Sub-Saharan Africa level, and should involve external partners in this process to ensure that it serves as an incentive for further investment in CDM.

- R 1. **Capacity building for sustainability:** It is proposed that existing programs like the World Bank's Carbon Finance Africa Assist (CF-Assist) and the UNEP's Capacity Development for CDM (CD4CDM) project increase their support to DNA capacity building, focusing on the need for DNAs to review their sustainability criteria and strengthen their capacity to monitor and evaluate the sustainability of CDM projects.
- R 2. **Regional sustainability criteria:** To respond to the wide range of national approaches to SD noted above, we recommend development of regional or sub-regional sustainability criteria, for sub-Saharan Africa or for Eastern, Western and Southern Africa managed by regional institutions such as EAC, ECOWAS or SADC, for example, would lead to greater consistency, increase the replicability of projects across countries, reduce project development costs and thereby increase the number of CDM projects and the overall contribution of the mechanism to sustainable development. These criteria would provide general guidance on CDM sustainability; the application of the criteria would still be managed by the host country.

### **3. The Importance of Agricultural, Forestry and Other Land Uses**

The low level of industrialization in most African countries limits the potential of energy-related CDM projects. Relying on economies that largely depend on agriculture, it is thus the land-use sector that holds the most promising potential for carbon finance for most African countries. Under the current rules, the eligibility of carbon finance activities in the land-use sector is limited to narrowly defined afforestation/reforestation activities<sup>18</sup> and to the reduction of Methane and Nitrous oxide emissions from agricultural by-products. All other project activities implemented in the agricultural, forestry and other land-uses (AFOLU) sectors are pushed to the voluntary carbon market. While being more accepting of forestry and other land-use activities, the voluntary market is lacking sufficient depth and liquidity to make a difference for Africa's rural communities.

There are however encouraging signs that things may change. On the international as well as on the national level there is an increasing recognition of the importance of the forestry and agricultural sectors for any successful climate policy. The outlook for the forestry sector is optimistic as forestry regulations improve and demand for forestry credits increases. The last Conference of Parties in Bali (COP-13) demonstrated that international policy makers have started to respond to the critical role forests play in mitigating climate change, including the importance of halting deforestation and degradation, the latter being of utmost importance for the countries of the Congo Basin.

Recent policy advances include the negotiations of a framework for developing pilot activities that reduce emissions from deforestation and forest degradation (REDD), expanding the ability to use simplified small scale approaches, allowing small scale non-renewable biomass (NRB) projects as eligible categories un-

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<sup>18</sup> Reforestation refers to the establishment of forests on previously de-forested land; afforestation is the introduction of forests to land previously un-forested or so badly degraded that it can no longer support forest.

der the CDM, and recognizing programmatic approaches to projects (which are especially suited for forestry and NRB activities).<sup>19</sup>

To ensure that the regulatory progress does not stop there, and that African interests are constructively considered in the negotiations of a post-Kyoto framework, it is time for Africa to develop and implement its own climate and carbon finance strategy. Such a strategy should be built on the recognition that Africa can contribute to mitigating climate change by promoting sustainable land-use practices. The international community should recognize this potential by rewarding the carbon sequestration of AFOLU activities and catering to Africa's financing needs.

### **3.1. Current State of the Carbon Market for Forestry and Agriculture**

The carbon market for forestry projects can be divided into the compliance or regulated market and the voluntary carbon market. While the regulated market dwarfs the voluntary market in other sectors, the AFOLU sector shows another picture. At present, there is only one forestry project registered under the CDM with only a few more in the pipeline. In the voluntary carbon market, on the other hand, forestry carbon is the leading asset class.

The lack of AFOLU projects under the Kyoto Protocol can be attributed to the following facts:

- (i) forest-related activities eligible for crediting under the CDM are limited to afforestation/reforestation (A/R);
- (ii) rules and methodologies for crediting these activities are complex and were late developing; and
- (iii) credits from these activities are not an eligible asset class under the most important domestic emission trading scheme, the EU Emission Trading Scheme.

During the negotiations of the Kyoto Protocol, the debate on the use of sinks in the CDM was framed by the understanding of many that it was a distraction from more 'essential' activities to mitigate climate change, such as the switch from fossil-based to cleaner energy. In addition, technical issues such as permanence, leakage, measurement uncertainties and monitoring techniques were poorly understood resulting in an over-emphasis of the risks of these projects by policy makers. The rules and modalities with respect to forestry CDM reflect this by limiting eligible forestry activities to A/R. They further restricted the use of A/R carbon credits to 1% of any industrialized country's 1990 emissions<sup>20</sup> and did not allow any banking of credits for the next commitment period. In order to reflect the risk of loss of biomass from credited project activities (commonly referred to as "permanence risk"), negotiators decided to create a special sort of carbon credits that are temporary and expire after a set number of years. Those that have used these temporary credits for compliance have to replace them with permanent or newly issued temporary credits. Further restrictions relate to the definitions of forest, reforestation and small-scale projects, to the definition of project boundaries, and to the mandated monitoring and verification frequency.

The Executive Board of the CDM has, in the meantime, approved baseline and monitoring methodologies for most types of A/R projects. However, these methodologies are complex and lengthy. It is hardly possible to apply these methodologies and develop the relevant project documentation without the help of external experts. The circle of these experts is still small and local African experts are few. As a result, the CDM has proven to be an entirely ineffective incentive in the African land-use sector that failed to lever additional investment into mitigation activities in the forestry sector.

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<sup>19</sup> See below for a more detailed discussion of small-scale and programmatic CDM.

<sup>20</sup> See Decision 17/CP.7, *Modalities and procedures for a clean development mechanism*, UN Doc FCCC/CP/2001/13/Add.2 (2001)

Africa will only play a meaningful role in global carbon markets if the carbon storage and emission reduction potential of the AFOLU sector is fully recognized. It is therefore essential that the international and regional carbon finance mechanisms value the full spectrum of terrestrial carbon in the developing world, including agriculture, agroforestry and forests of all kinds. In the short-term, a comprehensive set of mechanisms is called for that rewards the sequestration and emission reduction from the AFOLU sector. Such mechanisms need to reward not only the emissions reductions from deforestation but also reward carbon stored in agricultural systems and forests. Failure to do so will further add to the barrier to realising Africa's climate and conservation reduction goals.

## **3.2. Agricultural, Forestry and Other Land Uses – Recommendations**

### **3.2.1. Develop Financing Models for African AFOLU projects**

While promoting greater recognition on the international level, African Governments and other stakeholders should establish mechanisms and facilities that assist Africa's rural communities to effectively participate in international carbon markets through AFOLU (Agriculture, Forestry and Other Land Uses) projects. Without such technical assistance, carbon buyers will be wary of the risks associated with investments in community carbon projects in rural Africa.<sup>21</sup> A carbon market driven by buyer's preferences has shown little interest in supporting African communities on their way to more sustainable agricultural or forestry or general land-use practices.

Agricultural and community forestry projects need continued support in the implementation and stable performance over years to succeed. Successful projects may also require the involvement of hundreds of villages or communities which demands additional coordination, monitoring and strong on-the-ground capacity. For projects to succeed they need to (i) include local stakeholders in the design and implementation of the project, (ii) rely on strong aggregators and intermediaries, and (iii) ensure the project generates direct benefits for local communities so that these communities have a real incentive to implement and maintain the project over the long-term.

In order to have Africa's rural poor benefiting from carbon finance, technical and financial support should be made available not only on the institutional level, but also on the project level. Structuring carbon finance that assists community projects has to meet the following requirements:

- R 3. **Develop a Dedicated Financing Facility for AFOLU.** Impatient carbon dollars that want fast returns and low risk need to be "cooled down" by intermediaries in order to be able to support individual farmers in the small quantities needed per farmer and at the time when investments need to be made. This could be achieved through dedicated finance facilities that receive grants for project development but also attract private capital at an early stage. The private capital would be attracted by a combination of attractive long-term returns and short-term dividends based on effective fund management.

