

# **CDM-Assist Status Report**

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## **Activity Completion Report P073936**

**004/05**

**Energy Sector Management Assistance Program (ESMAP)**

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# Contents

<b>1. Background .....</b>	<b>1</b>
<b>2. Objectives .....</b>	<b>3</b>
<b>3. Approach .....</b>	<b>5</b>
<b>4. Implementation.....</b>	<b>7</b>
Phase I.(6 months) .....	7
<b>5. Activities and Outcomes in Phase I .....</b>	<b>9</b>
African Countries Consultation .....	9
Donor Consultation.....	12
CDM Web Site.....	13
Review and Analysis of CDM/Capacity Building Activities of Other Agencies .....	13
Cooperation with Other Programs of the Bank.....	13
Regional Network with Regional Universities, Research Centers: .....	13
Timeframe of Activities Undertaken in the First Phase .....	14
Funding .....	14
<b>6. Next Steps – Implement Phase II of Work Program.....</b>	<b>15</b>
Objectives.....	15
Work Program .....	15
Timeframe .....	18
Funding .....	18
Staffing Plans for Phase II.....	19
<b>Annex 1: Presentation – CDM-assist and Energy Rural Transformation .....</b>	<b>21</b>
COP 6.5 Meeting; July 25, 2001 .....	21
<b>Annex 2: Presentation – CDM in Africa; Linkages with Power Sector Reform 29</b>	
World Bank Side Event; November 1, 2001 .....	29

<b>Annex 3: Minutes of a Planning Meeting between World Bank Prototype Carbon Fund / CDM-assist Program and UNFCCC Focal Point, Ministry of Water, Lands and Environment, Uganda .....</b>	<b>45</b>
World Bank Assistance for Capacity Building for the CDM in Uganda.....	45
<b>Annex 4: CDM Capacity Building Programs in Africa .....</b>	<b>51</b>
United Nations Foundation (UNF) .....	51
UNIDO.....	52
UNEP Collaborating Center on Energy and Environment (UCCEE).....	54
UNDP .....	54
SUSAC Initiative.....	55
GTZ .....	56
<b>Annex 5: Proposal of ENDA-TM.....</b>	<b>Error! Bookmark not defined.</b>
Background .....	57
<b>Annex 6: Conclusions and Recommendations of the Capacity Building Needs Assessment for the Implementation of the Kyoto Protocol in Africa.....</b>	<b>61</b>

# 1

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## Background

1.1 Africa is among the most vulnerable regions to the impacts of climate change. Based on the very limited number of projects in Africa undertaken through the Activities Implemented Jointly AIJ Pilot Phase and also consultations with African climate change coordinators revealed that they are greatly concerned about the geographic distribution of projects and the lack of capacity in the African region to design and implement them.

1.2 The Clean Development Mechanism (CDM), if well managed, could be an additional source of financing for energy efficiency and renewable energy projects in Africa, and could stimulate private sector participation where hard-currency revenues could become an important source for project development. Unfortunately, these opportunities probably will go unexploited in the absence of substantial capacity-building.

1.3 It is in that context that the CDM-assist program was conceived, as a means to assist African countries to play its role in the CDM, by enhancing upstream awareness and facilitating capacity-building linked with hands-on experience in concrete CDM projects.



# 2

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## Objectives

2.1 The main objective of the CDM-assist program is to enable African countries to benefit from the CDM. The Program aims to:

- Enhance Africa's ability to attract CDM projects, and
- Build capacity in Africa to develop and manage such projects.

2.2 The Specific Objectives are to:

- Enhance climate change capacity in Africa,
- Build up on previous Bank work in Africa,
- Stimulate private sector investment through first of-a-kind projects,
- Help the countries negotiate, generate and transfer Certified Emission Reductions (CERs),
- Promote cleaner technologies, and
- Increase the supply of CDM projects to be implemented in the region.





# 3

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## Approach

3.1 Many capacity-building programs have been implemented in Africa from which useful lessons have been learnt. The most important one is that capacity-building must be country-driven, with needs assessments' conducted in the target country, and not extracted from other countries needs. In that context, a project-driven capacity-building program, such as the CDM-assist, where the core issues and requirements are directly identified by the beneficiaries, will address the specific needs more thoroughly.

3.2 CDM-assist will build on previous work and experience gained with CDM within the Bank, by closely working and cooperating with other Bank programs such as the PCF and NSS, the WBI and the Climate Change and Africa Energy Teams, and will provide support and fill the gaps in those areas where those programs are not directly involved but that represent a priority for the countries.



# 4

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## Implementation

### Phase I. (6 months)

#### a. **Objectives:**

- Establish the CDM-assist program.
- Outreach to and consultations with Africa stakeholders
- Assessment of interest and capacity-building needs.

#### b. **Work Program:**

- African countries consultations
- Donor Consultation
- CDM website development
- Review of other agencies programs on CDM-capacity building programs in the region.
- Initiate cooperation with other programs in the Bank-PCF, WBI, NSS
- Initiate a “CDM Capacity Network”

#### c. **Timeframe**

*(0-6 months)*

4.1 Establish the CDM-assist program, obtain funding for bilateral project investment and begin to plan projects and related capacity-building activities through a comprehensive and participatory needs assessment process.

#### d. **Funding**

4.2 An initial budget of US\$50,000 from ESMAP was agreed for the implementation of the First Phase of the Program.



# 5

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## Activities and Outcomes in Phase I

### African Countries Consultation

#### *COP 6bis and COP 7*

5.1 A team from the Bank, including CDM-assist program African Focal Point (Mr. Mangesh Hoskote) participated and organized a side-event in both the COP events, where extensive consultations with African countries showed a strong interest in the program (see Annex 1 and 2 for presentations). Together with other consultations undertaken in Washington various countries have expressed a strong interest in CDM project development and capacity building requirements.

#### *CDM-assist Side Event:*

5.2 The side event organized by CDM-assist at the COP 6 bis conference in Bonn raised the following issues:

- Need for CDM and the CDM-Assist awareness in Africa;
- Clarity on CDM-Assist's preconditions or requirements to enable participation;
- Need to organize national consultations to prioritize host country project identification, development, and capacity-building;
- Clarity on CDM-Assist Program work products and timeframe;
- Need to enhance awareness on climate change in general and CDM operations in particular to catalyze private sector interest, policy makers, developers of bankable projects and monitoring and verification;
- Need to tailor implementation programs to avoid subjectivity as many African countries have different policy-styles; and
- Operational timeframe of CDM-Assist need not be linked to the outcomes of the COP7 negotiations.

#### *PCF-WBI Capacity Building Workshop*

5.3 Participation by a CDM-assist member in the PCF-WBI capacity building workshop held in Kampala, Uganda, in June 2001, was extremely useful as it allowed the

identification of various countries' interest in specific capacity-building activities related to the Project Idea Notes (PINs) prepared for the Seminar.

5.4 Fifteen countries (Benin, Burkina Faso, Ghana, Kenya, Madagascar, Malawi, Mauritius, Nigeria, Senegal, Swaziland, Togo, Uganda, Zambia and Zimbabwe) expressed interest in CDM projects and support from CDM-assist mainly for assessment of baselines and monitoring, verification, auditing and certification of project activities, as well as assessment of costs and risks.

5.5 While a majority of the participating countries showed significant interest for CDM-assist program's immediate assistance, the West Nile project in Uganda, because of its level of development was identified as a pioneering project for CDM-assist program assistance.

5.6 In response to a request from the UNFCCC for Uganda, CDM-Assist will provide focused capacity building support in connection with the implementation of the Western Nile Hydropower project that is being developed through PCF financing.

5.7 A staff member of the PCF program met with the Government of Uganda (GoU) in November 2001, and reiterated interest in providing support to a sustained effort to build capacity for attracting, implementing and administering CDM projects in Uganda as a supplemental activity to the West Nile CDM project activity (see Annex 3 Minutes of WB-Uganda Meeting)

5.8 The Ugandan side emphasized that their main interest lies in the areas of sustainable development, investment and institutional capacity. The group agreed on the following areas of cooperation:

- Institutional needs: There is a need for the relevant institutions in Uganda to fully understand and appreciate the opportunities of using carbon finance for development. The GOU noted that the following two institutions should be given priority:
  - How would the CDM authority function in Uganda?
  - How can the Ugandan Private Sector Foundation be used to attract CDM projects?
- Legal framework: The GOU is interested in analyzing whether and, if so, which modifications in its legal system would be conducive to the use of the CDM in its development process. In that sense, a paper under preparation by consultant-Hernan Lopez- on the "Legal Aspects of the Implementation of the Clean Development Mechanism at the National Level in Developing Countries" will serve as the basis for the support that will be provided to Uganda through the CDM assist.

