CDM INVESTMENT NEWSLETTER

Nr. 1/2006 A joint initiative of BEA International and the Climate Business Network

The MDGs & the CDM

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Editorial

ARTICLE 12 PARAGRAPH 2 OF THE KYOTO PROTOCOL STATES THAT *"The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3."* Stakeholders to the Clean Development Mechanism (CDM) are increasingly pointing out that, while CDM projects are beginning to deliver on the promise of large volumes of cost-effective and efficient emission reductions, it is not living up to the second expectation of this Article of supporting sustainable development in projects' host countries.

There were several side events at COP11/MOP1 that addressed this issue and there have been a few meetings and studies on this topic already (e.g. the World Resources Institute study *'Growing in the Greenhouse: Protecting the Climate by Putting Development First'* and IISD's *'Realizing the development dividend: making the CDM work for developing countries'*)

While one can argue that the CDM is a market-based instrument and, as such, is functioning appropriately, host countries are increasingly questioning what they are getting out of the deal and without their willingness to participate, the supply of cost-effective emissions reductions could well dry up and such a situation could well lead to non-compliance of Annex I Parties to the Protocol. Given the new round of discussions on post-2012, these Parties will need to offer more incentives to non-Annex I Parties to encourage them to stay on-board, never mind try to get them to take on commitments, in whatever form these may be. Also, industrial and energy installations that have been allocated targets under national mitigation schemes, especially those under the EU ETS (see issue #5-2005), should be concerned about this issue as the CDM is currently a source of reasonably-priced compliance certificates[1] and is likely to remain so for some time to come.

One may applaud the move in China (the Clean Development Fund) and India to put a high tax on CERs from HFC23 (65% of revenues) and N_2O projects as long as that tax is definitely applied to measures that support sustainable development in the host countries. But how can the international CDM community be sure this is the case? We may well end up with a similar situation to the never-ending discussion on how to measure and who should decide what is the development impact with potential benefits from a CDM project and how one can avoid the race to the bottom just to get any investment and technology into a host country within the framework of sustainable development!

Sustainable development is a concept that has been promoted through the United Nations (UN)

coming out of the UNCED process and maintained through the UN Commission on Sustainable Development (CSD). It is a concept that is at the root of the 'United Nations Millennium Declaration', adopted by the UN General Assembly, at its 8th Plenary Meeting in September 2000. This, in turn, launched *"a concerted attack on poverty and the problems of illiteracy, hunger, discrimination against women, unsafe drinking water and a degraded environment"* leading to eight "time-bound and measurable goals and targets" that are known as the Millennium Development Goals (MDGs). These goals are at the heart of concerns for sustainable development.

So what is it that is missing in the CDM? Is there a need for a new approach that somehow merges the objectives of development/aid agencies and business interests? Most current carbon funds, brokers, institutional and industry buyers do not and are unlikely to show much interest in the developmental aspects or benefits of CDM projects and one cannot seriously expect it of these players as this is traditionally the domain of developmental and aid agencies. The articles in this issue of the Newsletter provide some insights, suggestions and possible approaches, starting with an innovative approach for developing 'carbon finance action plans' in the first article, followed by a description of UNDP's new MDG carbon facility (page 6) and then the results of a review on CDM forestry project proposals (page 11). A final article presents a 'carbon market insight' for Uganda (page 14).

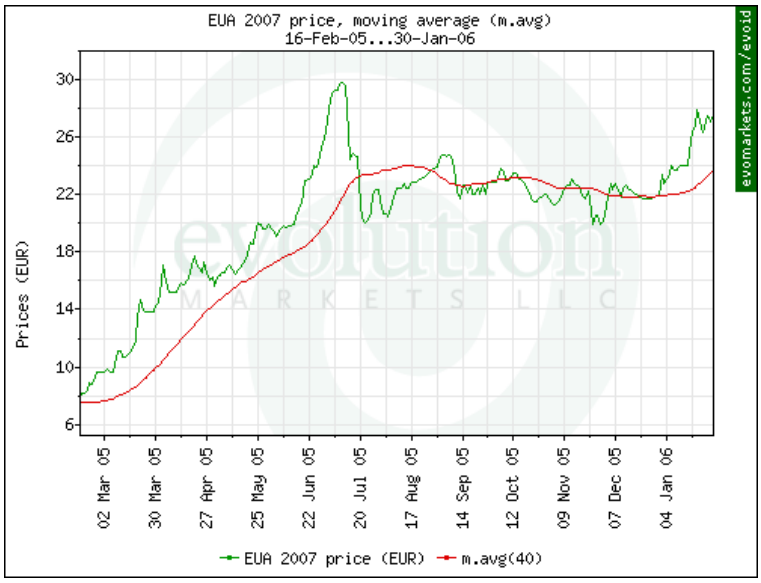
[1] ERUs are trading at around €20-22. CERs vary between €5-6 (medium-risk), ~€8 (low risk forwards), €11 (registered projects) & up to €15 (Gold Standard registered projects) according to CDM Highlights

MDG Carbon Finance Action Plans: Leveraging New Markets for Sustainable Development, by Anne Arquit Niederberger, PhD

EMERGING CARBON MARKETS AND POVERTY ALLEVIATION Following the entry into force of the UN Kyoto Protocol on 16 February 2005, the price of allowances under the EU Emission Trading Scheme climbed steadily to surpass the €20 per ton of carbon dioxide level by mid-2005, briefly topping out close to €30/t in July and has remained in the €20-30 per ton range since then (Figure 1). [1]

By putting a price on carbon, the Kyoto Protocol (and the legislation to implement it domestically) has created a new commodity – certified emission reductions (CERs, each of which represents a ton of carbon dioxide equivalent) – that developing countries can and should "mine" as part of their poverty reduction strategies. At a selling price of $5-$10 per ton of carbon dioxide, the World Bank estimates the value of global carbon trade under the Protocol's project-based flexibility mechanisms[2] between 2008-12 at $12.5 - $25 billion; the voluntary greenhouse gas offset market offers further opportunities.

Figure 1. Historical Settle Prices for EU Allowances (Source: Evolution Markets)



Achieving the Millennium Development Goals (MDGs) will require national poverty reduction strategies that ensure the scaling up and mobilization of resources from various sources, as well as an overall framework for private sector promotion. Within this context, carbon markets could offer an innovative means of leveraging private investment in – or encouraging purchases of credits from – climate-friendly development projects. To capitalize on this opportunity, however, developing countries must design and implement proactive carbon finance strategies that will enable them to leverage carbon markets in support of their MDG-based poverty reduction strategies.