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<sup>21</sup> The World Bank's Forest Carbon Partnership Facility (FCPF) aims to assist developing countries in their efforts with regard to REDD. It has the dual objectives of building capacity for REDD in developing countries, and testing a program of performance-based incentive payments in some pilot countries, on a relatively small scale, in order to set the stage for a much larger system of positive incentives and financing flows in the future. See <http://carbonfinance.org/router.cfm?page=fcpf&ft=about> for further details.

### 3.2.2. Pre-2012: Reform of CDM rules and Promotion of Pilot Activities

While engaging in the negotiations of a post-Kyoto treaty, African countries should push for a number of short-term goals that can already be adopted and implemented before 2012 and prepare the way to a more comprehensive post-Kyoto deal.

First, it is important to review and reform the current A/R CDM rules and modalities.<sup>22</sup> For example, the Bali decision on REDD calls for the imminent implementation of a whole range of initiatives to address the gaps in the current A/R modalities. These include capacity-building, technical assistance, transfer of technology to improve data collection, estimation of emissions from deforestation and forest degradation, monitoring and reporting, and addressing the institutional needs of developing countries to estimate and reduce emissions from deforestation and forest degradation. To respond to this call, the following steps should be taken in the short- and medium-term:

- R 4. **Expand the scope of forestry** under the CDM to include sustainable forest management, sustainable agriculture (including soil carbon enhancement) and wetland management.
- R 5. **Modify the eligibility criteria:** The Annex to Decision 16/CMP.1 establishes that “for the first commitment period, reforestation activities will be limited to reforestation occurring on those lands that did not contain forest on 31 December 1989.”<sup>23</sup> Significant deforestation has occurred since 31 December 1989 that is completely unrelated to gaining subsequent carbon sink credits under the Kyoto Protocol. Reforestation activities on these lands should be eligible under the CDM. The objective of preventing incentives to deforest can be maintained and the areas of eligible land can be increased if this part of the definition is changed to read for the purposes of the CDM “reforestation activities will be limited to reforestation occurring on those lands that did not contain forest 10 years before the project start date.”
- R 6. **Abolish the system of temporary credits:** The A/R CDM modalities address the risk of permanence by creating temporary credits.<sup>24</sup> This approach means CDM A/R credits are fundamentally different to “permanent” carbon credits and contain significantly more risks and costs associated with credit re-issuance or re-verification. As a result, CDM A/R credits are not fully fungible and their price is heavily discounted as second-rate credits. There are other approaches to dealing with permanence, such as the pooled buffer approach adopted by the Voluntary Carbon Standard.<sup>25</sup> This approach allows issuance of “permanent” credits for A/R projects that are fungible with credits from other sectors, while maintaining the overall environmental integrity of the system. Adopting such an approach for the CDM would significantly increase the value of CDM forestry projects and the appeal of carrying out CDM forestry projects, while lowering transaction costs and promoting the adoption of strong risk mitigation strategies by individual projects.
- R 7. **Implement REDD Pilots and Institutional Strengthening:** African countries should lobby industrialized countries to support the design and implementation of pilot activities in reducing emissions from deforestation and forest degradation (REDD). They should further call for an expansion of the mandate to non-REDD forestry and agricultural activities. In order to ensure the sus-

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<sup>22</sup> These can be found at <http://cdm.unfccc.int/Reference/Procedures/index.html>, which also includes references to procedures and modalities for all CDM project types.

<sup>23</sup> The apparent rationale for this statement is only to simplify the process of project validation, by eliminating land subject to more recent deforestation activities. We believe the issue should rather be the status of the land, as demonstrated by objective assessment, rather than imposing an artificial end-date.

<sup>24</sup> See parts J and K of the A/R Modalities and Procedures, Decision 16/CMP.1.

<sup>25</sup> See <http://www.v-c-s.org/>

tainability of financing of such activities, African countries should argue for recognition of such early action in the regulatory framework of a post-Kyoto agreement.

- R 8. **Support further research, data collection and institutional strengthening for the land use sector.** There is further a need for institutional strengthening and capacity building to ensure that governments can effectively support local land-use carbon activities, as well as formulate and implement efficient policies and present a stronger case in post-2012 negotiations. Research and technical assistance such as data collection is essential for the accurate accounting of carbon and for the building of local centres of excellence.

### **3.2.3. Post-2012: African coalition for a broad consideration of AFOLU**

The set of international mechanisms adopted in the context of a post-Kyoto agreement must work from the start, be robust, and long-lasting. They need to be supported by improved data availability and accounting for carbon stock changes. Taking into account the pace of international negotiations, it would take many years to correct a failing mechanism and forest, biodiversity, and socio-economic losses in these early years may be lost forever. It is therefore essential to:

- R 9. **Integrate a reformed CDM as well as an emerging REDD agreement** into a broader negotiation program which at the end rewards all relevant emission reductions and removals from forestry and land-use sectors. Parties need to understand that REDD can only happen if other activities, such as afforestation, are equally rewarded. They also need to appreciate Africa's contribution to climate change mitigation in the agricultural sector.

## **4. Overcoming Barriers Related to CDM Procedures and Modalities**

### **4.1. Small-scale Projects – Analysis**

African CDM projects tend on the whole to be smaller in scale than comparable projects in countries such as China or India or Brazil, and as a result African CDM developers often bear disproportionately higher costs for project documentation and approval. This issue (which is however not unique to Africa) was addressed at the Conference of Parties in Marrakesh (COP-7), where special measures were approved for small-scale projects. A “small-scale CDM” project is any project with emission reductions of less than 15 GWh or 15,000 tonnes of CO<sub>2</sub>-e, or renewable energy projects with a capacity of less than 15 MW.<sup>26</sup>

As part of the introduction of the small-scale concept, a set of “simplified procedures” was developed to reduce the transaction costs for small-scale project developers<sup>27</sup>, whilst still maintaining a robust and credible framework for project approval. It was expected that these procedures would make it easier for local experts to develop projects and would facilitate the development of CDM in those topical areas which (as it happens) are more typical in Africa – energy efficiency, renewable energy, and AFOLU. In

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<sup>26</sup> Small-scale projects typically include such things as very small wind farms, solar hot water installations, or energy efficiency improvements to buildings. As an example, a wind farm eligible for small-scale would be less than 15 individual turbines of 1-MW capacity each – about the current upper limit on size of wind generators. Most wind farms receiving CDM credits are considerably larger than this.

<sup>27</sup> These procedures allowed for (i) the bundling of several similar, small-scale projects in a single set of documents, to reduce costs and increase the efficiency of the process; (ii) use of simplified project design documents; (iii) reduced registration fees ( from x to y); (iv) the use of streamlined baseline methodologies which were less technically demanding than large-scale project methodologies and also less onerous in terms of determining the baseline and additionality of projects; (v) the use of a simplified monitoring plan, and (vi) a single Designated Operational Entity (DOE) to cover both validation and verification of emission credits.

reality, this has not happened: Africa has fallen behind in CDM generally, and the small-scale modalities have not had the anticipated effect of incentivising CDM on the continent.

For example, as of August 2008, sub-Saharan African countries had initiated 1.4% of the total number of projects in the CDM Pipeline, but only 0.83% of the small-scale projects listed. Overall, African countries have registered far fewer small-scale projects than they have large-scale (only 13 projects out of 49 or 26.5%), while on a global scale the ratio of small- to large-scale is 45%.<sup>28</sup>

To some extent, this lag was predictable: The early interest in developing African CDM projects came from either Annex I countries directly or from specialised project developers and brokers/traders, both of which have targeted projects with the largest potential carbon revenues – i.e. very large-scale projects such as those involving methane capture from landfills or industrial gas destruction. Because there are comparatively few of these “low-hanging fruit” left in Africa, it can be expected that more effort will now be directed to developing small-scale projects.