5.9 The group agreed that the above areas could be at the center of attention of a possible capacity building program. The group also considered other areas of interest, in particular:

- Ugandan CDM strategy: Uganda's electricity sector is currently undergoing reform. In this context it may be helpful to study how due consideration could be given to CDM opportunities in Uganda's electricity sector planning and electrification strategy. The Bank noted that the Bank's ESMAP program could perhaps be interested in providing funding for such a study.
- CDM project cycle: The group discussed that the mobilization of local capacity and support for the CDM project cycle, which would reduce CDM transaction costs, is important and that the GOU would appreciate hands-on assistance to Uganda (project-linked capacity building) in the following three areas.
  - CDM methodology (baselines, project development)
  - Monitoring and verification
  - Project agreements with project sponsors and carbon purchasers

#### ***Other Potential CDM Projects***

5.10 Projects at various stages of development are currently under preparation in several African countries. During Phase II, business plans will be prepared for projects that appear to have potential for development. Further details on this portfolio of projects are given in the section Business Plan Development.

## Donor Consultation

5.11 A key initial task undertaken by the Bank team was to assess the interest of Donors in the CDM-assist project. The assessment is shown in the matrix below:

Donor	Priority area of cooperation	Commitment	Status
<b>Denmark</b>	Renewable energy projects		
<b>Finland</b>	Renewable energy projects		
<b>France</b>		US\$300,000	In-principle agreement has been reached with the Government. TF agreement yet to be finalized.
<b>Netherlands</b>	Small scale CDM projects in Africa	Government has earmarked funds for capacity building as well as for purchasing emission credits from small scale projects.	Very keen on exploring the role of the World Bank in project development and capacity building.
<b>Norway</b>	Would like to see AIJ projects completed before embarking on CDM projects		
<b>Sweden</b>	Priority areas are energy efficiency projects such as industrial cogeneration		See a need for aggressive marketing and promotion for CDM projects.
<b>Switzerland</b>	NSS studies leading to projects		
<b>United Kingdom</b>	Interested in supporting small-scale CDM projects		



## **CDM Web Site**

5.12 A CDM-Assist website was designed in November 2001 and data population and linkages to other related sites has now been completed. The address is: [www.worldbank.org/afr/cdm/index.htm](http://www.worldbank.org/afr/cdm/index.htm)

## **Review and Analysis of CDM/Capacity Building Activities of Other Agencies**

5.13 At first blush, it would appear that the activities of other Agencies and those of CDM-assist are duplicative. In reality, the roles are complementary and offers scope for coordination, collaboration, and consultation on CDM project development. For example, a closer scrutiny reveals that in order for developing countries to participate as equal partners with developed countries under the CDM once the mechanisms become operational, it is important to address issues related to assessment of baselines and to monitoring, verification, auditing and certification of project activities, as well as assessment of costs and risks, in a consultative and transparent manner. The CDM-assist program addresses this capacity building requirement that will be specifically linked to CDM projects in Africa. While the UN agency programs have a wider geographic coverage, CDM-assist is focused on Africa.

5.14 In addition, most of the projects planned or under implementation for the region are not project-linked, hands-on as is the aim of CDM assist, but instead start with an assessment of capacity building needs, barriers to CDM projects and in some cases, the last step is the formulation of pilot CDM projects for possible financing by the private sector. In this sense, CDM assist approach is unique. (see Annex 4 for Other Agencies Programs on CDM Capacity Building).

## **Cooperation with Other Programs of the Bank**

5.15 A CDM-assist team member participated in the Kampala Seminar organized by the PCF Team, and the Project Idea Notes (PINs) presented by the participant countries will serve as a basis for the CDM-assist cooperation. The first two countries that will receive project-driven capacity building support from the CDM-assist are Uganda and Kenya. In the case of Uganda, the support is linked to a PCF approved project (Western Nile Hydropower Project), and in the case of Kenya, support is linked to a PIN presented also to the PCF (Bagasse cogeneration power plant in Busia).

## **Regional Network with Regional Universities, Research Centers:**

5.16 Consultation with African countries interested in CDM-assist revealed the need for accelerating and deepening the engagement of African universities and research institutions. Several countries discouraged the Bank's proclivity to engage only a select few institutions at the expense of other equally deserving institutions.

5.17 A proposal from ENDA (See Annex 5) was received, regarding the establishment of a regional network in West Africa, and conversations with EDRC (South Africa) are under way for the establishment of a regional network for SADC. ENDA is willing to be one of the key partners of the project and therefore could be involved in all the activities including preparation of the various materials, organizing workshops and policy dialogues and providing technical assistance to selected countries for projects identification and formulation. They proposed to organize a scoping meeting to prepare the details of the implementation of the Program, including details of the activities, targeted countries, focus, structure, financial implications, time table of various activities and responsibilities of the various partners.

### Timeframe of Activities Undertaken in the First Phase

Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Donor Consultation												
Countries Consultation												
CDM Website Development												

### Funding

#### Project Disbursements:

Item	Total
Web Page development	3,610
Consultants	16,090
Staff	30,161
Total	49,861

# 6

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## Next Steps – Implement Phase II of Work Program

### Objectives

6.1 Support capacity-building activities linked to PINs presented to the PCF will be the main focus of Phase II. The CDM-assist support is also open to other WBG projects and countries where the Bank has ongoing operations. The countries identified as the initial possible participants in the CDM-assist program are Burkina Faso, Ghana, Kenya, Mauritius, Senegal, Swaziland, Tanzania, and Uganda.

### Work Program

- Prepare business plans (BP) for each of the eight countries' specific capacity-building support to be provided by CMD-assist.
- Implement the capacity building activities identified in the BP.
- Donor consultations to secure funding for bilateral implementation of the activities identified in the BPs.
- Organize a Symposium and a CDM project marketplace in Africa
- Establish roster of regional universities and regional organizations
- Work with WBI in developing course modules for capacity building:
  - Capacity-building program
  - Prepare workshop design
  - Prepare TORs for faculty
  - Prepare course manual
- Web Page:
  - Continue populating website
  - Monitor traffic
- Launch e-learning initiative:
  - Design e-learning framework
  - Develop course curriculum
  - Design web-based/cd learning tools

***Business Plan Development***

6.2 The CDM-assist program will focus initially on providing specific capacity building support to World Bank Group projects, or countries where the World Bank has ongoing operations. The support CDM-assist will provide will be linked to the implementation of a specific project or in the preparation of the projects.

6.3 In the initial phase, CDM-Assist will provide focused capacity building support in connection with the implementation of the Uganda Western Nile Hydropower project that is being developed through Prototype Carbon Fund (PCF) financing.

6.4 Other possible countries or projects where the CDM-assist will provide support are Kenya, Mauritius, Ghana, Senegal, Swaziland, Tanzania and Burkina Faso. For Kenya, Mauritius, Ghana, Senegal and Swaziland, CDM-assist will provide capacity building support in connection with the preparation of the projects presented as PINs to the Prototype Carbon Fund.

6.5 For Burkina Faso, CDM-assist will provide support linked to the Sustainable Biomass Energy Management project developed by the World Bank-Norway Activities Implemented Jointly Program under the pilot phase to the United Nations Framework Convention of Climate Change (UNFCCC). For Tanzania, specific support will be defined in the near future.

<b>Country</b>	<b>Project</b>	<b>Field</b>	<b>Brief Description</b>
<b>Uganda</b>	Western Nile Hydropower Project	Renewable Energy	Development of a number of mini-hydro projects in the West Nile Region and the southwestern part of Uganda. Already approved by the PCF.
<b>Kenya</b>	Busia Sugar Co.	Renewable Energy	Install advanced efficient turbines to generate steam and power using surplus sugar cane bagasse from the Busia Sugar Co. The excess electricity generated for sale will be 13.6 MW after internal consumption.
<b>Mauritius</b>	Waste to Energy Plant	Renewable Energy	Construction of a waste fired power generation plant.
	Waste Incineration	Alternative Energy/Avoidance methane emissions	
<b>Senegal</b>	SONACOS Project	Energy Efficiency	Finance the acquisition of new energy efficient technologies for improving the energy efficiency of SONACOS EIB plant.
	Pilot Wind Farm Project	Renewable/Alternative Energy	Pilot project that aims to facilitate the introduction and adoption of wind and solar power to private companies and local communities by removing technological barriers and reducing implementation costs.
<b>Swaziland</b>	Micro-Hydro Cluster	Renewable Energy	Construction of micro and mini hydro power plants.
	Maguga Dam Hydro Project	Renewable Energy	Construction of a 19 MW hydro power plant.
	Wood Waste Fired Power Generation	Renewable Energy	Development of a 20 MW CHP wood waste power generator in conjunction with the wood pulp industry.
	Bagasse Fired Generation	Renewable Energy	Development of a 40 MW bagasse fired power station to generate steam and power for the sugar mill and sell excess power to the national electricity grid.