POTENTIAL TO LEVERAGE CARBON FINANCE FOR MDG IMPLEMENTATION At present, the countries struggling most to meet their MDGs reap little benefit from emerging carbon markets. There are barriers related to a poor investment climate, a lack of CDM capacity & institutions, as well as limited energy-related mitigation potential (Arquit Niederberger & Saner, 2005; Jung, 2005). That having been said, promising CDM investment opportunities have been identified with international assistance in many of the poorest developing countries, and recent experience with CDM implementation has shown that CDM projects with a strong development component can be implemented, even in Least Developed Countries (LDCs), a good example being the landfill gas extraction and utilization CDM project at the Matuail landfill site in Dhaka, Bangladesh[3]. Project types with CDM potential in the context of the MDG implementation include:

- Fuel switching
- Co-generation
- Renewable energy
- End-use energy efficiency
- Transportation
- Methane capture (landfills, sewage treatment plants, animal waste)
- Afforestation & reforestation (A/R)

Methane capture associated with waste management is a particularly promising sector for CDM. In the context of solid waste management, for example, the landfill owner/contractor can be partially paid via a carbon purchase agreement for methane avoidance services, thus reducing the cost to the government, while ensuring a more profitable arrangement for the owner and reducing greenhouse gas emissions (Pinna, 2005). Such a project can contribute to a number of MDGs, including environment, poverty alleviation and health. A landfill gas methane project in Ethiopia is currently under development by the World Bank Community Development Carbon Fund[4].

There have also been some successful, creative, small-scale CDM projects (with large replication potential), such as a low-income housing upgrade program in South Africa[5] (roof insulation, solar water heaters, efficient lighting), and there is great potential for renewable energy and A/R projects.

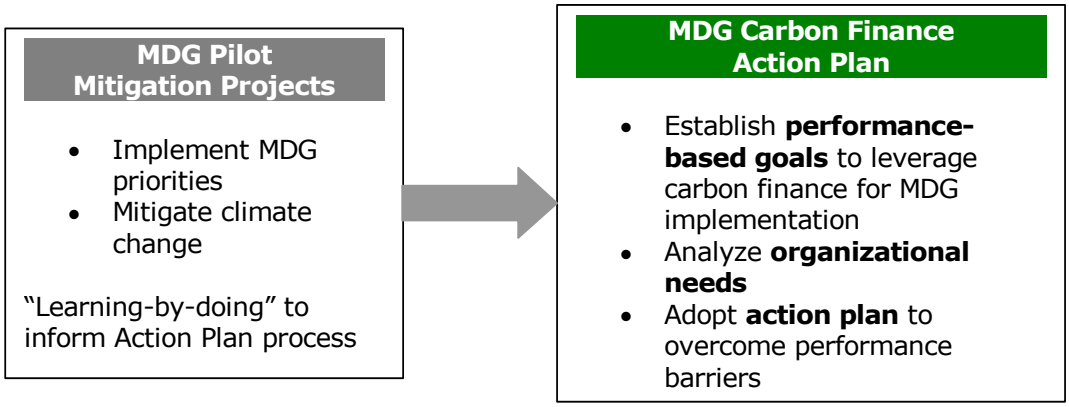
The December 2005 decision of the Parties to the Kyoto Protocol to allow a CDM programme of activities – under which emission reductions are achieved by multiple activities executed as a result of a government measure or private sector initiative – to be registered as a single CDM project activity opens the door for even greater synergy between the CDM and the achievement of the MDGs.

The necessity and challenge of achieving the Millennium Development Goals represents a unique opportunity to apply carbon finance in combination with a major infusion of aid and private capital flows to ensure adequate infrastructure and basic services to lay the foundation for economic development that is sustainable over the long-term.

MDG CARBON FINANCE ACTION PLANS In order to capitalize on emerging carbon markets, developing countries should formulate and implement "MDG Carbon Finance Action Plans," which would involve:

- Establishing performance-based goals for leveraging carbon markets for MDG implementation (e.g., meet 5% of MDG implementation costs through carbon finance);
- Analyzing organizational needs to achieve the stated goals (including needs related to human and financial resources, infrastructure, domestic/international regulatory/legal frameworks);
- Adopting a comprehensive plan to mobilize the necessary resources to overcome the stated barriers, in cooperation with partners who can assist with its financing and implementation;
- Identifying a number of "MDG pilot mitigation projects" to pursue in parallel with the development of the Action Plan. This quick start approach will allow for crucial "learning-by-doing" that can inform the development of each country's Action Plan.

Figure 2. Elements of MDG Carbon Finance Action Plans



The recommended approach will enable host country institutions to develop a comprehensive strategic framework (the national "MDG Carbon Finance Action Plan"). The Action Plan can serve as a roadmap to empower the country to actively seek the necessary resources to achieve its performance-based goals for leveraging carbon markets in support of MDG achievement, thereby ensuring harmonization and optimal use of the available resources (consistent with the Paris Declaration on Aid Effectiveness).

Countries will have to give careful consideration to the implications of different transaction models and markets in the context of achieving their development goals. In some national settings, for example, the successful transfer of advanced technologies and practices might be more likely under a foreign direct investment model than via carbon purchase agreements. Similarly, some countries might opt to outsource certain tasks, rather than stretch local human capacity even thinner, but having an Action Plan in place will ensure that such strategic decisions are driven by the country's own performance goals in the context of achieving their MDGs.

This strategic, performance-based approach to developing an Action Plan is based on several important premises:

- Only a performance-based approach will achieve the desired results effectively. One-off projects are crucial for learning, but a strategic approach to overcoming barriers is required to scale-up carbon finance activities;
- Developing countries should take control and proactively seek out the resources they need to overcome performance barriers and meet their related MDG carbon finance goals;
- Capacity building in isolation is not the solution, and a one-sided emphasis on CDM capacity building (e.g., to develop technical skills to prepare Project Design Documents) will not allow countries to meet their performance goals (Arquit Niederberger & Yiu, 2003; Nondek & Arquit Niederberger, 2005).

Thoughts on the approach outlined in this paper are welcome. A programme to support the development and implementation of MDG Carbon Finance Action Plans in a number of African countries in the context of the UN Millennium Cities Project is under preparation. Furthermore, the new MDG Carbon Facility established by UNDP[6] plans to mobilize carbon finance from both Kyoto and voluntary markets to purchase greenhouse gas reductions from a pooled portfolio of projects that directly contribute to achieving the MDGs. Under its MDG Carbon Finance Action Plan, a country could develop its own MDG carbon project portfolio and partner with such a facility or other market intermediaries to get it funded.