To date, the bulk of support for small-scale project development in Africa has come from multilateral agencies such as the World Bank and a few bilateral donors such as Denmark and the Netherlands. Whilst these early interventions have certainly increased the number of small-scale projects, the overall impact has been minimal and has not resulted in an effective transfer of project development skills. Moreover, many of the earliest small-scale projects were developed primarily as demonstration projects, showing how the small-scale methodologies could be used to further more sustainable projects. Many of these projects lacked a clear business case, and as a result generated relatively few emissions reductions.<sup>29</sup>

The theoretical advantages conferred by the simplified procedures have only slightly reduced the transaction costs of small-scale CDM, mainly because they still require a high level of technical knowledge and lengthy preparation time. These factors remain a major impediment for the involvement of smaller in-country developers, particularly non-technical organisations such as NGOs, community groups and small enterprises – organisations which had been expected to benefit substantially from the simplified procedures. Monitoring of small-scale projects is also costly and technically demanding, again substantially limiting participation by African stakeholders. Therefore, further steps need to be taken to allow the advantages of small-scale project activities to materialise.

A further concern is that the idea of “bundling” a number of small-scale projects into a single project design document – which was advanced as a way of reducing project preparation costs – is still limited by the small-scale threshold. If developers were able to bundle small-scale projects without such limits – noting that the projects themselves would still be small-scale – this would significantly reduce transaction costs and incentivise CDM in Africa.

There is therefore a need for further revision and simplification to encourage more wide-spread development of this form of CDM. As explained further below, using small-scale methodologies in programmatic CDM is another way of increasing African involvement in CDM.

The following text box provides a brief illustration of a high-sustainability small-scale project which uses a creative approach to project scale in order to use the simplified procedures.

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<sup>28</sup> The numbers presented here are based on the July 2008 CDM Pipeline, a document published monthly by UNEP Risoe Centre which includes all projects at validation, requesting registration and actually registered. See [www.cdmpipeline.org](http://www.cdmpipeline.org).

<sup>29</sup> An example of this is the Khuyasa housing project, which though it was the first South African project registered, and pioneered the use of small-scale methodologies for sustainable low-income housing projects, has in practice generated very few CERs due to lack of supplementary financing and community support.

#### **Box 2: Lusaka Sustainable Energy Project: A Potential Small-Scale Project**

##### **Purpose of the project activity:**

The purpose of the project activity is to provide 30,000 households of Lusaka city with highly efficient cooking systems to replace the consumption of charcoal. Consumption of charcoal in urban households is the main cause of deforestation in the surrounding areas of Lusaka.

##### **How the project reduces greenhouse gas emissions and contributes to sustainable development:**

The project reduces greenhouse gas emissions through the switch from charcoal to a sustainable energy supply by using smaller amounts of renewably harvested fuel wood with a highly efficient cooking system. Because the project shifts from use of non-renewable to renewable biomass, the carbon benefit is substantial.

The project contributes to sustainable development by improving the living standard of households, through protecting the environment, saving energy costs and enabling durable income generation through the use of the new cooking systems. The training and monitoring work associated with the implementation of the new cook stove technology also contributes to sustainable development.

Social and economic sustainability is supported in various ways. The project improves the livelihood of 30,000 poor families, and it reduces energy cost burdens on the households by converting easily available fuel wood into an appreciated and highly efficient commodity.

**Emission Reductions:** Total annual emission reductions (through the avoided use of a non-renewable energy source—charcoal) are estimated at 150,000 tonnes CO<sub>2</sub>e per year or 1.5 million tonnes over a 10-year crediting period. Although potentially generating a very large amount of CERs – well beyond the small-scale threshold – the project qualifies as small-scale because the developers have argued that its thermal capacity (actual amount of heat energy replaced) falls within the small-scale definition.

## **4.2.Small-scale CDM – Recommendations**

Small-scale projects still hold great promise for increasing Africa's involvement in CDM, and for promoting sustainable development. In order to accelerate the development of small-scale projects in Africa, however, international cooperating partners, African policymakers and CDM practitioners must work together to create a stronger support base for such projects and to encourage the revision of the current procedures in order to further simplify their use.

In the short term, i.e. during the balance of the First Commitment Period until end of 2012, efforts should focus on:

- R 10. **Create a permanent grant facility for development and financing of small-scale projects in Africa:** Funded in similar fashion to the "adaptation fund", i.e. by a levy on CERs or by a levy on large-scale projects with high benefit-cost ratios or by funding from the revenues generated from the auctioning of emissions allowances for aviation in the EU Emissions Trading System. (Such a facility is already being considered by UNEP through their CASCADE project and also by COMESA).<sup>30</sup> The facility could be designed and implemented before 2012 but should also be targeted at supporting small-scale project development in the longer term.
- R 11. **Encourage the development of additional simplified methodologies for sectors with high potential in Africa,** focusing on standardised baseline determination and simplified monitoring requirements, e.g. allowing the use of existing data reporting systems, average usage levels, and

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<sup>30</sup> The World Bank has recently completed a study which identifies project opportunities in a number of African countries, including assessments on sectoral basis.

average technology performance standards, thus enabling their use by non-expert practitioners.<sup>31</sup>

- R 12. **Removing the current restriction on size of project “bundles”**, where many small-scale projects can be grouped together in one project to leverage their size, and in turn, allow the total CERs of this “bundled” project to exceed 60,000 tonnes of CO<sub>2</sub>-e; in addition, allow bundles to be multi-country, providing Host Country approval is given.

### 4.3. Programmatic CDM – Analysis

Programmatic CDM (pCDM) is a relatively new concept which allows project developers to create programmes involving many project activities of the same kind (for example, use of solar panels to generate hot water for buildings). The advantage of this is that each new project activity fitting the programme can simply be added on, using a simplified documentation and approval process. Such programmes can continue for a period of up to 28 years,<sup>32</sup> and can in principle be used to implement government policies intended to stimulate development of low-carbon technologies.

#### **Box 3: Southern African Programme for Solar Water Heating in Buildings**

**Purpose:** The project’s purpose is to support the transition to use of solar hot water heating to replace electrical or fossil-fuel heated hot water for ablution and related purposes in commercial, industrial and institutional buildings in Southern Africa

**Approach:** The project uses the programmatic CDM concept. The programme is delivered via a special-purpose vehicle (SPV), which is the “coordinating-managing entity” for the programme. Once the programme is registered this entity will assess new participants to ensure that they meet the qualification criteria for the programme.

Programme participants must develop a project design document using a template provided by the programme entity. In accordance with the procedures, the programme uses a single small-scale CDM baseline methodology and a single technology (solar hot water provided by either flat-plate or evacuated-tube collectors).

Participants are expected to recover between 80 and 90% of the revenues from carbon credits sold at the end of each year of operation, the balance going to maintenance of the programme entity.

The programme is being developed initially in South Africa but could in principle operate in other countries (e.g. Botswana or Namibia), providing that it is approved by the DNA in each country and that hot water in these countries is supplied directly or indirectly by fossil fuels.

**Current Status:** A group of 4-5 projects has been identified for initial registration under the project: 4 public hospitals in Kwazulu-Natal province and a privately-managed prison in the Free State province.

**Emissions Reduction Potential:** The initial “bundle” of 4-5 projects is expected to yield savings of between 2,000 and 3,000 tonnes of carbon dioxide-equivalent per year.

Because of its potential to lower transaction and other costs associated with CDM, and because it fits well with Africa’s need to develop comprehensive approaches to carbon mitigation, programmatic CDM can be a key factor in the expansion of African CDM activities.