<b>Ghana</b>	Wood waste fired power generation	Alternative Energy	1 MW cogeneration power plant using residual wood wastes from a timbers mill for self-consumption and possibly sell surplus to the electricity grid
	Integrated timber and fuelwood and plantations	Renewable energy/Land use	Creation of 10,000 ha. Of carbon sinks through a sustainable management of forests in the transition zones of Ghana.

**Timeframe**

March 2002 to June 2004

**Funding**

6.6 It is anticipated that the second tranche - US\$50,000 - from ESMAP for the preparation of the eight business plans for Uganda, Burkina Faso, Kenya, Mauritius, Swaziland, Senegal, Ghana and Tanzania will be released in early February 2002. Financing for *implementation* of the BPs could be as follows: Uganda assistance possibly financed through PCF-plus; Burkina Faso, Mauritius, and Senegal possibly financed by France; Ghana, Kenya and Swaziland possibly financed by the UK; and Tanzania possibly financed by Sweden.

## **Staffing Plans for Phase II**

6.7 PCF-plus has committed to financing a full-time consultant to be located in the Africa Energy Unit to focus on CDM projects in the region. The consultant will develop and implement upstream activities related to CDM projects such as project identification, feasibility study facilitation, and outreach activities. Senior AFTEG staff in Washington office will have overall responsibility for project coordination of CDM-assist activities. Senior AFTEG staff in the country offices will have responsibility for CDM project pipeline development and capacity building implementation assignments.





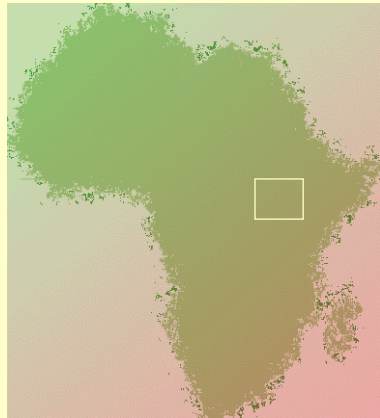
# Annex 1

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## Presentation – CDM-assist and Energy Rural Transformation

COP 6.5 Meeting; July 25, 2001

### CDM-*assist* and - Energy for Rural Transformation



Integrated Approach to rural poverty reduction

- Create jobs through SMEs and links to markets
- Deploy renewable energy technology
- Promote quality of life through better health and access to information

# CDM-*assist* Program

COP 6.5 Meetings  
Bonn, Germany

July 25th, 2001

Mangesh Hoskote  
Africa Energy Department  
The World Bank

## **CDM *assist***

### Outline

- The emerging CDM regime and its relevance to the Bank and our African country partners
- The nature of potential CDM projects in Africa
- Need to support CDM activities in Africa
- CDM-Assist - Objectives
  - Implementation Strategy
  - Partnerships
  - Financing
- Next Steps

## **CDM and Africa**

- **CDM would enable developed countries to buy carbon emission reductions from low- or zero- carbon projects in developing countries**
- **ODA focus on CDM facilitation likely**
- **Could be an additional source of financing for many rural-energy projects in Africa**

## **CDM Projects in Africa**

- **Likely in rural energy, waste-to-energy, household and industrial energy-efficiency sectors**
- **Some possibility of grid-connected wind energy, bagasse cogeneration and mini-hydro projects**
- **CDM revenues could, conservatively, meet 10-50% of project costs**

## Need for Support

- Only one AIJ project in Africa - Bank implemented rural household project in Burkina Faso
- AIJ project indicates:
  - Great potential for financial *leverage* and resource mobilization
  - Large *capacity building* needs
  - Lack of incentives for *private sector* involvement to address high institutional *risk* and *transaction costs*
  - Importance of *validation and verification* in carbon offset value creation

## CDM *assist* - Objectives

- Enable Africa to benefit from the CDM
- Enhance climate change capacity in Africa
- Build up on previous Bank work in Africa
- Negotiate, generate, transfer CERs
- Stimulate private sector in Africa through first-of-a-kind projects
- Promote cleaner technology
- Increase supply of CDM projects

## **CDM *assist* - Strategy**

- **CDM core activities - Start-up Phase (6 months)**
- **Bilateral modules (36 months): project arrangements between donor and host on activities**

## **CDM *assist* - Core Activities**

Three core-activities

- Start-up  
**Outreach to & consultations with Africa stakeholders**
- Core activities  
**Review of energy investment and other CDM opportunities to ensure synergies**
- Capacity Building
  - **Baseline establishment and interpretation**
  - **Implementation capacity for MVPs**
  - **Negotiation of price and risk-sharing terms of carbon purchase contracts**

## **CDM *assist* - Project Modules**

- CDM-type *projects* with project linked capacity building and the potential to earn CERs
- Apply CDM project cycle (baseline & sustainable development, MVP, validation, verification, certification)
- Local execution with Bank, international support
- Project workshops, training, negotiations

## **CDM *assist* - Partnerships**

- World Bank programs and resources
  - PCF
  - IFC
  - GEF/WB
  - Climate Change Team - AIJ and NSS
  - AFRREI/RPTES
- OECD governments
- African countries
- USAID and UNIDO
- Private sector

## **CDM *assist* - Financing**

- **ESMAP support of \$100,000 for start-up phase**
- **French support for core activities and bilateral project**
- **Likely support from Canada, Sweden and UK**
- **Equitable Distribution Fund, envisaged in the CDM, is a potential long-term source of support**

## **Next Steps**

- **Management Structure**
- **Workplan development**
  - **Integration with existing AFR activities**
  - **Countries and activities**
  - **Outreach in Africa**
  - **Partners and linkages**
  - **Cross support from ENV**
- **Donor coordination**
- **Project pipeline**





# **Annex 2**

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## **Presentation – CDM in Africa; Linkages with Power Sector Reform**

**World Bank Side Event; November 1, 2001**



CLEAN DEVELOPMENT MECHANISM

**World Bank Side Event on  
CDM in Sub-Saharan Africa: Priority Areas for Capacity Building**

**Thursday, 01 November, 2001  
8 PM – 10 PM**

The CDM allows developing countries to address sustainable development issues and reduce their emissions of greenhouse gases (GHGs) and offer the related reductions to OECD countries at a market price while benefiting from local environmental improvements, technology transfer, foreign direct investment and the generation of foreign revenue.

The World Bank's CDM-Assist program will adopt a project-linked approach; that is, capacity building will include imparting skills to local experts and institutions necessary for identification and development of CDM projects, financial analysis in relation to reduction of GHG emissions and carbon offsets from CDM projects and government policies for attracting private sector investments.

The side event will be co-chaired by Philip Gwage, UNFCCC, Government of Uganda, and Mr. Paul van Aalst, Chairman of Dutch Export Group.

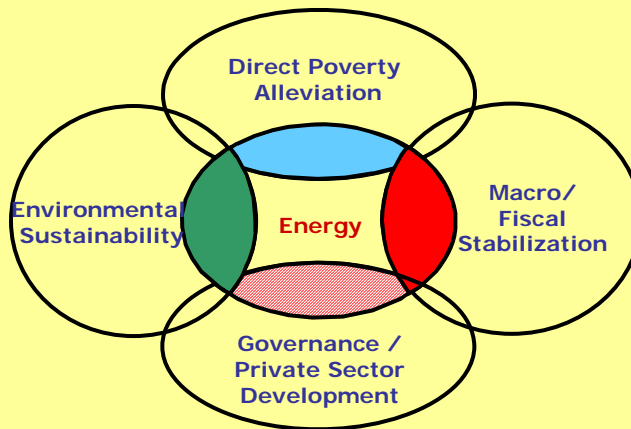
**Presentations:**

- Mr. Mangesh Hoskote, World Bank, CDM Capacity building in Sub-Saharan Africa
- Mr. Jan-Willem Martens, ECN
- Mr. Reginald Hernaus, CDM – The Dutch Approach

# **CDM IN AFRICA:** **LINKAGES WITH POWER SECTOR REFORM**

November 1, 2001—Marrakech

## **A New Business Strategy Framework**



**Priority & Selectivity**

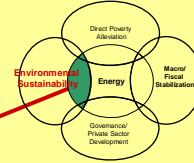
## What Will We Focus on?

