



REPUBLIC OF BOTSWANA



UNEP
RISØ
CENTRE

ENERGY, CLIMATE
AND SUSTAINABLE
DEVELOPMENT

Capacity building for the Clean Development Mechanism (CDM)

Final National Workshop in Botswana, 23
September 2013

CDM PROJECT DEVELOPMENT IN BOTSWANA – ACHIEVEMENTS AND CHALLENGES



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OUTLINE

TRACKING SOME ACTIVITIES

CURRENT PROJECT

§ SCOPE OF WORK

§ ACHIEVEMENTS

§ CHALLENGES



PAST CLIMATE CHANGE PROJECTS

- § UNEP funded Mitigation studies 1995
 - § GEF funded projects-
 - § Enabling Activities-1999
 - § NC 2000-2001
 - § NMT PDFA 2004
 - § PV Barrier PDFB
 - § USIJ project development- no funding-1998
 - § CDM capacity building initiatives- SHELL Foundation/MEPC, 2000;
 - § EU-SENERGY CAPSSA, 2001-2003.
 - § CDM Synergy CB Sub Sahara- 2003-2004
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The background consists of several overlapping triangles. A large orange triangle is on the right side, pointing towards the top-left. On the left side, there are two blue triangles: a lighter blue one on top and a darker blue one on the bottom, both pointing towards the top-right. The text is centered horizontally across the white space between the triangles.

TERMS OF REFERENCE/SCOPE

Result	Activities	Period to be completed
Expected Result 4	Activity 4.1 Hold meetings with local NGOs and communities representing people potentially affected by CDM projects	Nov2011-Jun 2012
	Activity 4.2 Two PDDs to be selected and developed among the best PINs	Nov2011-Jan 2013
CDM project appraisal skills and capacity of local financial institutions has been built by the CDM Capacity Building Component	Activity 4.3 Explore financing options by facilitating meetings among financial sector, private investors and government representatives	Feb/Mar2011-Jan2013
	Activity 4.4 Advise DNA / investment promotion authority on format and contents of their participation in Carbon Expo to promote CDM portfolio and institutional preparedness	Feb2012-April 2012
Expected Result 5 & 6	Activity 5.1 Identification/selection of two high-potential sectors for CDM project development	Feb/Mar 2011-Jan 2013
	Activity 5.2 National approval of project concepts	Feb/Mar 2011-Jan 2013
	Activity 5.3 At least three PINs to be developed in each priority sector, i.e.6 PINs in total	Feb/Mar 2011-April 2012
	Activity 6.1 Select a country representative to participate in Carbon Expo to present and promote portfolio of PINs and PDDs	May 2011 and May 2012

ADDITIONAL TERMS OF REFERENCE (DMS/URC)

INSTEAD OF PDDs do PoAs

Develop Generic CPA for each PoA

A portfolio of 2 CPAs in addition to the PoA-DDs and generic CPA-DDs for the two selected sectors for Botswana.

TORS- AS ADDRESSED

Activity 5.1 Identification/selection of two high-potential sectors for CDM project development

Activity 5.3 At least three PINs to be developed in each priority sector, i.e.6 PINs in total

Activity 5.2 National approval of project concepts

Activity 4.2 Two PDDs to be selected and developed among the best PINs

SELECTION OF SECTORS

This activity was agreed at start of the project between URC, DMS and communicated to EEGG. The sectors selected for support on CDM project development are


- energy sector and
- waste sector.