Footnotes

[1] *Ed: for more on the CDM and the EU ETS, see issue #5-2005 of the Newsletter*

[2] *Clean Development Mechanism (CDM) and Joint Implementation (JI)*

[3] *For details, see http://cdm.unfccc.int/Projects/SGS-UKL1121091128.62/view.html*

[4] *For information on the CDCF, see http://carbonfinance.org/cdcf/router.cfm*

[5] *For details, see http://cdm.unfccc.int/Projects/DNV-CUK1121165382.34/view.html*

[6] *See http://www.undp.org/mdgcarbonfacility/ for further information and the following article by UNDP*

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MDG Carbon Facility – Mobilizing Carbon Finance for the Millennium Development Goals, by UNDP Energy and Environment Group

CLIMATE CHANGE HAS EMERGED AS ONE OF THE MOST IMPORTANT ISSUES FACING THE GLOBAL COMMUNITY IN THE 21ST CENTURY. It is expected to pose a serious threat to development and poverty reduction, and the effects will be felt most strongly by the poorest people in the least developed countries, who rely on the natural environment for their livelihoods. Indeed, climate change threatens to significantly undermine efforts to achieve the Millennium Development Goals (MDGs).

Assisting developing countries with their efforts to cope with the impacts of global climate change and to create more sustainable, less greenhouse gas (GHG) intensive development paths is an important focus for UNDP. Major new investments will be needed over the next 15 years to tackle a wide range of environmental issues that are central to developing countries' ability to eliminate poverty and reach the MDGs. Clearly, additional financing mechanisms will be needed to fill the gap.

MOBILIZING CARBON FINANCE TO MEET THE MDGs A range of market-based instruments have emerged in the past decade that could offer important opportunities to augment the financial resources available to developing countries to tackle poverty and environment issues. For instance, the Kyoto Protocol has spurred a rapidly expanding international market in carbon emission offsets, which has grown from a few million dollars per year in the late 1990s and is expected to be worth up to $14 billion annually by 2012. If suitable instruments are available, financial flows from environment-focused market mechanisms could make carbon offset markets a major source of financing for sustainable development.

The UN Millennium Development Goals

Goal 1: Eradicate extreme poverty and hunger
- Reduce by half the proportion of people living on less than a dollar a day
- Reduce by half the proportion of people who suffer from hunger

Goal 2: Achieve universal primary education
- Ensure that all boys and girls complete a full course of primary education

Goal 3: Promote gender equality and empower women
- Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels by 2015

Goal 4: Reduce Child mortality
- Reduce by two thirds the mortality rate among children under five

Goal 5: Improve maternal health
- Reduce by three quarters the maternal mortality ratio

Goal 6: Combat HIV/AIDS, malaria and other diseases
- Halt and begin to reverse the spread of HIV/AIDS
- Halt and begin to reverse the incidence of malaria and other major diseases

Goal 7: Ensure environmental sustainability
- Integrate the principles of sustainable development into country policies and programmes; reverse loss of environmental resources
- Reduce by half the proportion of people without sustainable access to safe drinking water
- Achieve significant improvement in lives of at least 100 million slum dwellers, by 2020

Goal 8: Develop a global partnership for development
- Develop further an open trading and financial system that is rule-based, predictable and non-discriminatory, includes a commitment to good governance, development and poverty reduction— nationally and internationally
- Address the least developed countries' special needs. This includetariff- and quota-free access for their exports; enhanced debt relief for heavily indebted poor countries; cancellation of official bilateral debt; and more generous official development assistance for countries committed to poverty reduction
- Address the special needs of landlocked and small island developing States
- Deal comprehensively with developing countries' debt problems through national and international measures to make debt sustainable in the long term
- In cooperation with the developing countries, develop decentand productive work for youth
- In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries
- In cooperation with the private sector, make available the benefits of new technologies— especially information and communications technologies

The Clean Development Mechanism (CDM) was intended to offer significant benefits for developing countries in terms of increased capital flows, additional revenues for technology transfer and environmental investment, and reduced costs of achieving sustainable development objectives. However, the CDM has developed more slowly than originally anticipated and is unlikely to be able to meet more than 10-15 percent of the potential demand for Kyoto compliant carbon units from Annex I countries from 2008 to 2012. Moreover, the CDM is unlikely to deliver the broad-based development benefits that many expected it would, at least in the near to medium term.

The range of project types and sectors currently encompassed by CDM has also been more limited than expected, but the spread of technologies is improving. However, as of end 2005, 80 percent of Certified Emission Reductions (CERs) from projects that have reached the registration stage arefrom 'end of pipe' interventions that generate few or no sustainable development or poverty reduction benefits. Furthermore, nearly 85 percent of CER revenues from projects that are registered, or in the process of being registered, will flow to just four countries. The geographic coverage is similarly limited, with just six countries (Brazil, Chile, Honduras, China, Mexico and India) accounting for 80 percent of CDM projects registered, or awaiting registration. Only four of the 49 least developed countries have projects that are registered, or awaiting registration. These account for just 4 percent of projects and less than 2 percent of the expected CER revenue flows to 2012. UNDP believes that much more needs to be done to direct carbon finance to a wider range of developing countries, as well as to a broader range of activities that can provide real sustainable development benefits.

UNDP'S MDG CARBON FACILITY: HOW IT COMPLEMENTS OTHER CARBON FINANCE FACILITIES Addressing poverty together with environment issues is a major focus of UNDP programme activities. Coping with the impacts of climate change and creating more sustainable, less GHG-intensive development paths will be a core component of these activities.

To capitalize on the potentially significant benefits of carbon finance for the developing world, UNDP is establishing the MDG Carbon Facility, an innovative carbon-finance mechanism featuring emission offsets derived from a pool of projects designed to contribute directly to achieving the MDGs. The Facility represents a fundamental building block in UNDP's poverty, environment and MDG delivery strategy. UNDP will mobilize carbon finance and direct this towards developing a

portfolio of projects that yield tangible sustainable development and poverty reduction benefits across a diverse group of developing countries, including the poorest, least developed countries.