### Programmatic CDM and Low-carbon Policies

Under pCDM it is theoretically possible to develop a programme which responds to a national policy. In practice however this is limited to cases where existing regulations are not systematically enforced or rather where the programme’s implementation exceeds the levels stipulated by the regulation. This suggests that to use pCDM as a mechanism for promoting policies to develop low-carbon technologies, gov-

<sup>31</sup> A recent example of this is the introduction of a new methodology for small-scale lighting replacement projects, which allows a simplified sampling system for monitoring. In this way, it greatly reduces the cost of verifying CERs, making projects like this suitable for management by a community and other non-technical groups

<sup>32</sup> Programmatic CDM was approved in 2005 but only finalised in July of 2007, and is still under constant review.

ernments would either have to limit the programme to activities that went beyond the policy, or (per-  
versely) avoid implementing the policy at all.<sup>33</sup>

Beyond its possible policy applications, pCDM can also be used simply to aggregate a large number of  
similar activities under a single programme, e.g. domestic solar hot water applications or small-scale hy-  
dro projects. By including such projects in a programme, there will in theory be a significant reduction in  
transaction costs as each new project activity entering the programme will undergo only a minimal valida-  
tion, providing that it can meet the criteria for the programme.

In principle, therefore, pCDM should be of great benefit to African project developers who wish to develop  
smaller energy efficiency and renewable energy projects but are constrained by the high transaction  
costs. As well, pCDM allows the project developer to implement projects meeting the programme defini-  
tion over a substantial length of time and to extend the programme to more than one country.<sup>34</sup>

Programmatic CDM is still in its infancy and so far there is only one programme of activities submitted for  
validation from an African country (as of August 2008). Programmatic CDM is of particular importance for  
forestry and agricultural activities as it has proven difficult to identify all actors (farmers, land owners) that  
participate in forestry activities at the start of a project activity (see land use section above). Community-  
driven forestry and agricultural activities are by definition often programmatic in form.

Some barriers to the increased use of programmatic CDM in Africa are:

- a) Lack of experience in organising and managing CDM programmes – a global phenomenon but par-  
ticularly acute in African countries where CDM experience is generally in short supply and developers  
are more risk-averse.
- b) Concerns around liability for incorrect registration of individual project activities in a programme<sup>35</sup>,  
creating a situation where it is difficult to secure validation of programmes unless the programme  
manager agrees to share risk and/or the programme is supported by a large CDM developer. This  
dramatically reduces the potential for involvement of African governments and local businesses in  
pCDM.
- c) Lack of knowledge and experience on the part of national governments who should ideally be the  
main drivers behind pCDM, as part of their efforts to incentivise energy efficiency and renewable en-  
ergy.
- d) Uncertainty as to what types of projects or technologies are most appropriate for pCDM, i.e. which  
would be better served by this model as opposed to the single-project model approach.
- e) Lack of knowledge about monitoring and verification of CDM programmes, which could potentially be  
much more complex and time-consuming than that for single project activities.

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<sup>33</sup> Such a “perverse incentive” – in effect creating a barrier to the creation of low-carbon policies by developing countries – is explic-  
itly prohibited by a clarification issued by the Executive Board at their 22<sup>nd</sup> meeting, 23-25 November 2005. For more information on  
this, go to [http://cdm.unfccc.int/EB/archives/meetings\\_05.html#022](http://cdm.unfccc.int/EB/archives/meetings_05.html#022)

<sup>34</sup> A CDM programme can include any number of small-scale projects, even if the total emissions exceed the small-scale limit. As  
well, unlike small-scale CDM, pCDM can be multi-country.

<sup>35</sup> The current procedures for pCDM permit a review of all project activities in a programme if only one such activity is found to have  
been incorrectly registered in the programme. The burden for CERs lost by disqualification of activities falls entirely on the Desig-  
nated Operational Entity, who is expected to replace all credits lost.

#### **4.4. Programmatic CDM – Recommendations**

To incentivise the use of programmatic CDM in Africa, there needs to be a strong consensus among international cooperating partners, project developers and African policymakers, supporting the use of this concept as a key factor in promoting CDM development in Africa. Some actions can be undertaken in the short-term through changes to CDM procedures, and will benefit developing countries in general as well as Africa in particular. Others will need to be implemented in the medium- to long-term as part of the post-2012 framework.

##### **Short-term recommended actions would include:**

- R 13. **Develop simpler procedures for allocating risk and for monitoring of programmatic CDM** in order to encourage participation by Designated Operational Entities, reduce costs and promote the use of this concept by smaller African developers.
- R 14. **Provide financial or other incentives for DOEs to validate those pCDM projects** developed by non-Annex 1 entities, rather than favouring major Annex 1 credit buyers and project originators as is presently the case. Such incentives could be provided by donors seeking to diversify the project base for programmatic CDM, and would be independent of the post-2012 negotiations.

##### **Recommended actions in the medium to long-term include:**

- R 15. **Encourage the development of an umbrella organization**, e.g. a private or public entity which functions primarily to locate potential project activities and guides them through the pCDM process. This could be a multi-country entity, e.g. set up by SADC, COMESA, EAC, ECOWAS, etc. Seed funding would need to be provided by an external source, but once established the organisation could survive on a share of the CERs.

#### **4.5. Sectoral CDM and Climate-Friendly Policy Measures**

“Currently, the Clean Development Mechanism (CDM) grants certified emission reduction units only on a project basis. Some have proposed redesigning the CDM to allow states to establish sectoral baselines and to grant emission reduction credits for emission reductions relative to these sectoral baselines. In essence, a sectoral crediting mechanism would serve as a sectoral no-lose target: if emissions in the sector exceeded the baseline, there would be no legal consequences; but if emissions were below the baseline, then the state would receive emission reduction credits that could be traded internationally.”<sup>36</sup>

Sectoral CDM is now being actively discussed at post-2012 negotiations, and many experts have promoted it as a more practical solution to the many methodological difficulties presented by the project-based version of CDM – hence as something which would “open up” CDM to countries and sectors which are presently inhibited by methodology and additionality issues.

In addition to providing an easier path to quantifying emissions reductions, some versions of sectoral CDM would place the incentive structure with the State rather than with the organisation producing the emissions reductions. For non-Annex 1 countries, this could provide a distinct advantage, e.g. by encouraging policy interventions aimed at emissions-intensive sectors such as cement or chemicals, and allowing the State to collect the credits from the resulting sectoral emissions reductions and re-distribute them to high-achieving companies. It could also be used to provide opportunities for carbon credits from sec-

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<sup>36</sup> Daniel Bodansky: International Sectoral Agreements in a Post-2012 Climate Framework. University of Georgia School Of Law, Pew Centre, 2007.

tors presently under-represented in Africa such as transport and agriculture, where African countries tend to have fairly high emissions baselines due to lack of clean technology.

How would sectoral CDM benefit Africa in particular? First, it would enable rapid progress on reducing emissions in energy-intensive sectors, by reducing the transaction costs for individual companies. Countries could for example set a baseline for cement production and simultaneously present targets for emissions reduction. As companies reported annually on their actual emissions, the country would apply to register any resulting emissions reductions (CERs) from the sector and sell them on the CDM market. The revenue could then be redistributed to companies which achieved the reductions, less a small levy to cover the government's transaction costs. Over time, companies would understand that emission reductions have a monetary value and would build this value into their capital investment plans with far greater certainty than is possible under the current project-based CDM regime.

Second, sectoral CDM would shift the initiative back to national governments, allowing them to decide which sectors were likely to benefit most from carbon mitigation and which were the highest priority from the viewpoint of national development planning. Ideally, it would also permit the use of CDM for sectors which are presently under-represented in the CDM pipeline, e.g. smaller manufacturing industries. Energy efficiency and fuel switching measures in the residential, transportation, commercial and industrial sectors offer potentially important sustainable development opportunities which could be maximised through sectoral CDM.

Allowing countries to establish their own sectoral baselines, and to identify which sectors are to be included in sectoral CDM, would eliminate one of the major areas of contention, namely that the concept might be used by developed countries to "dictate" standards for less developed countries.