SECTOR	Name of organization	Contact Persons	Project Title	CERs tCO ₂ /year	applicable methodologies	Status
ENERGY	Botswana Power Corporation / Re Botswana – BPC Lesedi (Pty) Ltd	Contact: Mr Walter Kgabung Tel: 3911299 Fax: 3911300 wmgabung@bpclesedi.co.bw	PoA- Biomass burning energy efficient cooking technologies in households, institutions and small businesses in Botswana.	50000	AMSIIIG & AM0094 for cook stoves	A complete PIN on efficient fuelwood cook stoves has been developed under another project support but BPC would like the project activity to be considered for support under the EU-ACP-MEA CDM project. The original PIN has been submitted at this stage. EECG will transfer it into EU-ACP-MEA PIN format.
	Wind Edge Botswana	Contact: Dr Wayne Edge Tel: Fax: E.mail: wayneedge@yahoo.com	Botswana Wind Energy Project: 50 large wind turbines producing 100 MW of power for Botswana.	228000	ACM0002Consolidated Methodology for Grid-Connected Electricity Generation from Renewable Sources	This project has attracted attention both of government and other investors and soon wind measurements will be carried out to verify wind speeds for design of the project. There are also a number of investors that will work with the proponent going forward. Full PIN has been included with this report
	Agna Ventures	Contact: Mr Percy Lekoba Tel: 3187914/72 240621 Fax: E.mail: percyl@botsnet.bw	Efficient Cool Buildings Programme in Botswana. Application of ceratech coating to building roof surfaces	39000 (based on projected surfaces that can be painted)	AMSII-EE/Fuel switching (FS) in various buildings; AMSIIF on Agric bldgs;AM0091 EE/FS in new buildings	Proponent has used some baseline data to estimate how much surfaces can be painted in the next 10 years of crediting period. The PP is however undertaking active marketing and the surface area is expected to increase. The CERs have been estimated based on the projected baseline data and some energy intensity kWh/m ² that have been determined in Botswana for various institutional and commercial buildings.

WASTE SECTOR	Bostrich	Contact: Mr Callie Rapula de Bruyn Tel: 72333155 Fax: E.mail: veridebt@opqnet.net	1 MW power generation from biogas in Mmamashia, Botswana	28000	ACM0010;A MSIID; AMSIIAO;A M0075	Feasibility study supported through EEP. The project is going into EIA. Full PIN is attached .
	Bio sys	Contact: Mr Simon Mahosi Tel: 72474730 Fax: E.mail: simonmahosi@yahoo.com	Biosys Biogas Project at Botswana Meat Commission	78505	ACM0010;A MSIID; AMSIIAO;A M0075	Full PIN attached in a slightly different format. PP still needs to be granted permission to use land and animal waste and abattoir waste. EECG has made a suggestion to Bostrich and Biosys to collaborate on a PoA and that is being actively pursued but no final decision has been made yet.
	EAD-biodigester	Contact: Ms Gina Wright Tel:3914221 mwright@gov.v.bw	A biogas plant at Mabesekwa village for cooking and lighting purposes	600	ACM 0010; AMSIID; AM0075; AMSIIAO	Project has passed feasibility stage and is seeking investors. Full PIN has been attached as part of this report.

OTHER ENERGY	Kalianan Energy	Contact: Mr Julian Scales Tel: 3973386 Fax: E.mail: julian@scale.s.co.bw	90MW Diesel generator to CBM	Not determined	AMS IIAA; AMS111AH	Full design done, working on acquiring land, PPA with BPC and working on tariff structure. Plant constructed currently running on diesel. Raising finance for pipe line and production well. Setting up gasifier factory and acquired gasifier to start manufacture of gasifiers in Botswana. PP met once but no PIN developed to date. PP now difficult to find.
	Power Tower (Pty) Ltd	Jack Thipe 3105240/73 278548 jackthipe@nbc.co.bw	Power Tower 200 MW Up-draught Solar Power Station (Botswana)	788 400	ACM 0002 - Consolidated Methodology for Grid-Connected Electricity Generation from Renewable Sources	The PIN is ready but is being submitted to various potential sponsors. PP has actively participated in the EU-ACP-MEA CDM workshops and is also seeking support from EEGC on the way forward with regard to preparation of the PDD. Will require permission of PP to release PIN. The Project activity can however be show-cased at the carbon Expo 2012.
OTHER-WASTE	Department of Forestry and Range Resources / Forestry and Range Management Section	Dr Ralf Zimmerman/ Mr Manene	A decentralized power plant powered by biogas and wood chips	not determined	ACM0010;AMSIIID;AMSI IIAO;AM0075;AMSIF for invasive species	Has drafted a project proposal for financing of a project feasibility from the Global Environment Facility. That feasibility will inform whether the project can go ahead or not. Meanwhile EEGC is guiding how to frame a CDM project activity
	Zillion Investments		Landfill gas through Pyrolysis for electricity generation	not determined	AMS IIII; ACM0001	PIN not yet developed until a landfill site has been identified and provided for project use. PP will approach local authorities in Palapye.