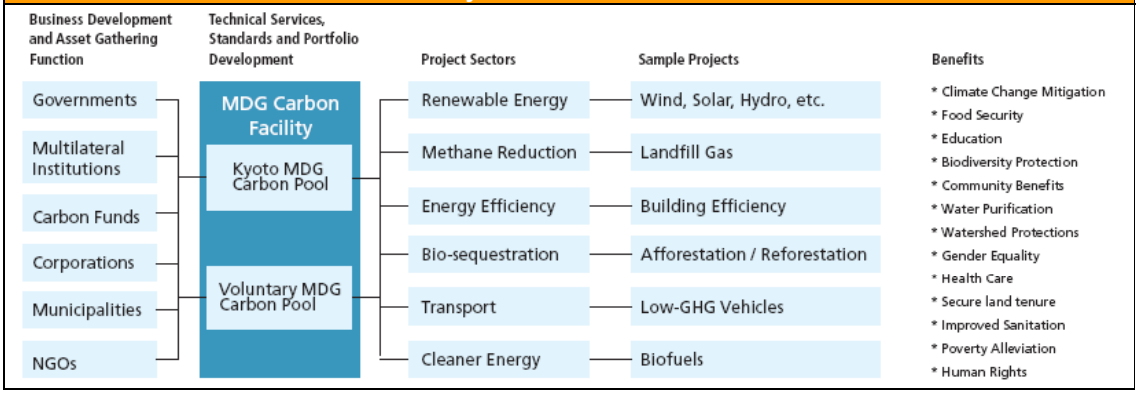
The core objectives of the Facility are to:

- Create a differentiated carbon market product that provides a clear set of MDG and sustainable development benefits, including multiple environmental benefits;
- Leverage the existing UNDP network, technical expertise, and project management capabilities to provide an integrated package of project management and technical services to project developers that will facilitate the delivery of quality projects; and,
- Increase access to carbon finance for a broader range of developing countries and a greater diversity of project types.

The MDG Carbon Facility will have two components. The first component is the Kyoto MDG Carbon component, featuring a portfolio of projects that will generate Kyoto-compliant emission reductions that can be used by governments, business, and other entities to meet their Kyoto compliance commitments. A second component, Voluntary MDG Carbon, will generate Voluntary Emission Reductions (VERs) and will be launched in 2006.

The MDG Carbon Facility will pool projects that encompass a range of attributes with respect to reducing GHG emissions, other environmental benefits, and broader development impacts in order to create a balanced portfolio of projects. Pooling emission reductions from diverse projects to create a balanced portfolio is one of the key features that differentiate the Facility from most other carbon finance initiatives. Pooling enables the delivery of a consistent and homogeneous offset product with a given range of multiple attributes at a single offset price.

Overview of UNDP's MDG Carbon Facility



UNDP'S INTEGRATED PACKAGE OF SERVICES Another unique feature of the Facility is that it will make available to project developers an integrated package of cost-effective services to assist them in designing, implementing, managing, and monitoring good quality GHG emission reduction projects. Generating a flow of high quality, cost-effective carbon offsets from a portfolio of projects guaranteed to provide broad-based sustainable development benefits for reaching the MDGs will require more than access to finance. It will also entail considerable technical capacity in project development and management, extending from initial project identification through to certification and sale of emission reductions.

UNDP is uniquely positioned to deliver a programme like the MDG Carbon Facility. Through its network of 166 country offices, UNDP has built links and considerable trust with governments, civil society, and the private sector. With a $5 billion portfolio of energy and environment projects, UNDP is already the world's single largest provider of technical assistance in the area of global climate change. Indeed, the Facility will be part of a broader set of services that UNDP already provides to countries, encompassing policy and programming advice, capacity development activities, and management of global environmental trust funds.

Through the Facility, UNDP will offer an integrated package of services that will include:

- Project identification and screening;
- Preparation of project design documentation and guidance on the application of baseline methodologies;
- Project pre-validation services;
- Project validation assistance through partnerships with accredited Designated Operational Entities;
- Assistance with host country and international approval processes;
- Carbon sales contract advisory services;
- Facilitating access to project finance;
- Project management and implementation assistance, and
- Project monitoring and accessing verification services.

In addition, the Facility will provide quality assurance and risk management for the projects in the portfolio, utilizing its existing project management systems, which have been developed to manage activities under UNDP's other multilateral trust funds.

THE MDG CARBON FACILITY: PORTFOLIO STRUCTURE, PROJECT DEVELOPMENT, AND POOL PRICING The selection of emission reduction projects will be determined by assessing the project's impact on average pool costs, specific development and environmental attributes of the project, project risks, size of emission reductions, and project time frames. To ensure a balanced pool structure and geographical coverage, project selection will also be subject to limitations on the contributions from specific project types and countries.

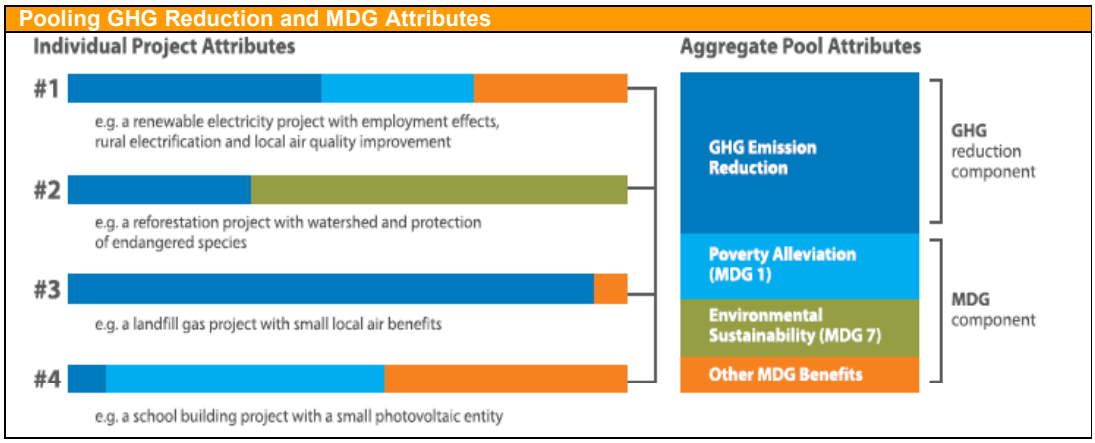
Portfolio Composition

The Facility will support a wide range of project types that meet development objectives. Initially, portfolio development will focus on projects in a few key areas: energy efficiency, methane mitigation, waste management, renewable energy, and cleaner energy. Over time, additional project types will be included as technical and administrative issues are resolved.