### 4 Lines of Business

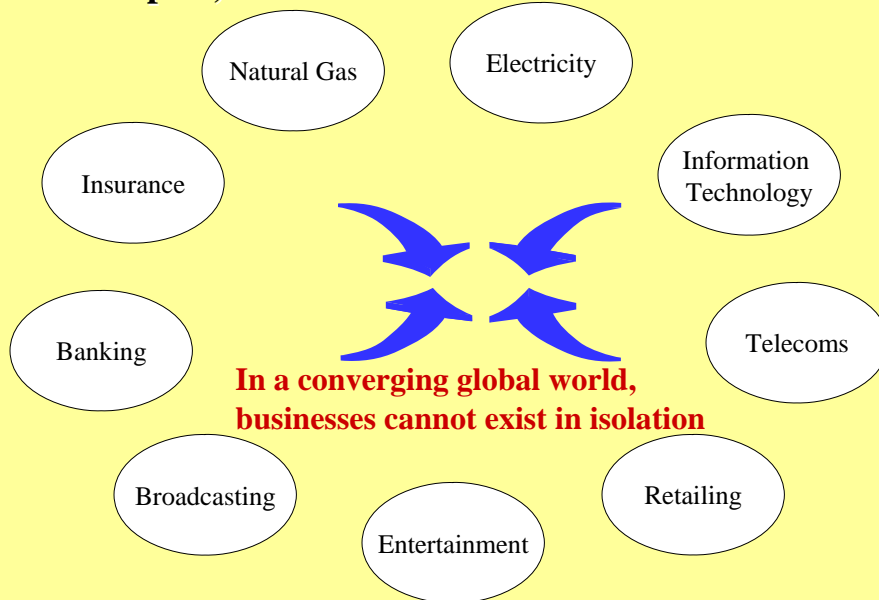
**Work with our clients & Partners to:**

Protect the Environment by

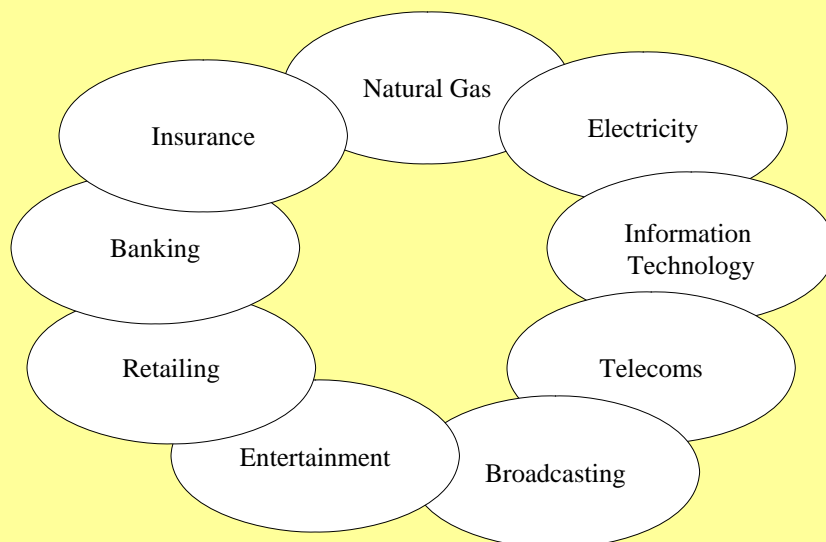
- promoting clean transport fuels & switching from coal to gas
- facilitating environmentally sustainable extraction, production, processing, transport and distribution of oil, gas & coal
- strengthening environmental management capacity in the energy sector
- removing market and regulatory barriers to renewables and energy efficiency investments for power and also biomass (e.g. improved cooking stoves for the poor)
- reducing gas flaring and facilitating carbon trading and joint investments to reduce GHG emissions



## In the past, businesses had clear-cut boundaries .....



## We are already seeing convergence across sectors



## Africa in the Context of Power Sector Reform

- Low Commercial Energy Consumption
- Low Energy Intensity
- Size of Power Systems
- Access to electricity
- Sector financial performance

## Energy Sector in Africa Commercial Energy Consumption

- Africa's share of world commercial energy consumption is small
  - low per capita incomes,
  - low levels of industrialization,
  - low ownership and usage of automobiles (around 20 cars per 1,000 people), and
  - low penetration of appliances like refrigerators, freezers, air conditioning, etc.

## Reliance on Traditional Energy

- Africa's enormous "commercial" energy resources are underdeveloped.
- Africa has poorly developed commercial energy infrastructure, including pipelines and electricity grids, to deliver commercial energy to customers.
- Widespread and severe poverty means that people cannot afford to pay for "conventional" energy resources, and must instead rely on biomass, etc.
- Many countries in Africa are landlocked, which makes the import of commercial energy resources more expensive

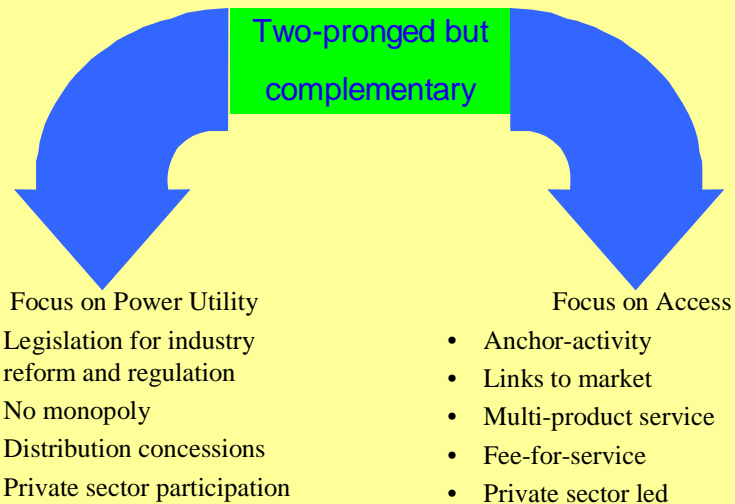
## Energy Consumption and Intensity

- As of 1997, Africa consumed around 26,300 Btu of commercial energy per 1997 dollar of GDP and 14.9 million Btu per person. This compares to world averages of about 13,600 Btu per 1997 dollar of GDP and 65 million Btu per person, respectively.
- While African energy consumption per dollar of GDP has been consistently far higher than the world average, African energy consumption per capita has been consistently far lower. So, although the average per capita energy consumption is far less than the world average, producing a dollar's worth of GDP uses more energy in Africa than the world average

## Generating Capacity of Power Systems in Sub-Saharan Africa

- 17 countries have power systems that have installed capacity less than 100 MW
- 17 countries have power systems that have installed capacity greater than 100 MW but less than 500 MW
- 4 countries have power systems that installed capacity greater than 500 MW but less than 1000 MW
- 7 countries have power systems that have installed capacity greater than 1000 MW but less than 6000 MW
- One country 's power system capacity at 39,154 MW is the fifth largest in the world

## Approaches to Power Sector Reform in Sub-Saharan Africa



## AFTEG's Link with CDM

- Small scale energy projects is main focus for CDM in Africa, including off-grid
- CDM can make small-scale projects more attractive to rural energy entrepreneurs
- Governments have a critical role in making the CDM accessible for rural energy entrepreneurs
- The WB CDM Assist Programme is committed in assisting the African Governments in setting up the enabling environment both for rural energy services and CDM projects



## Capacity building for small projects under the CDM

Jan-Willem Martens  
Energy research Centre of the Netherlands

*CoP 7, Marrakech*

### Overview presentation

- ECN study on streamlining CDM procedures for SHS
- Opportunities and challenges for small projects: why are we doing it?
- Actions and capacity building priorities

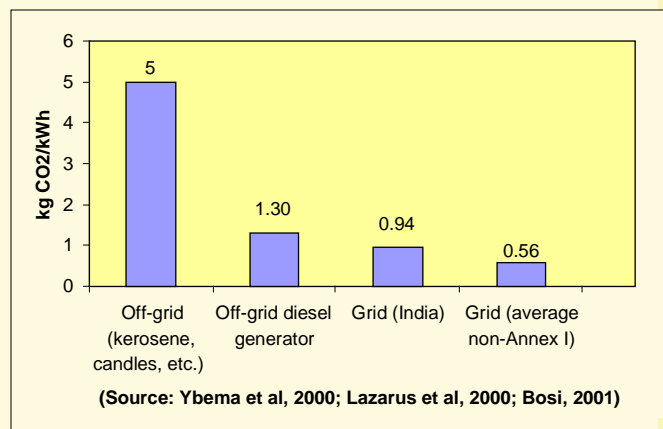
## Streamlined CDM procedures for SHS

- Sponsors: Dutch Export group on PV, Shell Foundation, NOVEM
- Partners: ECN, Sunrise Technologies, IT Power
- Phase I:
  - Develop standardised baseline methodology
- Phase II:
  - Develop complete streamlined CDM procedures for SHSs
  - Stakeholder feedback
  - Submit guidelines into UNFCCC process

## Key results of project

- Standardised baseline: Global emission reduction factor per SHS
- Simplified M&V procedures
- Institutional structures required for organising SHS-CDM project
- Insight in benefits and constraints of CDM for SHS and small projects in general