#### **4.6. Sectoral CDM – Recommendations**

Sectoral CDM has the potential to turn an instrument that was originally targeted at private investment into a tool for governments to finance climate-friendly and even pro-poor policy measures. To achieve this, the following steps should be taken:

- R 16. **African countries should strongly support the concept of sectoral CDM** in post-2012 negotiations, promoting it as a mechanism which would greatly incentivise CDM and help Africa to achieve emissions reductions more cost-effectively.
- R 17. **Establish emissions baselines for the most energy-intensive sectors in each country**, in order to advance the case for sectoral CDM. Efforts should be made to coordinate this work between local business organisations and the appropriate ministries. This process could be incentivised by assistance from donors and international financial institutions.<sup>37</sup>

### **5. Financial barriers**

It is important to recognize that CDM and other carbon financing mechanisms are normally only capable of supplying a portion of total project costs. As illustrated in the table to the right, the carbon contribution to financing can range from as low as 5% of total capital costs for renewable energy projects to as high as

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<sup>37</sup> It is important to note that establishing baselines for the implementation of sectoral CDM is not the same as establishing baselines for the achievement of Kyoto targets. Since non-annex 1 countries have no reduction targets, they would use these baselines only to facilitate the quantification of emissions reductions for CDM projects.

100% or more for some methane and industrial gas projects. This is of particular concern for African countries, where the latter kind of project is relatively rare and most have already been implemented. Smaller renewable energy and biomass projects, on the other hand, which are crucial to development of a low-carbon economy in Africa, require substantial project financing from other sources than the CDM.

It is important to recognize that CDM and other carbon financing mechanisms are normally only capable of supplying a portion of total project costs. As illustrated in the table to the right, the carbon contribution to financing can range from as low as 5% of total capital costs for renewable energy projects to as high as 100% or more for some methane and industrial gas projects. This is of particular concern for African countries, where the latter kind of project is relatively rare and most have already been implemented. Smaller renewable energy and biomass projects, on the other hand, which are crucial to development of a low-carbon economy in Africa, require substantial project financing from other sources than the CDM.

**Box 4: Typical Impacts of Carbon Finance on Total Project Investment Costs**

Hydro	5 - 20%
Wind	5 - 15%
Fuel switch	10 - 45%
Biomass	15 - 50%
Methane (CH <sub>4</sub> )	up to 100%
Nitrous Oxide (N <sub>2</sub> O)	more than 100%

Negotiating such large capital components can be a major barrier for African CDM developers. Local financial institutions in African countries are often excessively risk-averse and reluctant to lend to all but the most established companies, and international banks are unlikely to be any different. Moreover, traditional banks often fail to take into account carbon finance in assessing funding proposals, because they view it as an intangible asset with a high degree of price uncertainty.

Compounding these problems, CDM project developers on the continent typically lack the expertise required to identify alternative or non-conventional funding sources, or to prepare detailed business plans and obtain favourable terms from lenders. Mechanisms for local financing of small-scale projects in Africa are therefore very limited at present, which in turn limits the opportunities for host countries to develop unilateral projects (i.e. to fund projects without external investor financing).<sup>38</sup>

Transaction costs associated with completing the CDM project cycle are also a common hurdle facing many project developers, especially for small-scale projects and in poorer African countries. Transaction costs can include negotiation of purchase agreements, preparation of documents for registration and payments for validation and registration—all of which are incurred at an early stage in the life cycle of a CDM project, while the carbon revenues are only available annually following verification. Buyers of CDM credits, especially large institutional or national carbon funds, are often willing to help overcome this barrier by offering different types of advance payments for transaction costs to project developers, which is then factored into the offer price for the carbon credits.

<sup>38</sup> The distinction between “unilateral” (locally funded) and “bilateral” (funded by direct investment and technology transfer from outside the country) projects was a major topic of discourse during the development of the CDM, but seems to have fallen by the wayside in Africa as most CDM projects are in fact funded by potential credit buyers who generally do not “invest” in the project’s capital costs.

Despite these limitations, various financial organisations are involved in the development of the CDM projects in Africa. For example, ECOWAS Bank has an African investment fund which proposes various financial instruments for CDM projects in West Africa, including: loans from commercial banks; purchasing carbon credits upfront; and African companies assuming delivery risks. The Central African States Development Bank has also developed a financial strategy for CDM projects. Its aim is to facilitate access to funding. The French Development Agency (AFD) has also provided finance for the development of CDM projects and other infrastructure projects with carbon reduction potential. The European Investment Bank (EIB) has established its own Climate Change Financing Facility (CCFF), which provides (amongst others) long-term loan financing to companies operating outside the EU developing CDM projects. Under the CCFF, the EIB has put in place a simplified and accelerated process, i.e. the Global Authorisation (GA) Mechanism, for the financing of small and medium-scale projects (public or private) aimed at promoting climate change mitigation and adaptation investments, with special emphasis on carbon credit generating projects, outside the EU. The Bank also has a Climate Change Technical Assistance Facility (CCTAF) to provide upfront funding for activities associated with the development of project-based carbon assets.<sup>39</sup>

The Millennium Development Goal (MDG) Carbon Facility<sup>40</sup> is also very relevant to the development of CDM projects in Africa. “*The Facility aims to bring about market transformation with respect to carbon finance in developing countries – effecting the transition from a pre-market to a fully market-enabled environment that supports MDG-grade carbon projects and attracts substantial direct investment from the private sector.*”<sup>41</sup> The MDG-grade means that the Facility leverages carbon finance to address a wide range of environmental issues that are central to developing countries’ ability to eliminate poverty and reach the MDGs. The Facility also assists the development of CDM projects and the marketing of the carbon credits generated by these projects.

There are several other financing mechanisms which need to be considered if Africa is to overcome these barriers to CDM project development. These include Official Development Assistance, insurance mechanisms and export credit guarantees.

## **5.1. Official Development Assistance for CDM Projects**

Some African CDM projects – particularly small-scale projects with high sustainability values – are rejected for financing because they are perceived as commercially unviable. However, projects of this kind often have significant external (non-economic) benefits, which traditional private sector financing institutions are unable to consider in their assessments. External subsidies – such as grants from bilateral donors or subsidised loans from green investment funds such as E+Co<sup>42</sup> or “soft” (forgivable) loans from international financing institutions such as the World Bank – can substantially reduce the risk for private sector institutions by reducing their overall exposure. These subsidies can make the project profitable while at the same time assist donor governments in meeting their development objectives.

If external subsidies are to be considered for CDM projects, it is also important to review the current position regarding diversion of Official Development Assistance (ODA) for CDM projects which is based on The Marrakesh Accords of 2001. The Accords discourage Annex-1 country from diverting ODA to CDM.<sup>43</sup>

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<sup>39</sup> The AfDB is also investigating options for supporting “clean” energy investments, particularly in the area of coal-fuelled electricity generation, and have recently initiated a project to establish criteria for “clean coal” and “carbon capture and storage” projects.

<sup>40</sup> <http://www.undp.org/mdgcarbonfacility/t13-about.htm>

<sup>41</sup> <http://www.undp.org/mdgcarbonfacility/t11-approach.htm>.

<sup>42</sup> See [http://www.eandco.net/about\\_eandco.php](http://www.eandco.net/about_eandco.php)

<sup>43</sup> The Accord states that “public funding for clean development mechanism projects from parties in Annex 1 is not to result in the diversion of official development assistance and is to be separate from and not counted towards the financial obligations of Parties included in Annex I. [http://unfccc.int/cop7/documents/accords\\_draft.pdf](http://unfccc.int/cop7/documents/accords_draft.pdf)

Considering that many African countries face significant financial and technical barriers to implementing CDM projects, it is important that the role of ODA in funding CDM projects be clarified. At the very least, it seems appropriate to consider allowing ODA to be used to support the enhanced development of CDM in Africa, where it is most likely to contribute to sustainable development. Although this is a highly contentious political issue, and some developing countries fear that it would result in a reduction of ODA availability for other projects, a balanced and considered approach to this issue is certainly called for, e.g. by setting rules for accountability and ensuring that ODA used in this way is not used as a substitute for other Kyoto commitments.