Several project categories have been excluded from the Facility's portfolio because of their limited contributions to meeting the MDGs or other factors inconsistent with the programme's objectives. These categories include: nuclear energy, large-scale hydropower, geo-sequestration (including enhanced oil recovery), shifting of electric power loads, and the capture and destruction of industrial gases (such as HCFCs, SF_6, and others).

To ensure a well-balanced and diverse mix of project types and MDG benefits, the Facility will place limits on the maximum amount of offsets in the pool from each sector. Furthermore, to ensure geographical diversity and wide range of development benefits, a cap will be placed on the maximum contribution any single country can make to the portfolio, and a minimum proportion of offsets in the portfolio will be required to be sourced from least developed countries.

Pooling MDG and Environmental Attributes Through the Facility, UNDP will develop a pool of projects that, in aggregate, will deliver both emission offsets and a broad range of sustainable development benefits that will contribute to achieving the MDGs.



The Facility's pooling approach will ensure a balanced portfolio of projects. Some projects will provide highly cost-effective GHG offsets, such as landfill gas projects that generate mainly methane mitigation benefits, but also health, safety, and local air quality benefits. Other projects will provide a range of other non-climate related benefits, such as a school building project with a photovoltaic component. All projects will need to provide at least some emission reductions.

The programme will aim to deliver a significant quantity of carbon offsets with multiple environmental and development dividends before the end of the first Kyoto commitment period (2008 to 2012). However, the Facility will also have a longer-term, strategic focus that extends well beyond 2012. This longer-term focus reflects the recognition that building technical and institutional capacity in developing countries will take time, and that many of the projects delivering large development benefits will require longer crediting periods and purchase agreements than are currently being offered in the carbon marketplace.

Pool Pricing Establishing and maintaining an offsets pool to provide the required mix of portfolio attributes within a specified price range will be a key consideration in project selection. The use of a pooling mechanism will enable the Facility to offer offset buyers a single offset price from the pool, rather than the project-specific offset pricing structure that characterizes most carbon-market transactions. A key advantage of pooling is that it enables projects with important environmental and MDG benefits, but with relatively small quantities of emission reductions, to enter the market. Pooling also provides an effective means of reducing overall risk by distributing individual project risks across the portfolio, providing a broader base for allocating transaction costs, and lowering the per-unit cost associated with portfolio management and administration.

Basing offset prices on the average weighted cost of a pool of offsets generated by a portfolio of diverse projects will give the Facility much greater flexibility in incorporating emission reduction projects that entail strong sustainable development benefits. It is recognized that, to be attractive to buyers, the Facility must provide carbon offsets at prices that are competitive with market rates. For this reason, the Facility will maintain a pool price in the range of +/- 25 percent of the market benchmark price.

Technical Standards Another key feature of the MDG Carbon Facility will be the establishment and maintenance of the best practice in GHG quantification, reporting, validation, and verification procedures to ensure the integrity of the offsets generated,

The Facility will use internationally accepted general frameworks for GHG accounting, including the ISO 14064 series and the GHG Protocol developed by the World Resources Institute and the World Business Council for Sustainable Development, as the basis for establishing and applying GHG quantification, validation and verification through members of the Technical Advisory Committee, an independent advisory body. This body plays an important role through review and endorsement of programme technical standards as well as assistance with ongoing technical development needs. Validation and verification requirements for Kyoto-compliant offsets are established by the CDM Executive Board; thus, all projects in the Facility's Kyoto pool will meet CDM validation and verification requirements.

DEVELOPING THE MDG CARBON FACILITY UNDP launched MDG Carbon in December at COP11/MOP1, Montreal, Canada. The Facility is now in the establishment phase and is working with a range of project developers and partners to develop an initial pipeline of projects. It is also in discussions and negotiations with a range of potential governments, companies and institutions that may be interested in purchasing MDG Carbon emission reductions. The Facility will concentrate on a limited number of projects and countries in the initial two-year establishment phase, and then scale up to increase the number and scope of projects over time. It is envisaged that supplies of MDG Carbon offsets will begin to flow to market at the beginning of the Kyoto Protocol first commitment period (2008-2012).

Readers may be interested in CBNet's business news section of the Web site http://www.climatebusiness.net under the 'Latest News' section. Here, news clippings related to the business aspects of climate change and the Kyoto Protocol are indexed starting in 2004.

An exemplary insight into forestry CDM investment opportunities and prospects for sustainable development, by Till Neeff, Robert Tippmann, Jan Fehse from EcoSecurities and by Heiner von Luepke

FORESTRY CDM HAS A PARTICULAR POTENTIAL TO CONTRIBUTE TO SUSTAINABLE DEVELOPMENT GOALS. Many among those involved consider land-management projects (if properly designed) as a cost-effective way to address climate change while simultaneously promoting sustainable development and contributing to the conservation of biodiversity (CCBA 2005). Particularly in sensitive mountainous areas, forest vegetation can improve soil properties, increase water infiltration, reduce erosion, and therefore protect and enhance the productive potential of soils. Potentially, land-management projects support the three pillars of sustainable development. On top of abating greenhouse gases, they involve rural communities and enhance their social and economic wellbeing while positively impacting biodiversity (CCBA 2005). Along those lines, as opposed to many energy-related CDM projects, forestry activities feature tangible sustainable development benefits in a local context.

This potential from CDM forestry projects could not yet materialize and assist towards development goals because forestry still lags behind other CDM project categories due to a lack of approved methodologies and project financing constraints (usually, forestry projects need significant business investment because carbon credits alone cannot provide financial closure). However, the recent approval of the first afforestation and reforestation (A&R) methodology (UNFCCC 2005) will accelerate the process and now there is an urgent need for successful showcase projects in order to boost the flow of investment into forestry CDM and in order to demonstrate its potential to contribute towards sustainable development.

Yet, even experts are uncertain of the potential for forestry CDM to mobilize investment and provide for sustainable development. EcoSecurities used the opportunity of an unprecedented investment by a major international business player in forestry projects to obtain a unique overview of the investment potential in forestry under the CDM.

In September 2005, EcoSecurities published a call for proposals of forestry project ideas on behalf of a major international corporation from the steel sector that offered investment into forestry activities[1]. Among other requirements, all proposals had to: a) come from one of six countries (China, Brazil, Indonesia, Cambodia, India, and Vietnam); b) count with a minimum area of 10,000 ha; and c) be at a certain stage of project development (thus being able to cope with the call's rather tight timeline). A limited suite of projects was selected for contract negotiations. The chosen projects will be registered under the CDM and the investor claims ownership of all carbon credits to be generated. In turn, the investment will not only cover the development of a project's CDM component, but also the much higher costs that accrue from implementing the forestry component. Usually, the forestry business investment (and not the CDM-related costs) constitutes the bottleneck for project realization, since its costs are by several orders of magnitude higher. However, this offer uniquely overcame investment barriers and therefore the submissions were a snapshot of the readily-available investment opportunities into CDM forestry projects. The investment demand from sound project ideas that are reasonable, both from the business and the environmental viewpoints, by far outweighs the supply of investment capital as shown in the following.