## The case for off-grid projects



## Small projects challenges

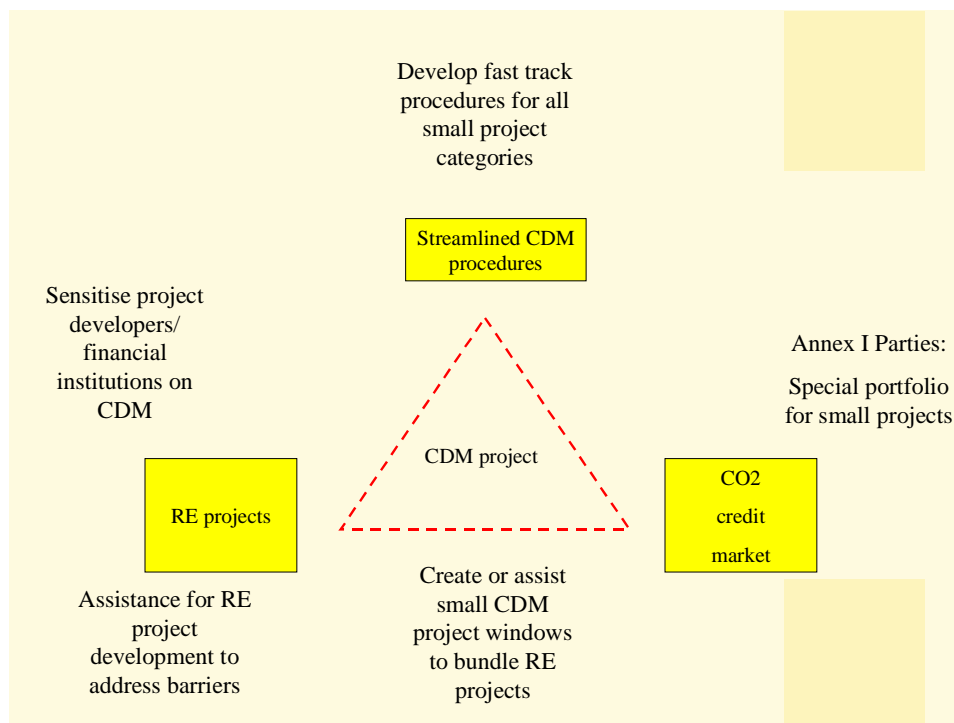
- Small quantity of CERs per project in relation to transaction costs
- Market for off-grid projects still in early development phase: many non-economic barriers do exist
- CER revenues around 5 to 10% of the project costs (based on US\$10/tCO<sub>2</sub>)  
CDM is no ODA or GEF!!

## Why try it anyway?

- CDM provides stable hard-currency revenues from credible investors and could thus trigger additional equity and debt financiers
- Investors may be willing to pay higher price for development benefits of small projects
- Global carbon markets can in the long run provide substantial revenues for small projects: get them on board!
- CDM is an incentive to keep systems operational and thus stimulates the sustainability of small projects

## What needs to be done?

- Higher credit price for small projects: Annex I Parties need portfolio approach
- CDM is complementary to not a substitute for other sources of project finance
- Development assistance is still required to address non-financial barriers
- fast track procedures for small projects
- Capacity building



## Capacity building in Non-Annex I parties

- Institute a CDM office based on joint govt. capacities: not only Dept. of Environment but also energy, development, industry, etc.
- Identify CDM priority areas (in coherence with national SD priorities)
- Organise (fast track?) approval procedures for priority CDM projects
- One CDM window for project developers

# CLEAN DEVELOPMENT MECHANISM

## THE DUTCH APPROACH

Reginald Hernaus

([www.cdminfo.nl](http://www.cdminfo.nl))

## Netherlands interest in CDM

- Kyoto: Netherlands shall reduce 250 Mton CO<sub>2</sub>
- 50% national and 50% international (JI and CDM # 125 Mton CO<sub>2</sub>)
- “Purchase of CERs in a cost-effective manner”
- Sustainable development

## DUTCH CERs PURCHASE APPROACH

- Equitable regional distribution
- Legitimacy and efficiency
- UN FCCC and KP supreme!
- A prudent multi track approach
  - M(F)Is
  - CERUPT launched today!
  - Private Financial Institutions
  - Bilateral PAs with host countries?





# Annex 3

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## **Minutes of a Planning Meeting between World Bank Prototype Carbon Fund / CDM-assist Program and UNFCCC Focal Point, Ministry of Water, Lands and Environment, Uganda**

on

### **World Bank Assistance for Capacity Building for the CDM in Uganda**

Final: 11 January 2002 – Johannes Heister

1. The meeting was held in Kampala on 15 November 2001 and was attended by:
  - Bwango Apuuli, Commissioner of Meteorology and National Focal Point for the UNFCCC, Department of Meteorology, Ministry of Water Lands and Environment, P.O. Box 7025, Kampala, Uganda, email: [bapuuli@starcom.co.ug](mailto:bapuuli@starcom.co.ug), Tel: +256-41-251798, Fax: +256-41-252797.
  - Philip Gwage, Assistant Commissioner, National Focal Point for the UNFCCC, Department of Meteorology, Ministry of Water Lands and Environment.
  - Lucian Tibaruha, Director, Legal Advisory Services, Ministry of Justice / Attorney General's Chambers, P.O. Box 7183, Kampala, Uganda, email: [tibaruha@infocom.co.ug](mailto:tibaruha@infocom.co.ug), Tel: 256-41-250825, Fax: +256-41-254829.
  - Johannes Heister, Senior Environmental Economist, PCF, World Bank, Environment Department (Leader of Delegation), 1818 St N.W. Washington DC 20433, USA, email: [jheister@worldbank.org](mailto:jheister@worldbank.org), Tel: +1-202-4584280, Fax: +1-202-614-0980

2. The meeting was held at the side of successful negotiations between the Government of Uganda (GOU) and the World Bank (IBRD) as the Trustee of the Prototype Carbon Fund (PCF) on the implementation of the West Nile Electrification project as a CDM project and on the purchase of emission reductions from this project by the PCF.
3. The Bank expressed interest in providing support to a sustained efforts to build capacity for attracting, implementing and administering CDM projects in Uganda as a supplemental activity to the West Nile CDM project activity described above.
4. The Ugandan side emphasized that their main interest lies in the areas of sustainable development, investment and institutional capacity. They explained which activities related to the CDM are currently being undertaken in Uganda:
  - a. Uganda participates in the EU-sponsored CDM SUSAC program (Start-up Clean Development Mechanism for ACP Countries), which focuses on methodologies for CDM projects, in particular baselines, in the areas of forestry, transport, energy, including related socio-economic issues. The program also works with the Ugandan private sector.
  - b. Uganda participates in the DANIDA/UNEP program on the CDM, which includes training components related to the CDM project cycle; the program aims at learning by simulating the implementation of CDM projects. This program ended in June 2001 with the following outputs:
    - Capacity built (project financial analysis and mitigation analysis)
    - Three project concept analyzed and baselines developed; and
    - Proposed institutional framework for implementing the Convention and the Kyoto Protocol with a focus on CDM.
  - c. Uganda is involved in three CDM project activities:
    - i. PCF West Nile Electrification project.
    - ii. Transalta livestock project: a research project on reduction of methane emissions from cattle and improvement of milk yields through locally produced improved cattle feed. Field trials are currently underway. Transalta, represented by Global Livestock Inc., has expressed interest to purchase the credits although no formal GHG credit arrangement exists.
    - iii. US IJI “Bridges for Light” project: US IJI is working with churches etc. and the private sector on a photovoltaic project that replaced kerosene use, but no GHG credit agreement exist for this project.

5. The meeting further discussed which types of capacity building would be most needed in Uganda and most conducive to promote Uganda's best use of the CDM. The group agreed on the following areas:

- a. Institutional needs: There is a need for the relevant institutions in Uganda to fully understand and appreciate the opportunities of using carbon finance for development. The GOU noted that the following two institutions should be given priority:
  - i. How would the CDM authority function in Uganda? The CDM modalities agreed by COP7 require that a CDM project country designates a national CDM authority. It is necessary for the GOU to analyze which role the national CDM authority (and possibly other part of the government) would have in order to satisfy CDM requirements and to promote the use of the CDM in the sustainable development process of the country.
  - ii. How can the Ugandan Private Sector Foundation be used to attract CDM projects? The use of CDM projects for development is similar to attracting investment and/or selling/exporting commodities. It would be helpful for the GOU and the private sector in Uganda to analyze whether and how the Ugandan Private Sector Foundation could be used to attract and assist with the preparation and implementation of CDM projects.