Significantly, a high-level meeting by the OECD's Development Assistance Committee (DAC) in April 2004 culminated in a decision whereby donors could indeed use ODA for funding CDM projects under certain conditions provided there is agreement between the donor and the host country that the funding did not result in a diversion of ODA. It was also agreed at the same meeting that if donors receive CERs from the project, the value of the CERs should be deducted from their reported ODA flows to recipient countries. Since that decision, there have been some countries which have used ODA to fund CDM projects. An example is Japan, which is a strong proponent of using ODA for CDM. In June 2007, the CDM Executive Board approved its application for registration of a wind power plant (with a capacity of 120MW) in the Zafarana Region of Egypt on the coast of the Red Sea, making it the first reported project to use ODA for CDM. The Japan Carbon Fund would then purchase the majority of the credits generated from the project. Although the process for approval is lengthy and protracted compared to the usual approval process, it opens up an additional channel of resources for carbon finance.

Other countries, for example the UK and Canada, have been diligent in avoiding overlap between ODA and CDM funding, by creating separate funding mechanisms for the latter which are not drawn from the overall ODA budget – e.g. the UK's Strategic Programmes Fund and Canada's Climate Change Development Fund. The following text box provides an example of another use of non-ODA donor funding, from the Netherlands.

**Box 5: ORET/MILIEV Subsidy (Wigton Farm, Jamaica)**

A British company, Renewable Energy Systems (RES) Ltd and the parastatal Petroleum Corporation of Jamaica (PCJ) formed a Special Purpose Vehicle, Wigton Wind Farm Limited (WWFL) to develop a wind farm in Wigton Jamaica. WWFL then entered into a power purchasing agreement with the Jamaican Public Service Company (JPS) to supply a minimum of 7Mega Watts (MW) per annum on average. The project is expected to produce 20.7MW and will provide electricity to 25,000 households. The total cost of the project was US\$26.2m, of which the SPV obtained a subsidy from the Dutch subsidy through the ORET/ MILIEV programme.

The objectives of the ORET/MILIEV programme are to "promote sustainable economic development and improve the business climate in developing countries by facilitating investment in their economic and social infrastructure. The facility is administered by the Netherlands Investment Bank for Developing Countries (NIO Bank), which is a subsidiary of the Netherlands Development Finance Company (FMO).

The subsidy equated to 20% of the total turnkey price for the Project. The subsidy creates mutual benefit for the host government and donor country as the host country receives funding for high-cost component of the project such as the project infrastructure in this case the windmills, and the donor government gains through contracts for its domestic industry and achieves its sustainable development objectives. In this case, the subsidy from the programme was used to purchase turbines from the Dutch company NEG Micon, which supplied 23 wind turbines. In addition, one of the key requirements for a project to qualify for ORET/MILIEV funds is that it should be commercially non-viable<sup>44</sup> or unsuitable for financing, making it ideal for marginal projects with strong sustainable development benefits for the community which the private sector would not finance.

ORET/MILIEV funding is not considered as a diversion of ODA under the current regime because it does not require any compensation to the donor in the form of carbon credits and is therefore not considered as a form of ODA.

<sup>44</sup> A project is regarded as commercially non-viable if, on realistic assumptions about market prices, it would fail to generate sufficient income within 10 years to cover the initial capital investment and ongoing (operating and financing) costs.

## 5.2. Official Development Assistance – Recommendations

The following uses of ODA should be considered:

- R 18. **Provide stable and predictable funding to formulate policies and build national capacities.** A funding mechanism that channels funding to governments ahead of any emission reductions is essential. Funding for institutional expenses and budget lines should be supported by multilateral funding that could be replenished from a share of proceeds on carbon market transactions, such as a fee on bunker fuels or other finance mechanisms.
- R 19. **Allow more ODA to be utilised in the development and identification of CDM projects.** This should only be done within the context of a general expansion of ODA and must not compromise or reduce the use of ODA for institutional and human capacity development projects.

## 5.3. Using Insurance Mechanisms and Export Guarantees

A participant in a CDM project in Africa faces a number of risks. These will be mainly related to financial risk, but the participant will also face other risks such as opportunity costs (for example, capital and expertise could be utilised more profitably elsewhere) and reputational risks (for example, if a project fails it could affect the reputation of the project developer for future investments).

African CDM projects are perceived as high risk because they have:

- a) *Weak political institutions*: high political, regulatory and contract risks;
- b) *Lack of “carbon infrastructure”*: high regulatory risk to comply with CDM regulations.
- c) *Low technical capacity and weak infrastructure*: increasing the operational risk; local expertise not available to operate project, time delays in repairing equipment;
- d) *High level of natural disasters*: high physical risk.

A profit-maximising project participant will therefore expect a higher return from an African CDM project compared to an area where the risks described above are lower. This provides an excellent opportunity to provide investment risk insurance, which transfers the risk to the insurer, and hence reduces the required return as compared to investments in other areas.

### **Box 4: Multilateral Investment Guarantee Agency (MIGA)**

The Multilateral Investment Guarantee Agency (MIGA) is a member of the World Bank Group and is responsible for guaranteeing against non-commercial risks to protect cross-border investment in developing member countries.

In 2006, MIGA provided \$1.8m investment guarantee to Canadian company Biothermica Energy for a landfill capture and flare CDM project in San Salvador. This was the first of a number of projects that MIGA has provided investment guarantees for, including the Olkaria Geothermal Field in Kenya.

The guarantees provide a form of risk transfer from the product developer (Biothermica) to the donor (MIGA) for certain named risks which the product developer would not be willing to bare specifically the risk of transfer restriction, war and civil disturbance, expropriation, and breach of contract.

The key problem is that the real or perceived risk of these perils is either high or unmanageable for a potential investor. The guarantee reduces the project developer's risk, and therefore increases the expected return. This will make investment in a project more attractive as a potential investor will have a higher expected return with the guarantee and hence increase attractiveness of investment, again in a way that a private sector company will not be able to do.

A guarantee is a well defined product which can be rolled out to other projects. Because of the law of large numbers, the cost of the guarantee will reduce if it is spread across a number of projects in different countries.

Export credit agencies (ECAs) are institutions set up by governments to encourage domestic companies to develop export markets, by supplying various forms of finance, including credit guarantees. Export credit guarantees are a form of insurance supplied by ECAs. The guarantees can provide insurance for an exporter against non-payment from an overseas buyer, for bank loans to an overseas buyer or as risk insurance to investors in overseas markets.

Until recently many ECAs lacked any policy on climate change. This is, in part, because action was limited by an OECD-sponsored Arrangement on Guidelines for Officially Supported Export Credits, whose purpose was to attempt to curtail tacit government subsidies of exports and hence limit unfair competition.<sup>45</sup> However, in response to the criticism, a review of the OECD Recommendation on Common Approaches on the Environment and Export Credits is underway which will hopefully result in a more favourable outcome.<sup>46</sup> The UK government, for example, has announced that the UK's Export Credit Guarantee Department would commit £50 million to renewable energy. Initiatives like this will significantly lower the risks for foreign investors in low-carbon projects, and may help to overcome some of the barriers to participation in CDM projects by conventional financing institutions. Export credit guarantees can therefore be a useful mechanism to increase investment into CDM projects in Africa by financing risk insurance and providing leverage to attract capital.