PROPOSED CRITERIA FOR SELECTION OF PROJECTS TO BE SUPPORTED TO PDD STAGE

- Sizeable CERs above equal or >15kt/year
 - Clear CDM methodology available
 - Feasibility studies done or to be done in good time
 - Moderate capital layout with clear sources of financing or negotiated ERPA
 - Technology maturity and feasibility
 - Strong project proponent with some technical knowledge about their project , passion and some resources for start-up activities
 - Prospects to be registered before 2012 and implemented
 - Variety of project types (maybe similar e.g. biogas combines as PoA to share transaction costs).
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RESPONSIBILITY EECG/PP

- SUPPORT TO DEVELOP POA-DD (choose CDM approaches, methodologies- also assisted with investment/barrier analysis
- PP to provide project information, technology choice and performance. Do feasibility study as necessary, pay for EIA

ACHIEVEMENTS

- PoA-DDs (+2 generic and 2 specific CPAs) developed- 1 energy efficient project and 1 waste project
- Documents reviewed widely and shared with some DOEs
- were ready for validation and perhaps registration
- About the project that reached PoA-DD level. Previous ones ended with PINs.
- PPs WALKED WITH THEIR PROJECTS and shared at Carbon Expo and will share today-

CHALLENGES

EECG- using resources that could not go beyond consultancy for us. No resources to continue providing support, no resources to assist PPs with Validation costs.
Could not assist in getting loan for projects

PPs- require continued technical support and resources for validation



Activity 4.3 Explore financing options by facilitating meetings among financial sector, private investors and government representatives



Proponent	Status
Barclays Bank	<p>A meeting was arranged and the EU-ACP-MEA CDM project presented to Barclays officials in the Marketing Department. Barclays indicated that they financed any project that met their investment criteria. However they did not have a particular package specifically designed for CDM project. Though the Botswana office did not have CDM expertise, they could always tap into international experience from their global network of banks especially from the London Africa Desk.</p> <p>Barclays was also invited to the 2nd workshop and representatives from Barclays Bank gave a presentation at the second workshop. Barclays Bank further expressed a desire to know more about the CDM opportunities in Botswana and how they could exploit them. A presentation is scheduled to be made at an opportune time to various Barclays Managers.</p>
Citizen Empowerment Development Agency (CEDA)	<p>A presentation was made at CEDA at the request of CEDA management to explain CDM and the EU-ACP-MEA CDM Project in particular. EEGC made a presentation to CEDA officials covering the both aspects. CEDA mentioned that they support any project that can at least break even. With regards to CDM the institution did not have any portfolios or packages designed specifically for CDM as they did not have in house expertise to cater for CDM. Furthermore it was resolved that CEDA link EEGC with PP that have projects that could qualify as potential CDM projects.</p>
Standard Chartered Bank	<p>Both telephone and email contact was made with the bank. It was assessed that there is a general lack of awareness on CDM in Standard Chartered Bank Botswana. Repeated attempts to set an appointment with the marketing manager were not successful.</p>
FNB	<p>There is a general lack of awareness on CDM in FNB Botswana. Repeated</p>