Note: A consultative meeting with key institutions has already taken place and it was recommended that a National Climate Change Secretariat be established. The Secretariat will handle issues of the CDM as well as the Convention. It is also proposed that the Head of the Secretariat reports directly to the Permanent Secretary and the Climate Change Policy Committee to ensure minimum delay in approving CDM projects. It is expected that the Secretariat will have to work very closely with the private sector, particularly umbrella organizations such as Uganda Private Sector Foundation. (see attached Report of Consultations)

- b. Legal framework: The group noted that, to date, a satisfactory analysis of the CDM's impact on a host country's legal system has not been undertaken. Therefore, the GOU is interested in analyzing whether and, if so, which modifications in its legal system would be conducive to the use of the CDM in its development process.

Note: It is probable that the Ministry of Justice and Constitutional Affairs may consider a separate law instituting the Secretariat and defining its functions and carbon as a new commodity under this act much easier than studying and

making recommendations for modification(s) of existing laws. Such acts would have to be undertaken by line ministries and may cause long delays.

The group agreed that the above areas could be at the center of attention of a possible capacity building program.

6. The group also considered other areas of interest, in particular:
  - a. Ugandan CDM strategy: Uganda's electricity sector is currently undergoing reform. In this context it may be helpful to study how due consideration could be given to CDM opportunities in Uganda's electricity sector planning and electrification strategy. The Bank noted that the Bank's ESMAP program could perhaps be interested in providing funding for such a study.
  - b. CDM project cycle: The group discussed that the mobilization of local capacity and support for the CDM project cycle, which would reduce CDM transaction costs, is important and that the GOU would appreciate hands-on assistance to Uganda (project-linked capacity building) in the following three areas.
    - i. CDM methodology (baselines, project development)
    - ii. Monitoring and verification
    - iii. Project agreements with project sponsors and carbon purchasers
7. The group discussed and agreed that a Bank supported capacity building program would have to be consistent with the following principles:
  - a. Minimalist approach: Recognizing that the potential for CDM projects in Uganda is limited, a capacity building program for Uganda must not lead to increased burdens on the Ugandan administrative system, but would first have to identify the institutional and legal provisions that are absolutely necessary for using the CDM successfully, before suggesting any modifications or institutional build-up. This approach is reflected in the lean structure recommended by the Consultative meeting. The Secretariat will also coordinate other issues under the UNFCCC.
  - b. Links with real CDM projects: Sustainable capacity building is achieved best if linked to real-life CDM project. Capacity building efforts should therefore make maximum use of existing and planned CDM project in Uganda.

- c. Coordination with other programs: A duplication of work must be avoided by close coordination in the planning and implementation phase with related efforts and programs such as those mentioned above.
  - d. Local content: Local capacity and resources, such as universities, should be used to the extent possible in order to broaden the impact of the program in Uganda. In particular, capable and eligible institutions and individuals that have not previously worked with the Bank, should be involved in the program.
  - e. World Bank comparative advantage: The Bank stressed that it would like to support with prior only those elements of a capacity building program where the Bank has a comparative advantage over other development institutions.
8. The group discussed the relationship of the above outlined capacity building activities with the World Bank's CDM-assist program. The Bank explained that it is prepared to work with Uganda on capacity building activities in the context of the CDM-assist program, if possible, or outside of this program, if necessary.
  9. The Bank mentioned that it would welcome an application from Uganda for the PCF fellowship program. The Ugandan side noted that it would be interested in participating and suggested that they would like to work with the PCF team to better understand how a stream of carbon revenues can be used to finance CDM projects – an issue that is pertinent to the West Nile project.
  10. The group discussed the next steps towards the development of a World Bank – GOU collaboration on capacity building for the CDM and agreed on the following steps:
    - a. Development of a framework agreement describing the nature and extent of the planned cooperation in view of the above principles.
    - b. Development of Terms of Reference for elements of the planned work. It was suggested that the first steps in developing TORs would be an exchange of ideas between Bank and GOU staff for activities in the following areas:
      - i. Institutional needs: Bwango Apuuli and Philip Gwage agreed to exchange ideas with Johannes Heister on a possible work program related to institutions for the CDM.
      - ii. Legal framework: Lucian Tibaruha agreed to work with Hernan Lopez (World Bank) on a possible work program related to the domestic legal framework for the CDM.

- c. The group also agreed that other ideas, in particular those mentioned above, could be taken up as appears necessary to make progress.

# Annex 4

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## CDM Capacity Building Programs in Africa

### United Nations Foundation (UNF)

#### *“Interim Program Framework for Sustainable Energy/Climate Change”*

The Program, launched in May 2001 will focus and concentrate grant making on programs and projects designed to:

- Develop and Demonstrate Sustainable and Commercial Approaches to Deliver Community-Based Renewable Energy Services;
- Improve Energy Efficiency in the Industrial, Residential, and Commercial Sectors through Market-Oriented Policies and Programs; and
- Promote the Clean Development Mechanism (CDM) as a Means to Engage the Private Sector in the Areas of Renewable Energy and Energy Efficiency.

The third focal area of the program, or the Clean Development Mechanism Program aims to promote the CDM, or equivalent market-based mechanisms, as a means to engage the private sector in the areas of renewable energy and energy efficiency, with agreement and approval of host governments.

UNF activities will support capacity building activities for both public and private sector to demonstrate on-the-ground pilot CDM projects, or equivalent market-based mechanisms, in the areas of renewable energy and energy efficiency. These include the identification, formulation, implementation and monitoring to certification of pilot CDM projects. Specifically UNF intends to help:

- Identify pilot CDM projects that will meet both sustainable development objectives of the host government and investment interests from the private sector;
- Support pre-feasibility studies and the development of selected CDM projects;
- Conduct independent monitoring and quantify carbon reductions for these projects; and
- Assist in the negotiation of Certified Reductions in GHG emissions through these projects

## UNIDO

### ***“Development of National Capacity to implement industrial Clean Development Mechanism Projects”***

After hosting an “Expert Group Meeting on the CDM and Sustainable Industrial Development: New Partnerships for Industry in Developing Countries” in Africa in 1998, UNIDO identified a number of potential areas where the Agency could contribute. As a result, in 1999, a regional project was prepared, consisting of six national components (Ghana, Kenya, Nigeria, Senegal, Zambia & Zimbabwe) and one regional component involving COMESA and ECOWAS.

#### *Project objectives:*

Assist African countries that are potential hosts for industrial projects under the Clean Development Mechanism to build up their methodological, technical, process and institutional capacity to enable them to benefit from the Mechanism by, inter-alia, helping to:

- Identify and implement a strategy to remove barriers to the transfer of climate-friendly industrial technologies;
- Develop and monitor industrial projects under the CDM in line with methodologies to be established by the UNFCCC Parties;
- Increase the flows of energy-efficient industrial technology; and
- Absorb and manage the technologies to be transferred under the CDM

The regional component supports the development of a common approach by African industry to the Climate Change negotiations, and encourages the implementation of industrial projects under the CDM. The regional component will create a group of African experts on industry and the CDM, increase the capacity of the two sub-regional organizations and invite the participation of other countries from the sub-regions in later phases of the program.

#### ***The project is being implemented in phases:***

##### Phase I (1999-2000)

- Preparation of a framework for capacity building in each of the six countries to enhance CDM processes;
- Country papers prepared by experts from each of the six African countries and from the Netherlands to develop a program framework;
- First assessment on needs and barriers to assist in preparing national “enabling environments” for industrial projects.



The program framework includes:

- Mobilizing the stakeholders and fostering public-private sector dialogue;
- Training of national experts from government, industry, financial and technology support services;
- Learning-by-doing industrial CDM projects covering the whole project cycle;
- Information dissemination and networking of partners to industrial development.

Phase II (2000-2001)

- Identification of potential CDM projects; project preparation;
- Assessment of specific barriers and needs and removal strategy;
- Capacity building strategy;
- Stakeholder participation, networking, and training.

General barriers identified:

- Lack of awareness in industry concerning climate change issues and the potential benefits of the CDM;
- Poor access to the necessary skilled personnel needed for auditing, implementing and managing potential CDM activities;
- Inadequate access of companies to financial assistance;
- Institutional barriers that include, among others, lack of policies to promote the take-up of clean production technologies, energy subsidies on high-carbon fuels, fiscal policies that do not promote foreign direct investment (FDI) and sustainable industrial development, and lack of integrated resource /energy policies.

Sector-specific barriers:

Industrial sectors considered are: cement, aluminum, iron and steel, pulp and paper, mining, electricity generation, electric motors, brick making and food processing:

- The main barrier identified was the high capital expenditure needed for implementing energy-efficiency measures;
- Reduced access to “state of the art” production equipment;
- Limited access to natural gas, which could be used in fuel substitution projects. Even in producing/rich countries, much is wasted (by flaring, etc) because the distribution networks are not yet sufficient.

8 single-industry, and 7 multiple-industry projects have already been identified.