#### **5.4. Insurance Mechanisms and Export Credit Guarantees – Recommendations**

To minimise risks for CDM, the following steps should be taken:

**R 20. Develop guarantee products and guidelines and seek private sector organisations to partner in guarantee products.** Identify development organisations such as the African Development Bank to lead the development of these products;

As ECAs are governed by an international agreement, a coordinated policy response would have a considerable financial impact. The following measures would reduce the cost of finance of CDM projects by diverting funds away from carbon-intensive projects:<sup>47</sup>

**R 21. Require ECAs to target a proportion of their budget into carbon abatement** activities and ensure that ECA portfolios have a minimum carbon budget;

**R 22. Lower lending requirements for carbon abatement projects**, particularly in Least Developed Countries (LDCs).

### **6. How to Make Carbon Markets More Relevant for Africa**

The concentration of CDM projects in a small number of countries has led to concern about the regional distribution of CDM projects – both between Africa and Asia/Latin America, and within Africa itself. Actions by national governments, the international community and multilateral organisations can all help prospective African host countries tap into their CDM potential more efficiently by strengthening the existing weak links in the CDM development chain.

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<sup>45</sup> [http://earthtrends.wri.org/pdf\\_library/feature/ecn\\_fea\\_ecas\\_climate.pdf](http://earthtrends.wri.org/pdf_library/feature/ecn_fea_ecas_climate.pdf)

<sup>46</sup> [http://www.ecgd.gov.uk/sdap\\_final\\_2007-3.pdf](http://www.ecgd.gov.uk/sdap_final_2007-3.pdf)

<sup>47</sup> [http://www.ccap.org/docs/resources/71/2003-Oct-15--Sussman--Export\\_Credit\\_Agencies.pdf](http://www.ccap.org/docs/resources/71/2003-Oct-15--Sussman--Export_Credit_Agencies.pdf)

## 6.1. The Role of Multilateral Organisations and the Nairobi Framework

A lack of capacity is one of the key underlying barriers to the development and implementation of CDM projects in Africa. This issue has recently received impetus under the Inter-Agency Nairobi Framework for Capacity for Carbon Market Development in Sub-Saharan Africa (Nairobi Framework) which regroups UNDP, UNEP, the World Bank Group, AfDB and UNFCCC. The NF was set up with the specific goal of helping sub-Saharan African countries improve their level of participation in the CDM. Together with other initiatives such as UNEP's CD4CDM program and the World Bank Carbon Finance Assist program (CF-Assist), a major CDM capacity building effort is underway. However, there is concern among policymakers in various African countries that these measures fall short of needs and have so far not succeeded in increasing Africa's share of CDM projects.

The Nairobi Framework (NF) identifies five "pillars" and a number of key activities which must be implemented in order to assist African countries to enhance participation in the Clean Development Mechanism. The five "pillars" are: (1) Build and enhance the capacity of DNAs to become fully operational and establish the legal CDM framework; (2) Build capacity in developing CDM project activities; (3) Promote investment opportunities for projects; (4) Improve information sharing, outreach, education and training; and (5) Improve inter-agency coordination.

The proposed activities include:

- (i) Institutional strengthening of DNAs, regional hubs, and consultants capable of providing climate change services, specifically developing project identification notes (PINs)/project design documents (PDDs);
- (ii) Sectoral studies of potential sector/technologies available at country levels;
- (iii) Innovative mechanisms for capacity building to include distance learning and website courses;
- (iv) Training materials in emerging topics such as programmatic CDM, avoided deforestation, carbon capture and storage, etc.

If implemented effectively, these activities would contribute significantly to capacity building around CDM in Africa. At present however there is no agreed framework for implementation (by the NF Secretariat or others), although there is an emerging consensus among African countries themselves as to the need for capacity building and how this might be implemented through local as well as external resources.<sup>48</sup>

To ensure effective implementation of the NF, it will be important to activate and involve pan-African and regional African institutions in this dialogue, e.g. AfDB, UNECA and NEPAD. Many African countries have already received bilateral assistance in capacity building, and have now developed some degree of internal capacity to identify CDM projects. Many have also built alliances with outside organisations (both from the public and private sector) which are already providing on-going assistance.

Importantly, there are a number of initiatives already underway to address the role of African institutions in mitigating climate change, and African experts have provided significant inputs into this process. African views must be included in all efforts to refine the NF, just as they are reflected in the recommenda-

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<sup>48</sup> Of particular importance in this regard are the decisions taken by the African Ministerial Conference on the Environment in June 2008, in particular Decision 2: Africa's preparations for developing a common negotiating position on a comprehensive international climate change regime beyond 2012. Inter alia, this conference has agreed to a common position on a range of issues including the importance of capacity-building in enhancing both mitigation and adaptation work in Africa.

tions provided in this paper. To facilitate this, the following improvements in the implementation of Pillar 2 of the NF related to capacity building should be addressed:

First, capacity development should focus wherever possible on *increased use of in-country resources and capabilities*, providing specific training to upgrade these capabilities rather than relying on outside consultants to do the work. This approach has been used successfully by CF-Assist, the World Bank programme, which employs local consultants to develop CDM opportunity assessments.

Second, sectoral/technology studies should be seen as an important first step in setting the stage for sustainable capacity development. Ideally, these studies should be conducted by local experts and include not only an assessment of sectors and technologies but also a capacity needs assessment including an assessment of existing institutional frameworks for capacity development in each country.<sup>49</sup> In principle, the studies would also facilitate the identification of areas for regional cooperation in capacity building, as well as developing mechanisms for including a wider range of stakeholders in the CDM process – e.g., energy service companies (ESCOs) and energy producers as well as government.

Third, capacity building should focus on learning by doing, i.e. helping local developers and officials to work with existing projects (where possible), adding value to these projects through targeted workshops and training sessions. In a recent review of the NF by an international consultant, it was also suggested that “Agencies and their partners should provide ‘how-to’ small training workshops to African project developers on CDM eligibility analysis, methodologies and financial analysis.”<sup>50</sup>

Fourth, capacity building efforts initiated now may have limited benefit in terms of developing CDM projects before the end of the First Commitment Period of the Kyoto Protocol in 2012, so the Nairobi framework will need to be flexible and adaptive to possible changes in the Kyoto framework.

## **6.2. Multilateral Organisation and the Nairobi Framework – Recommendations**

The NF is an important initiative which provides a useful starting point for CDM capacity building in Africa. However it can be further refined so that the activities implemented under the NF more accurately reflect African needs and modalities. These refinements could include:

- R 23. **Provide further opportunities for South-South transfer** of capacity between project developers and governments such as the recent collaboration between the Botswana and Brazilian DNAs;
- R 24. **Capacitate the local financial and banking sectors and sensitise potential investors and the private sector** in general to the opportunities for obtaining carbon finance, e.g. through enhancing the capacity of national investment agencies to deal with CDM.
- R 25. **Provide capacity-building for government officials outside of the DNA and develop a formal pool of national CDM experts** such as local consultants, academics, and engineers from the line Ministries and from appropriate government agencies such as rural electrification authorities or renewable energy agencies.

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<sup>49</sup> It is noted in this regard that the recent World Bank Study, “Low-carbon Energy Projects for Development in Sub-Saharan Africa: Unveiling the Potential, Addressing the Barriers” represents a comprehensive effort to identify projects by country and by sector. This could serve as the basis for more detailed country studies which also assess capacity requirements and local ability to meet them.

<sup>50</sup> Analysis of activities implemented under the Nairobi Framework in Sub-Saharan Africa, report to DFID, October 2007.