A LARGE VOLUME OF PROJECT IDEAS SEEKS INVESTMENT, LEAVING SUSTAINABLE DEVELOPMENT OPPORTUNITIES UNEXPLORED. In 38 submissions a total of 950,000 ha were proposed as potential areas for registration of forestry activities under the CDM. The proposed areas were individually smaller than 40,000 ha in most cases (projects with less than 5,000 ha were excluded) and one proposal exceeded 100,000 ha (see Figure 1). The project ideas sum up to an estimated annual sequestration volume of 10 million tCO_2e (based on a rough estimate of 10

$tCO_2e\ ha^{-1}\ yr^{-1}$). The replies received only represent a subset of the entire body of available project opportunities, because the terms of reference contained restrictions by country and project area but the large number indicates that readily available project opportunities in this sector could potentially absorb a huge amount of business investment.

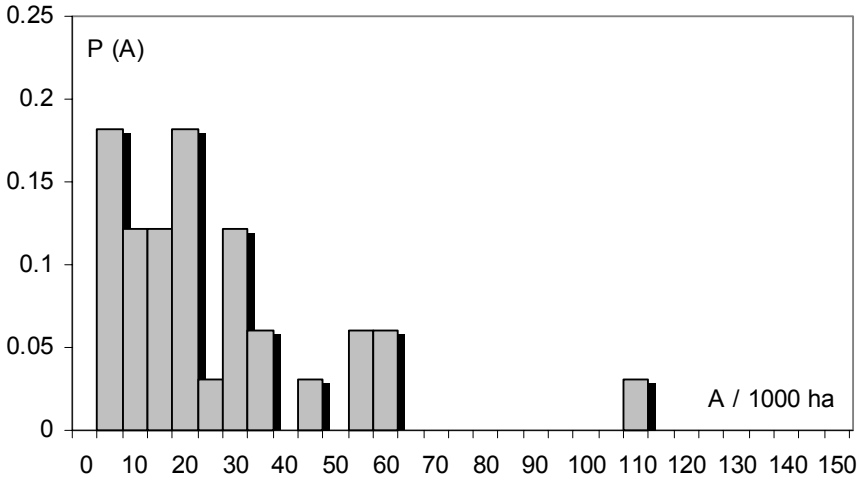


Figure 1: Histogram with proportions (y-axis) of reforestation areas in 1000 ha (x-axis) in proposed CDM forestry projects.

Brazil and China excelled by far in quality and quantity of submissions over other countries with the number of proposals accounting for more than two thirds of the entrants. Apparently, Cambodia and Vietnam are less attractive (together little more than one in ten), and there was surprisingly little reply from the large countries India and Indonesia (about one in ten each). Brazil always was a pioneer in the Kyoto process, having excellent technical capacity both regarding forestry and the CDM with the forest sector ranking as one of the keys to its national economy. Such technical capacities are similarly well developed in China; also, the fact that the central government is engaged in reforestation campaigns[2] may have played a role. The low return of project proposals from some other countries might be due to a more challenging environment for business endeavors[3] while for India and Indonesia their main focus is on other CDM project categories, leaving forestry behind. In some countries, there may also be bureaucratic hurdles to the effective implementation of forestry initiatives. The general picture emerges that the contribution that forestry CDM can make towards sustainable development depends to some extent on the availability of technical capacity for the identification, design and implementation of forestry CDM business opportunities.

Private companies put forward nearly half of the project proposals. Research institutes and national NGOs[4] were also quite active (one in four projects), while the international NGOs were mostly absent (only 1 proposal). Particularly in China, provincial governments were active in almost half of the proposals, possibly in an effort to employ the CDM as an additional lever for implementing the national reforestation programmes. Here, as in Vietnam, while local private companies and national NGOs drive the development, they are often obliged to cooperate with national or regional governments for effective project planning and management. Unfortunately, project proponents often name communities as operational partners only, excluding them both on the planning and on the management side, thus depriving the projects of their full developmental potential. The technical complexity and the heavy financial burden preclude communities from setting up such projects, at least at large scale, on their own; low-income communities with special needs for developmental assistance even more so. This leads to low-levels of participation in project implementation, as the communities do not usually have the capacity to become proactively involved.

The vast majority of the project proposals integrated various components (see Figure 2). The establishment of standard forestry plantations combined with other land-management approaches boosts biodiversity and watershed-related benefits that such projects can deliver. Most submissions contemplated the restoration of degraded areas among other activities while agro-

forestry, introducing trees into crop lands or grazing lands, emerged as a widely-favoured option to enhance the environmentally beneficial side-effects of carbon sequestration. Many projects even included non-eligible bonus activities such as improved forest management and reduced impact logging as a conservational add-on, without any intention to register such activities under the CDM. The majority of project proposals proved the suspicions voiced against the environmental integrity of the forestry CDM to be mistaken. Rather, the picture emerges of a CDM sector that functions as a vehicle to finance conservation activities.

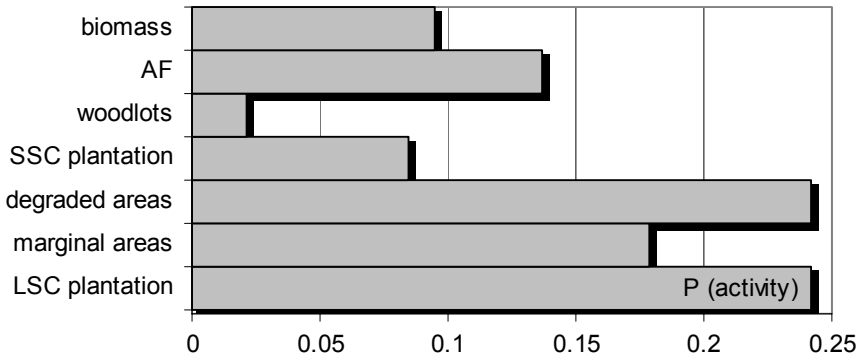


Figure 2: Types of CDM eligible forestry activities. Categories (y-axis) for proportions of project types (x-axis) are: a) biomass – establishment of biomass plantations for energy purposes; b) AF – agroforestry; c) woodlots – establishment of woodlots on communal lands; d) SSC plantation – small-scale plantations by landowners; e) degraded areas – rehabilitation of degraded areas through tree planting or assisted natural regeneration; f) marginal areas – reforestation of marginal areas with native species; g) LSC plantation – new, large-scale, industrial plantation.