Phase III (2002-)

- Preparation of specific project documents for each country for the purpose of assessing funds for some demonstration CDM projects, energy audits, and techno.-economic feasibility studies;

- Activities to enhance institutional and technical capacity building in each country;
- Bankable proposals (technology, provider, investor, financial analysis)

Two new countries have recently been included in the project and are implementing the first phase: Tanzania and Congo.

### **UNEP Collaborating Center on Energy and Environment (UCCEE)**

Since the Kyoto Protocol was endorsed, UCCEE has been involved in information, awareness raising and methodological development related to the CDM. These activities are funded by the Danish International Development Assistance (DANIDA).

CDM-related initiatives started in Zimbabwe assisting the private and public sectors to better understand and manage CDM issues. First results were presented at the workshop “CDM and Africa” held in 1998.

The initiative was later expanded to a project focusing on international climate change finance and sustainable development. Its purpose is to address, from a host country perspective, the analytical and institutional issues of CDM. The project has two components:

- National pilot studies on the opportunities, problems and requirements associated with the possible use of CDM
- Analytical studies and underlying methodology development to support the national studies and provide scientific input to the Kyoto Protocol process.

For the time being, the national studies include four African countries: Gambia, Ghana, Uganda, and Zimbabwe. The best-identified opportunities will be translated into CDM projects in each country; the process will analyze how these projects could be organized, assessed, marketed and implemented under CDM.

The analytical part of the project aims to develop the sustainability, additionality and host country (selection, assessment and financing) aspects of CDM projects

### **UNDP**

#### ***“Pilot Program for CDM Capacity Building”***

Following the Fourth Conference of Parties (COP) in Buenos Aires in 1998, UNDP has established cooperation for capacity building in CDM project activities in Peru, the Philippines and South Africa. The work is financed by the Government of Norway and includes national consultant teams working with public and private stakeholders to:

- Analyze possible areas for future CDM co-operation based on the national development priorities;
- Identify and formulate possible CDM projects for illustration purposes in the different national contexts;

- Convene stakeholder consultations at the local level.

The pilot program is assisting in the generation of local awareness and understanding with respect to the CDM, and the opportunities it may provide for promoting socio-economic development in the respective national contexts. Awareness-building targets both the private and the public sectors. The program does not involve the financing of investments, but is intended to assist in developing the knowledge and building the capacity necessary for attracting future investments. This includes understanding of the basic concept underpinning the CDM, and experience related to formulating and designing projects in a CDM context.

### **SUSAC Initiative**

#### ***“Start-Up CDM in African, Caribbean and Pacific (ACP) Countries”***

The Initiative, funded by the Directorate General Development of the European Commission, and co-funded by the UK's Foreign and Commonwealth Office (FCO) under its Climate Change Challenge Fund (CCCF), is led by the University of Stuttgart's Institute for Energy Studies and Energy for Sustainable Development, a UK consultancy and engineering group.

The developing country representatives in the consortium are ENDA TM, a Senegalese development organization, the Meteorological Office of Uganda and the Center for Energy, the Environment and Economics in Zambia.

#### *Project Objective*

The CDM Susac project aims specifically to put in place all the necessary mechanisms for building local capacity and transparent identification, verification and monitoring procedures for ACP countries to not only be at the front of the queue for CDM investment, but actually lead the developing world and it adopts a learning-by-doing, fast track approach over its two year life.

It is expected that the CDM Susac project will lead to investments in key sectors (primarily energy). These will be identified in conjunction with market players, and will be developed through operational national secretariats co-ordinating national and international activities. These secretariats will identify and promote projects that meet developmental and environmental objectives that result in accelerated national growth on an equitable, low-carbon path.

## **GTZ**

### ***“Measures to Implement the Framework Convention on Climate Change”***

The third phase of the program is concentrating on issues related to the Kyoto Protocol particularly the CDM, and giving developing countries the opportunity to jointly identify resources for introducing CDM activities and to develop national or regional human resource and institutional capacities. In this phase, the GTZ is co-financing projects in Morocco, Chile, Indonesia, and possibly China. Concrete actions are taken in CDM-relevant projects in Indonesia and Chile, where the Agency cooperates with the National Strategy Studies Program, managed by the World Bank.

Other areas of cooperation include projects contributing to special topics of the CDM like baselines, where a methodology for baseline-options for CDM-projects producing power from renewable sources of energy and feeding it into a national grid were elaborated in case study on a wood waste power plant in Zimbabwe; and the issue of additionality and the experience gained for the CDM under the AIJ pilot phase (assessed focusing on non-sink projects in developing countries).

# Annex 5

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## Proposal of ENDA-TM

### Clean Development Mechanism (CDM) – assist Program

#### Background

Since 1989, a broad-based international dialogue has led to the UN Framework Convention on Climate Change. The Convention translate into a symbol of hope for all. In signing and ratifying the Convention, all countries made commitments to cooperate in advancing sustainable development priorities worldwide. In addition, developed countries committed themselves to reducing their domestic GHG emissions by year 2000 and to assisting developing countries in their efforts to mitigate and adapt to adverse impacts of climate change. Despite these commitments, implementation has been limited.

The Global Environment Facility (GEF), a financial mechanism of the UNFCCC, was established to assist non Annex I Parties in the management of the global environmental commons. It offers financial assistance to developing countries seeking to comply with their obligations under the Convention. One of its mode of operation is to grant funds to developing countries to cover the incremental costs of investment projects that reduce the risks of the global climate change.

Unfortunately, the resources of the Global Environment Facility are largely insufficient to fund all necessary climate-related activities. Thus, the flexible mechanisms of the UNFCCC's Kyoto Protocol are needed to re-direct new and additional financial resources to developing countries grappling with climate change issues. These flexibility mechanisms (especially the Clean Development Mechanism) could be critically important sources of investment capital for Africa. But to attract this new investment, African countries need to develop appropriate capacities and a business environment which can compete successfully in a global capital market. In addition, to ensure that the CDM regime is designed in a way that addresses African needs, the countries of the region must make their voices heard in the international climate change negotiations so as to ensure that their interests are taken into account when any new global agreement is formulated.

The Convention emphasizes the fact that countries have both common but differentiated responsibilities in dealing with the complex problem of climate change. Despite Africa's

low current level of GHG emissions, concrete actions and new partnerships are necessary today in order to advance a ‘no-regrets policy’, reducing the risks that climate change will cause devastating impacts in African countries. In order to take full advantage of the emerging opportunities for investment and new partnerships, African countries should identify projects that respond to their development priorities, promote adaptive responses to climate change impacts and reduce future rates of growth in GHG emissions. Such projects can involve a wide variety of sectors including agricultural systems, transport, energy, housing, mining and manufacturing.

### ***Objectives***

The overall objective of CDM-assist Program is to supplement capacity building initiative in the region that will contribute to identifying high quality projects for carbon offsets and attracting foreign investments.

More specifically this Program will contribute to:

Create the underlying capacity needed to act as a basis for modular, donor-funded capacity building and CDM investment activities;

- Promote a regional balance and diversity CDM projects;
- Build capacity to empower Africa to benefit from the emerging market in CDM projects;
- Follow up on previous and current work on AIJ projects;
- Involve the private sector in Africa through (a) analyzing investor requirements and needs relative to potential risks and (b) assisting in the identification and development of appropriate CDM projects;
- Promote and enable the transfer of cleaner technology.

### ***Implementation process***

The implementation of such Program in a continent such as Africa will require:

- working at least in two main languages (English and French) commonly used in the region,
- the elaboration of various materials including targeted awareness raising fact sheets and briefing packages, training/workshops curricula and package,
- producing some technical papers on issues such as baseline determination, sustainable development criteria, projects identification, formulation and implementation, etc.,
- conducting workshops and policy dialogues, and
- providing technical assistance to national teams working on CDM projects.

Base on the outputs of various workshops, reports, consultations and particularly the report of the capacity building need assessment for the implementation of the Kyoto Protocol in Africa conducted by ENDA in collaboration with EDRRC, we propose to organize a scoping meeting to prepare the details of the implementation of the Program, including details of the activities, targeted countries, focus, structure, financial

implications, time table of various activities and responsibilities of the various partners. This meeting will be attended by regional partners and selected key African experts.

ENDA is willing to be one of the key partners of the project and therefore will be involved in all the activities including preparation of the various materials, organizing workshops and policy dialogues and providing technical assistance to selected countries for projects identification and formulation.





# Annex 6

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## **Conclusions and Recommendations of the Capacity Building Needs Assessment for the Implementation of the Kyoto Protocol in Africa**

The capacity needs of African countries vary widely depending, inter alia, on the degree and level of involvement of each individual country in climate change activities, national development priorities, levels of technological advancement, socio-cultural and ecological differences, and economic circumstances.