Stanbic Bank	There is a general lack of awareness on CDM in Stanbic Bank. Repeated attempts to set an appointment with the marketing manager were not successful. EECG contacted Muyi Kazim of Standard Bank Nigeria who has links with Standard Bank South Africa and Stanbic-for assistance in making an appointment at Standard Bank SA and Stanbic Botswana. Muyi recommended that this would be possible after the projects are well developed.
Capital Bank	There was no response on email contact from Capital Bank to meet and introduce the project.
Botswana Development Corporation (BDC)	The appointment with BDC was cancelled meetings at the last minute by BDC. Another meeting will be scheduled in due course.
Botswana Chamber of Commerce, Industry and Manpower (BOCCIM)	The BOCCIM CEO had to cancel the meeting at the last minute due to ill health. They were also invited by the DNA to the second workshop (7-9th September, 2011) to give the key note address but did not turn up.
Institute of Bankers	No response was gotten from the institute of bankers
Southern African Trade Hub (SATH)	The Hub has changed personnel dealing with energy and it has not possible to set an appointment to date. The Hub is supported by USAID to promote trade in the SADC region and have previously supported initiatives related to electricity trade, energy regulatory frameworks and capacity building for Renewable Energy Project development.

<p>Development Bank of Southern Africa (DBSA)</p>	<p>The DBSA emphasize on large energy infrastructure projects on generation transmission and distribution. The size of projects that they finance should justify investment and contribute to regional integration through meaningful development e.g. interconnections. DBSA's current projects portfolio is currently 60% RSA and 30% SADC and focuses on Investment banking, capacity building, Project development facility, Monitoring and Evaluation.</p> <p>Empowering of Independent Power Producers and provide equity investment e.g. hydro in Zambia. DBSA is also managing EEP funding which support renewable projects in 8 Southern and East African countries. Botswana project developers can benefit from this funding for prefeasibility, feasibility, pilot and demonstration of RE/EE projects. EEGC engaged with DBSA on their potential support for RE/EE projects in the SADC region and they can have a window for investment if convinced of the merit.</p>
<p>Energy and Environment Partnership Programme (EEP)</p>	<p>The Energy and Environment Partnership (EEP) is a programme which promotes renewable energy (RE), energy efficiency (EE), and clean technology investments in Botswana that is being managed by the DBSA and financed by the Finnish and Austrian Governments. The project is already financing 3 projects in Botswana and will run up to the end September 2012. One of the projects selected for PDD development, the one for Bostrich benefited from the EEP support to undertake feasibility study.</p>
<p>Industrial Development Corporation (IDC) of South Africa</p>	<p>The IDC finances industrial development project mostly in South Africa but partly also in the rest of South Africa. The organisation has committed R25 billion to Green projects in the next 5 years. 22.4 billion On RE/EE projects e.g. waste to energy, biofuels/bio-ethanol. IDC has an opportunity to support project implementation through a credit line provided by the KFW for carbon</p>

Presentation at CEDA

ATTENDANTS

- *Ms Oarabile Ditshego (Research)*
- *Mrs Shelter Sheleni (Research)*
- *Mr Mothusi Mongalo (Research)*
- *Mr Mides Sekgabo (Head of Research)*
- *Mr James Moribame (Head of Property and Manufacturing)*

The meeting was facilitated by the EECG consultants and a representative from the DNA (Juliet Selato) was also part of the people who attended the meeting. The meeting was held at CEDA Board room. EECG also made a power point presentation to CEDA officials and explained in detail what CDM project was about and how the carbon market functions.

As a financial institution CEDA has to make profits to fund other people who seek funding so it is clear that they want to engage on something that can bring in money into their system, so their stand on CDM can be said to be somewhat undecided. They need capacity building in the institution about CDM and its benefits.