PROMISING PROJECTS INTEGRATE SUSTAINABLE DEVELOPMENT WITH BUSINESS INVESTMENT REQUIREMENTS. Business investors still fail to match the capital demands for forestry CDM projects as there is a general lack of investment capital for this sector. The extent to which opportunities remain unexplored became obvious through this exercise that overcame the financial barrier by the offer of full financial coverage from an industrial investor. The forestry sector offers a huge investment potential for CDM-related business.

The imbalance between the supply of potential projects and the investment capital demand for CDM forestry projects is glaring. Potential buyers of carbon credits still hesitate to act because they perceive high project risks and due to the necessity to replace the forestry carbon credits upon expiry (EcoSecurities, unpublished). Some potential investors naturally are not very familiar with the land-management domain; however, when the first successful experiences have been generated, risks will appear more predictable. Certain governments and some from the private sector are already voicing increasing interest in having a fresh look at carbon credits from CDM forestry projects. On one hand, the increasing attention may arise from expected shortages of carbon credit supplies, on the other hand forestry projects potentially offer a variety of beneficial side effects and a public relations strategy can build upon the contributions made to sustainable development. Once the lower market prices are established, the temporary character of carbon credits, as opposed to those from regular CDM projects, could equally well become an advantage. The recent approval of the first methodology and the soon-to-be-expected approval of others indicate that investment reluctance may soon be overcome. It is hoped that forestry CDM will then attract the attention that the sector deserves from investors intending to offset their emission reduction obligations.

In conclusion, the majority of the projects received in this exercise included significant activities contributing to balanced development objectives while at the same time satisfying commercial requirements. The establishment of sustainable tree farms can be an effective vehicle for environmentally sound poverty alleviation by itself. At the same time, such enterprises can greatly contribute to the recovery of soils and the restoration of depleted biodiversity. Investors could claim services such as environmental protection and social development contributions as an additional bonus to carbon credit delivery. Forestry CDM activities have the potential to improve livelihoods

and contribute to environmental sustainability in a tangible way at the local level. Therefore, the call for proposals encouraged the application of the CCB standards (CCBA 2005), which were designed with a view to fostering projects that deliver integrated benefits while not ignoring the constraints that economic viability requirements impose. By applying such a benchmark, sustainable and environmental benefits do not preclude a project from appropriately performing to their capital needs and delivering the business revenues that investors expect.

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Footnotes
[1] The investment was motivated purely by a comprehensive strategy to assume a corporate social and environmental responsibility. The investor, from a Non-Annex I country, does not face any emission reduction obligations for the first commitment period.
[2] After the Yangtze floods in 1998 the Chinese central government kicked off a reforestation program to reduce silting, as well as flooding risks.
[3] For instance, Cambodia counts with low values of the Human Development Index 2005 of 0.571 (UNDP 2005), and the Corruption Perceptions Index 2005 of 2.3 (Transparency International 2005).
[4] Local NGOs traditionally demonstrate great interest in the forestry CDM as a means of funding their activities.

Carbon Market *Insight*™ – Uganda, by Alexander M^cCloskey and Mark Chapman; CINCS™, Inc.

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CLIMATE INVESTMENT NETWORK FOR CARBON SEQUESTRATION AND SUSTAINABLE ENERGY

COUNTRY OVERVIEW: Uganda is located in East Africa, and is part of the Nile River Basin, bordering Lake Victoria to the southeast. It shares borders with the Democratic Republic of the Congo, Rwanda, Sudan, Tanzania, and Kenya. Despite the sometimes-violent political unrest in several of these neighbours, Uganda has remained relatively stable for the last ten years.

Uganda covers approximately 200,000 km^2 of land area, of which 26% are arable and 11% are currently under cultivation. A further 21% is covered by tropical forest, and is undergoing deforestation at a rate of approximately 2% per year. Soil erosion, poaching, wetland degradation, and pollution of the Lake Victoria watershed are other environmental issues.

Uganda's US$40 billion economy enjoys real GDP growth of 5% with inflation of only 3.5% (2004) and is dominated by agriculture, with coffee the primary export. Mineral reserves, particularly copper and cobalt are abundant. With financial support from donors and multilateral institutions like the World Bank, Uganda is the showcase for

several development initiatives, including the ERT (Energy for Rural Transformation) program, which provides funding to a rural electrification initiative.

The majority of Uganda's electricity is derived from hydropower. While hydro provides a reliable, relatively clean source of energy, urban development has taxed the grid and prompted the installation of oil-fired peaking units—Uganda imports all of its fossil fuels. Despite the large quantity of hydropower theoretically available, only 5% of the population—mostly in urban areas—has access to electricity. With large-scale hydropower projects increasingly out of favor with lenders and the international community, Uganda has focused efforts on small-scale run-of-the-river hydro, as well as diesel- or kerosene-fired gensets that can provide power to village grids at a fraction of the cost of a connection to the national or regional transmission systems. Alternative technologies like biogas, solar PV, and biomass have received less attention.

Overall, Uganda possesses a variety of factors—stable democratic governance, robust economic growth, low inflation, significant natural resources, and government commitment to climate-friendly development—that suggest it may be a strong candidate for CDM-related investment.

BUSINESS ENVIRONMENT: Among sub-Saharan countries, Uganda appears to possess an environment favorable both to private enterprise and international investment. Although the tax structure in Uganda is typically complicated (consisting of income, VAT, stamp, payroll, and other tax devices), average total corporate taxation ranges between 30-35%. The near absence of property taxes makes large-scale land-use projects particularly attractive. Uganda has also traditionally been open to public-private partnerships and international investment, with few restrictions on capital flows, repatriation, or ownership structure (the exception being certain classes of strategic assets—like electricity generation—which may require additional processes or approvals).

Uganda scores a solid 72 out of 155 on the World Bank's metrics for ease of doing business, placing it higher than India, Brazil, and China! Uganda also outranks all but five sub-Saharan nations, making it one of the most favorable business environments in the region. In particular, Uganda drew praise for the flexibility of its labor laws, its protection of investors, its taxation system, and its enforcement of contracts. It also yielded solid scores in areas like starting a business, obtaining licenses, and obtaining local credit.