However, some common features do exist among countries, on the basis of which strategies and programmes can be successfully developed to address capacity needs. Hence, capacity deficiencies in African countries can be addressed at both individual country and global levels.

The intense dialogue, consultations and other preparatory activities organised between UNITAR, members of the NGO Consortium, National Climate Change Focal Points and Country Investigators; and the valuable inputs generated during the Experts Seminar in Accra, Ghana, greatly facilitated the needs assessment exercise which, subsequently, led to the following conclusions and recommendations:

1. Of the three categories of organisations surveyed, the Government sector is the most involved in climate change activities. The Business/Industry/Private and Academic/Research/NGO sectors are less active due, to a large extent, to the fact that the climate change focal offices in most of the countries are Government agencies which do not encourage the non-government sector to participate freely and actively in the climate debate, either alongside or in support of government representatives. Only a few countries operate the open-door policy wherein they invite the non-government sector to participate not only in in-country climate change activities but also in climate-related fora taking place beyond the countries' borders. For largely this reason, the level of participation in CDM activities, by government agencies, is greater than in the Business/Industry/Private and Research/Academic/NGO sectors. Although, in general, only about 60% of organisations in the countries surveyed participate in current CDM activities.

2. Virtually all sectors have shown very keen interest in participating in the CDM, Joint Implementation and Emissions Trading. This desire is borne in the fact that about 95% of the organisations (all sectors) interviewed have expressed the desire to participate, and only 3% are not interested in participating. However, it is noteworthy to mention that the desire to engage in future CDM activities is greater in the Business/Industry/Private sector who see it as a potential source of viable business ventures.
3. The CDM, like the other Kyoto mechanisms, is an entirely new concept in Africa, where, people, invariably, are neither currently aware of it yet nor in a good state of preparedness to implement its activities. Recognising this fact, African countries consider it imperative that all stakeholders become conversant with some of the basic aspects of CDM implementation such as CDM Project Selection Criteria, CDM Advocacy and Awareness Raising, Determining CDM Project Baselines, CDM Project Verification, Monitoring, Evaluation, and Analysis of CDM Project Eligibility, and above all, building capacity for all these aspects.
4. Because of Africa's limited awareness on climate change issues and the anticipated benefits from the CDM and other Kyoto mechanisms, most countries have not yet started factoring into their development frameworks, mechanisms that would ensure priority treatment of climate change matters, especially the CDM and the other Kyoto Protocol issues, particularly in terms of allocating professionals to crucial tasks, on full-time basis.
5. The principal focus of Africa's desire to participate in the CDM and other Kyoto mechanisms is to further facilitate sustainable development.
6. The countries surveyed are, in general, involved in climate change activities to a very limited extent. The highest level of involvement (by a mere 43% of entities) is in the Screening and Selection of Mitigation Options. Involvement in climate change has, to a very great extent, been limited to areas relating to the preparation of national communications and national action plans for climate change, including Compilation of Greenhouse Gas Inventories, Screening and Selecting Adaptation Strategies, Preparing Vulnerability Studies, and Designing and Implementing Awareness Building Programmes. The low level of involvement signals, inter alia, inadequate capacity and the need for greater awareness on the part of actors. This fact is also reflected in the limited number of publications released on climate change activities and the Kyoto Protocol mechanisms, especially the CDM.
7. The elements that have contributed very significantly to capacity-building initiatives have been Workshops and Stakeholder Dialogues, Fact Sheets and Briefing Packages and Support for National Communications. Other activities which, to a lesser extent, contributed to capacity- building in varying degrees,

- include Ministerial Meetings, Senior Executive Seminars, Capacity Building Under the CDM, Technical Assistance, Institutional Capacity Building, Technology Transfer, Negotiation Skills Training and Support for Adaptation Activities.
8. The capacity building activities currently in the countries' top priority list are Institutional Capacity Building, Human Resources Development, Capacity Building Under the CDM, Workshops and Stakeholder Dialogues, Technology Transfer and Technical Assistance. These activities are viewed as having the potential to give a big boost to the performance of the countries in the implementation of current climate change activities, as well as lay the foundations for effective participation in future activities. Hence, there is ample justification for expanding these activities.
  9. Among the various funding sources that may have the potential to fund capacity-building programmes, those considered important at this point in time include government funds and other national funding sources, the Global Environment Facility (GEF), World Bank – International Development Agency (IDA), UNDP, other International Governmental and Multi-lateral sources, bi-lateral agencies, foundations and NGOs.
  10. The capacity needs of African countries are enormous and require heavy outlays in terms of financial and human resource inputs. Ensuring utilisation of these resources to best advantage calls for continuous monitoring of programmes using a set of specific criteria. But establishing criteria for aspects such as the Kyoto mechanisms, particularly the CDM whose nature and modalities for implementation are still being debated, may not be as easy as setting criteria for other core Convention activities implemented since Rio. However, there are various aspects that can be used as criteria for assessing successful capacity building for which the results in this assessment have already provided baselines. The aspects (criteria) include the current numbers of professional staff participating in the CDM, number of publications, number of climate change projects, levels of awareness of stakeholders on climate change, number of organisations and sectors actively involved, levels of participation in the IPCC process, number of organisations actively involved in the CDM debate, number of CDM activities undertaken by organisations and number of national communications completed in a given time period.
  11. Enhancement of existing national and regional resources and capacity to best advantage, enriching the information base of policy makers to enable them make more rational policy decisions, and effective co-ordination of Kyoto Protocol activities should be key factors in determining activities that would facilitate implementation of the Kyoto Protocol. Hence, organisations place top priority on the Strengthening National Centres of Excellence, Providing Information to

Senior Policy Makers on the Benefits for Development that can be Captured through the Kyoto Protocol, and Creation of a Single National Entity to Coordinate the Review and Approval of CDM Projects.

12. The following conclusions are relevant to awareness raising in African countries:

- Stakeholders to be involved in awareness raising must be carefully selected. The Design and implementation of awareness programme would be effective only if the right target groups were targeted. For instance CDM is an interesting concept since it makes sustainable development one of its hallmarks. It would ultimately bring in investment and as such there are three areas of key interest: agriculture, energy and industry and since sustainable development is an all encompassing concept it should include all major stakeholders. So, the challenge here is to determine who are the right stakeholders and distinguish what each one can do in order to ensure a participatory approach.
- Five government sectors are potentially key targets for awareness raising. These are environment, energy, transport, external affairs and finance. Inter-ministerial committees, where they exist, also need awareness raising. The constant flux of personnel assigned to these key duties in climate change issues means that the relevant expertise is, at best, limited and, at worst, squandered. One suggestion to counter this problem is to follow Ghana's EPA example and have an environment desk so that certain people are ascribed the responsibility for climate issues. The same structure exists in Kenya but they meet every month with a set agenda and are also obligated to keep each other informed on climate issues that take place internationally, in order for other people to benefit from this shared information.
- Although climate change and climate variability are not necessarily linked one could use extreme weather events as case-studies to raise awareness since people would pay more attention to real live events (such as the devastating consequences of the recent floods in Mozambique). Most African countries would tend to exhibit meagre capacity in adapting to climate change, therefore one way of building capacity and awareness is to draw more attention and emphasis to such human catastrophes, focusing attention on ways to reduce the vulnerability of local communities.
- Focal points are highly important in awareness raising on climate change. This is precisely because they are responsible for dissemination of information, and lack of awareness in their own governments would render their roles extremely difficult.
- Stratified decision-making is absolutely essential in awareness raising. It would help devolve authority to officials current on climate change issues to

readily share their knowledge with others needing it, rather than having to refer people to their bosses who may not be au fait with key issues.

As regards effective tools for promoting awareness raising, suggestions could include the following:

- Policy makers must have concise, illustrative fact sheets. The adoption of an integrated approach that would aim to be all-inclusive would be an effective way of reaching out to the people concerned. Also, organizing debates within the relevant ministries such as the Ministry of local government, environment, energy, finance and external affairs would generate relevant information and determine the linkages between such ministries. Meetings could be organized on a yearly basis so fact sheets could be used more frequently.
- To address problems regarding capacity building, structural difficulties must be tackled as a matter of great urgency. Computers and books must be provided where necessary.
- Workshops and short courses as well as business and policy-oriented packages should be used in order to raise awareness among the relevant target groups. The fact that much of the work done in Africa goes unreported necessitates urgent action to provide African scholars with greater insights into research that is taking place on the continent. Training institutions that could facilitate information exchange and act as centers of excellence where people could go and acquire knowledge on climate change are urgently needed. One should encourage an integrated approach where partners remain in tune with events and research carried out within the continent.
- A strategic action plan for awareness raising and capacity-building in general should be developed.

It is important to initiate action towards creating a constructive network on climate change in which different partners could explore possibilities of collaborative research, joint projects and ways and means of building capacity within the African continent.