ACHIEVEMENTS

- **CREATED SOME AWARENESS WITH BANKS AND OTHER FINANCIERS**

- **SOME FIS HAD INTEREST AND CAME TO OUR WORKSHOPS.E.G. BARCLAYS BANK**

CHALLENGES OF FIS

- LoW LEVEL OF AWARENESS to make informed decisions on creating CDM portfolio.
- THOSE WITH SOME IDEA HAVE NO INTERNAL CAPACITY TO APPRAISE CDM PROJECTS
- SOME HAVE INTEREST BUT FOLLOWUP ONLY DEPENDS OF EXTERNAL SUPPORT BEFORE THEY TAKE "RISK". OFTEN PROJECTS LIKE THIS ARE TOO SHORT TO BUILD ADEQUATE INTEREST AND CAPACITY.
- DFIs and PROJECTS e.g. DBSA, IDC, EEP have carbon offsets as part of the objectives- but not at level of CDM. Capacity exists but also limited.

Activity 4.1 Hold meetings with local NGOs and communities representing people potentially affected by CDM projects

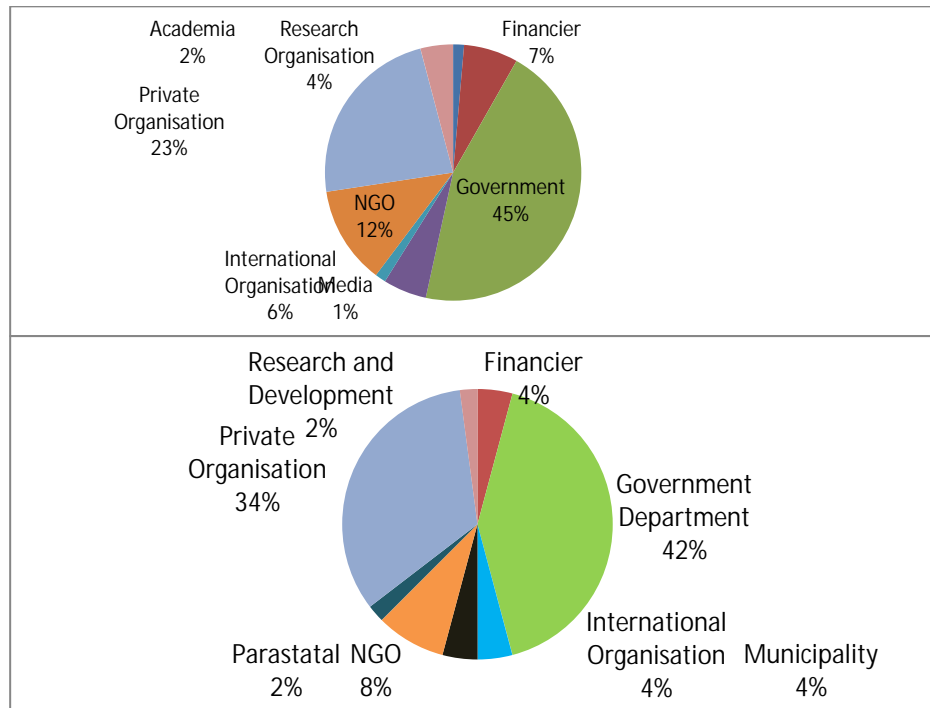


Fig 1 Attendants at First national CDM workshop (above), 2nd workshop (below)

Specific interview has also been carried with Somarelang Tikologo which is an NGO working in the energy sector. The NGO is in support of CDM activities and has also been developing a project activity seeking support from the EEP but were not successful "Removal of barriers to adoption and use of renewable energy technology, energy efficiency and conservation in households in Bontleng"

. Both the first and second workshops deliberated on Sustainable development aspects of CDM, enough to give a stakeholder perspective of what is expected and what projects will be good for development.

Stakeholders are also being consulted as part of EIA process in the case of the Bostrich project

ACTIVITY 6.1 SELECT A COUNTRY REPRESENTATIVE TO PARTICIPATE IN CARBON EXPO TO PRESENT AND PROMOTE PORTFOLIO OF PINS AND PDDS

- 2 CARBON EXPOS DURING LIFE OF PROJECT
- 1ST EXPO WAS TOO EARLY TO ATTEND AS STARTING OF PROJECT DELAYED.
- PPs OF THE SELECTED POA- legitimate to attend to show case their projects- am sure they will report on their experience.