The project finance environment in Uganda appears to be robust, with legal provisions for special-purpose entities and revenue-backed credit instruments. Multilateral organizations like the World Bank, the International Finance Corporation, and UNIDO have invested significant amounts over the past decade. Increasingly, the government has turned to public-private partnerships to help finance infrastructure projects, as it has sought to privatize public assets and to avoid taking on additional obligations. Net capital flows into the country totaled nearly US$1 billion in 2004—while US$500 million of this was in support of the government budget deficit, the balance has been used to fuel investment totaling 22% of GDP.

Strong Potential for Carbon Projects in Uganda

- *Uganda is notable among its neighbors for its stable, transparent democratic governance, and a robustly-growing, low-inflation economy.*
- *Uganda has particularly strong potential for small-scale hydropower projects, and the government has placed both priority and resources on rural electrification projects.*
- *Uganda has a strong business environment, outscoring most other sub-Saharan countries and India and China on measures of corruption and the ease of doing business.*
- *Uganda has a functioning Designated National Authority (DNA) to oversee the approval of its Clean Development Mechanism (Kyoto Protocol's CDM) carbon credit projects.*
- *Given the difficulties of clearing afforestation/reforestation projects through the CDM, The Climate Investment Network for Carbon Sequestration and Sustainable Energy (CINCS), Inc. is actively focusing on Uganda's particular potential for sustainable energy.*

CINCS is optimistic that global demand for carbon credits will remain strong, driving higher prices for carbon credits.

While the business environment in Uganda is not perfect, it is particularly strong among its peer group and even comprared to countries like Brazil and India that have traditionally drawn large quantities of foreign direct investment. In particular, the environment for project finance seems favorable.

CDM PROJECT ENVIRONMENT: Uganda has strong potential for both afforestation/reforestation (A/R) and sustainable energy projects that remove or reduce carbon. The country is one of fifteen sub-Saharan African countries with a

functioning DNA (Designated National Authority), the National Climate Change Steering Committee (NCCSC), located within the Ministry of Lands, Water, and Environment.

On the A/R front, conservative estimates suggest that the country could generate 500,000-1,000,000tCO_{2e} per year from the reforestation of lands deforested over the past twenty years. Halting ongoing deforestation could produce another 500,000tCO_{2e} annually. Uganda's tropical environment makes it very well-suited to reforestation projects, as trees grow quickly and robustly under these conditions.

In general, A/R projects remain difficult to implement because of the obstacles they face obtaining CDM approval. Currently, only two methodologies, ARMN0010 (Reforestation of Degraded Land) and ARSSC (the small scale methodology) are on track for approval. It is doubtful that the former would be applicable to projects in Uganda, while the low cap on the latter (8,000tCO_{2e} per year) sharply limits its applicability. On the positive side, Uganda is one of only two sub-Saharan African countries whose DNA has established the necessary eligibility definitions for A/R projects (the DR Congo being the other).

The prospects for sustainable energy projects in Uganda are much brighter. Government and international support of rural electrification projects mean that significant co-financing can be leveraged for projects like run-of-the-river hydropower, biomass or household solar photovoltaics (PV). The need for grid-connected intermittent peaking capacity means that larger generation projects, like landfill gas capture or waste biomass incineration, can secure a revenue stream with a power purchase agreement (PPA) from the national electricity authority. Significant capacity exists in-country to develop and support these projects, with large numbers of consulting and engineering firms, as well as community organizations that are experienced with projects of these types. This local capacity can significantly enhance the cost-effectiveness of these projects, since it is not necessary to import expensive outside expertise.

Significant capacity also exists for the management of the CDM-specific aspects of project development. Uganda is one of only eight sub-Saharan countries with CDM projects currently supported by funds of the World Bank Carbon Finance Business (CFB). Interestingly, Uganda is also the only sub-Saharan country with two discreet CFB projects, the Nile Basin Reforestation Project and the West Nile Electrification Project. The CFB has committed over US$4 million to these projects, which will generate over 2 million tCO_{2e} over their lifetimes. Several local organizations also exist to support project development and help projects identify potential buyers. Finally, international capital (primarily equity investors from India) has demonstrated a strong interest in Ugandan CDM projects. Third-party equity investors have already committed funding to several projects (run-of-the-river hydropower in particular) and others have shown a strong interest in additional similar projects. The favorable business environment in Uganda means that it should be possible to attract additional investors of this type.

This combination of factors—government support for CDM projects in general and sustainable energy projects in particular, local capacity to develop these projects, a favorable business environment and the availability of third-party capital—suggests that the outlook for CDM projects in Uganda is particularly strong.

CINCS OUTLOOK--UGANDA: Although there are challenges to be addressed, CINCS is generally optimistic about the prospects for carbon reduction and removal projects in sub-Saharan Africa in general, and in Uganda in particular. CINCS has received a total of eight PINs (project idea notes) for sustainable energy projects in Africa. These include hydropower, solar PV, biomass energy, and landfill gas projects.

In this positive and enabling environment, CINCS is focusing on Ugandan projects for building its carbon credit portfolio. Out of the sub-Saharan nations, Uganda has both a stable political environment and a growing economy, with low inflation and few currency-related risks. The business environment in Uganda is one of the strongest in the region, attracting significant amounts of project finance capital and other FDI. Finally, Uganda has demonstrated itself to be a strong, willing host for CDM projects, with significant local capacity (technical and otherwise).

CINCS is continuing to source projects throughout Africa and in other geographic regions, while pursuing the full origination of projects on a resources-available basis, or to match buyer interest, and remain bullish in its general outlook for the global market in carbon credits. The CDM has recently drawn criticism from various stakeholders for its emphasis on large-scale industrial

projects with dubious sustainable development benefits. Efforts like the CDM Gold Standard, the CCBA Standard (the gold standard is the CCBA standard) seek to establish best practices for the sustainability and social benefits of CDM projects, but so far few projects have achieved such designations. CINCS is focused on projects that lend themselves to significant sustainable development objectives.

First, CINCS focuses on projects in lesser-developed countries. Second, CINCS' project types yield sustainable development benefits. Biomass energy, small hydropower projects and solar CDM projects not only provide greenhouse gas reductions, but also environmental and community co-benefits.

Project environmental considerations include impacts on water, air and soil quality as well as biodiversity, while project community benefits include job creation, capacity building and access to energy. Finally, CINCS ensures that project sustainable development goals are aligned with Designated National Authority (DNA) country objectives.

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