### 6.3. The Role of African Governments

In close alignment to the capacity building efforts under the Nairobi Framework, the following interventions have been identified as best practice:

- *Regulatory*: One of the most important regulatory interventions is for host countries to establish a DNA and incorporate (to some extent) the CDM modalities/process within their regulatory framework. Of at least equal importance is the use of regulatory interventions to create an enabling environment for project investment in general, e.g. by simplifying investment rules and reporting requirements.<sup>51</sup>
- *Policy*: Countries should implement a CDM National Strategy.<sup>52</sup> For example, Egypt has amended and/or developed policies in key sectors, e.g., energy, waste, gas,<sup>53</sup> agriculture and foreign investment, to facilitate the integration and development of CDM projects in the particular sector. Egypt has also incorporated CDM considerations in its developmental policies.
- *Institutional*: Establish a governmental CDM office or committee to ensure that the CDM is holistically incorporated and integrated within government policies and priorities.<sup>54</sup>
- *Capacity building*: Certain ministries have also undertaken specific studies/research to improve CDM implementation. The South African government has also organised a conference on climate change and the CDM.<sup>55</sup>
- *Post-2012 negotiations*: Many governments are actively involved in the post-2012 negotiations.<sup>56</sup> Africa is currently developing a continental position in advance of the 2008 and 2009 UN Climate Change Conferences, the most recent indication of which is the articulation of “*Africa’s Climate Roadmap, from Johannesburg through Africa to Copenhagen.*”<sup>57</sup>

### 6.4. African Governments – Recommendations

The following key recommendations for African governments have been identified to enhance local capacity and strengthen national CDM frameworks:

- R 26. **Conduct a comprehensive critical review of the existing barriers to the development of CDM projects on a country-by-country basis.** Such a review could be financed by the government

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<sup>51</sup> For example, the South Africa DNA is established in terms of: *National Environmental Management Act, 1998, Regulations for the establishment of a Designated National Authority for the Clean Development Mechanism, GG 2778, GNR 721 of 22 July 2005.* Likewise the Kenyan DNA has been incorporated within the national Environmental Management Act and operates within the ministry responsible for environment. In Namibia, the corresponding act has been amended to include the DNA as a facility within the ministry, with appropriate powers to enforce sustainability requirements.

<sup>52</sup> Some countries, e.g., Tunisia and Morocco, have already done this. Such strategies are mostly aimed at attracting CDM investments and implementing the institutional and the framework required to operate the CDM.

<sup>53</sup> Egypt has a national natural gas policy which is regarded as facilitating the implementation of CDM projects in the country.

<sup>54</sup> Some African countries such as Zambia and Swaziland have already done this. Others, such as Egypt and South Africa, have organised specific capacity training and awareness programmes on the CDM within government, at national, provincial and municipal levels, with the aim of facilitating the incorporation of CDM considerations in government interventions.

<sup>55</sup> The first South African National Climate Change Conference occurred in later 2005, the next is planned for late February 2009.

<sup>56</sup> Different negotiations platforms have been used to this effect, including but not limited to: COP/MOP, African Union, NEPAD, the African Ministerial Conference on the Environment (AMCEN), G 77 & China, G 8 + 5, the Africa Group, and UNFCCC Subsidiary Bodies.

<sup>57</sup> See the report of the Twelfth Session of the African Ministerial Conference on the Environment, Johannesburg, 7-12 June 2008, AMCEN 12, <http://www.iisd.ca/Africa/AMCEN/AMCEN12/>

or/and by donors agencies.<sup>58</sup> It is suggested that a multi-lateral organisation could develop a standard template/format and guideline document to assist the countries in conducting such an assessment.

- R 27. **Conduct a national policy review** to identify policy areas where integration of CDM activities may be required (e.g., energy, waste, land use, forestry). The relevant policies should be amended to incorporate such considerations. The development priorities of each country should be reviewed and analysed to assess the potential for the CDM and the potential synergies between CDM and national development goals. A review of the trade and investment policies in each country should be undertaken to assess their potential impact on the CDM and if necessary they should be amended accordingly.
- R 28. **Establish a conducive national policy framework for the effective implementation of the CDM.** Such a framework could make use of relevant fiscal instruments (taxes, subsidies and incentives), standards and policies to facilitate CDM projects (such as building codes for low-energy buildings), tariffs to create incentives for clean energy (such as specialised feed-in tariffs for renewable energy). Again, this could be facilitated by developing a template of possible actions and encouraging regional bodies to oversee this process.

## 6.5. The Role of the UNECA Climate Change Policy Analysis Centre

African countries must consider taking concerted action aimed at stimulating CDM investment in the region as a whole. The recently established Africa Climate Policy Analysis Centre (ACPC) at UN Economic Commission for Africa (UNECA) could play an important role in bundling the scarce resources and knowledge into a “one-stop-shop” for potential project developers, consulting firms and governments involved in the CDM.

The mandate of the ACPC is to “contribute to poverty reduction through successful mitigation and adaptation to climate change in Africa and to improve the capacity of African countries to participate effectively in multilateral climate negotiations.” The inclusion of both mitigation and negotiations in this mandate suggests that the Centre could work to refine the approach used in the application of the CDM as suggested in this paper.

The specific objectives of the ACPC also include “improving capacity to develop coherent policy frameworks for coordinating adaptation and mitigation investment and the climate information and knowledge generated at all levels.” One of the key outcomes of ACPC activities would therefore be more “coherent policy frameworks at regional, sub-regional and national level prepared to coordinate adaptation and mitigation investments.”

There is thus a clear need to coordinate efforts on building capacity within the ACPC with similar efforts currently underway on the national level as well as with regional bodies such as SADC, EAC and ECOWAS. The recommendations in this paper specifically highlight capacity-building, expanding and refining the Nairobi Framework’s goals and objectives, suggesting specific ways in which African policy-makers and project developers can gain from a more coordinated, Africa-focused approach to the Clean Development Mechanism. The ACPC can and should be a central part of this effort, and must be strengthened to include expertise on climate change mitigation and carbon financing.

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<sup>58</sup> An example of such an effort is the recent World Bank report, “Low-Carbon Energy Projects for Development in Sub-Saharan Africa” which includes data for individual countries.

## 7. Annex I: List of Acronyms

A/R	Afforestation/Reforestation
ACPC	Africa Climate Policy Analysis Centre
AfDB	African Development Bank
AFD	L'Agence Française de Développement (French Development Agency)
AFOLU	Agriculture, Forestry and Other Land Uses
APF	African Partnership Forum
CASCADE	Carbon finance for Agriculture, silviculture, Conservation and Action against Deforestation
CCBA	Climate, Community and Biodiversity Alliance
CCFF	Climate Change Financing Facility
CD4CDM	Capacity Development for the CDM
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CH <sub>4</sub>	Methane
CMP	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
COMESA	Common Market for East and Southern Africa
COP	Conference of Parties
CO <sub>2</sub> e	Carbon Dioxide Equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
EAC	East Africa Community
EB	UNFCCC CDM Executive Board
ECA	Export Credit Agency
ECOWAS	Economic Community of West African States
EIB	European Investment Bank
ESCO	Energy Service Company
FDI	Foreign Direct Investment
GEF	Global Environment Fund
GHG	Greenhouse Gas
Gt	Gigatonne
GWh	Gigawatt Hours
HFC	Hydrofluorocarbon
IETA	International Emissions Trading Association
IISD	International Institute for Sustainable Development
LDC	Least Developed Country
MDG	Millennium Development Goal
MIGA	Multilateral Investment Guarantee Agency
MOP	Meeting of the Parties
MW	Mega Watts
N <sub>2</sub> O	Nitrous Oxide
NF	(Inter-Agency) Nairobi Framework (for Capacity for Carbon Market Development in Sub-Saharan Africa)
NGO	Non-Governmental Organisation
NRB	Non-renewable biomass
ODA	Official Development Assistance
OECD	Organization for Economic Co-operation and Development
pCDM	Programmatic Clean Development Mechanism
PDD	Project Design Document
REDD	Reducing Emissions from Deforestation and Degradation
SADC	South Africa Development Community
SD	Sustainable Development
SPV	Special Purpose Vehicle
UNECA	United Nations Economic Commission for Africa
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Voluntary Carbon Standard

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