



# **Clean Development Mechanism in Tanzania**

# GENERAL OVERVIEW OF TANZANIA.



## *Physical location*

The United Republic of Tanzania is the largest country in East Africa. It is located between 1 degrees South and 12 degrees South latitude and 30 degrees East and 40 degrees East. It is constituted by Mainland Tanzania and Zanzibar with a total area of 942,699 km<sup>2</sup>. Tanzania shares borders with eight countries. These are Kenya and Uganda in the North, Rwanda, Burundi and Democratic Republic of Congo in the West, Zambia and Malawi in the South West and Mozambique in the South. Mainland Tanzania borders the main water bodies of Africa. To the East is the Indian Ocean, to the North is Lake Victoria, to the West is Lake Tanganyika and to the South-West is Lake Nyasa. Tanzania has the highest point in Africa; the snow capped Mount Kilimanjaro which is 5,895 meters high.

Tanzania is the economic hub of East Africa providing natural access and commercial links to eight countries. Tanzania is the right platform for business vying to develop or expand opportunities in the wider region.

## *Economic activities in Tanzania.*

Agriculture is the backbone of Tanzania's economy accounting for 45.7% of Gross Domestic Product (GDP) and 75% of export earnings. As the second sector after mining in terms of receipts, it remains critical for achieving sustained growth, poverty reduction and rural development. Huge opportunities exist in coffee, cotton, tea, sisal, tobacco, sugarcane, spices, maize, rice cashew nuts and horticultural products. The industrial sector is fast growing (8.6%) contributing 6.5% to the total GDP. The overall GDP growth rate is at 6.8% (2006). Tanzania's rich supply of quality raw materials and its fast growing manufacturing base increase the investment opportunities and add value to the variety of agricultural products and other potential raw materials. The economy of the country is increasingly oriented towards manufacturing and export. Other economy dependency sectors are mining, fisheries, tourism and natural resources such as forestry.

## *Environment.*

The Ministry of Environment (Division of Environment) under the Vice President's Office is the environment authority in charge of implementing both national and international environment policies and also acts as the Secretariat for the CDM Designated National Authority (DNA). Tanzania is party to United Nations Framework of Convention to Climate Change (UNFCCC) and ratified the Kyoto Protocol in 2002. As a Party to UNFCCC, Tanzania strives to meet its ultimate objectives which include stabilization of atmospheric greenhouse gases. The country encourages the development and implementation of Clean Development Mechanism projects and the implementation of adaptation projects in the country.

## *Eligibility criteria for CDM projects in Tanzania.*

One of the objectives of CDM is to promote sustainable development. To that end, Tanzania's DNA applies the following criteria that need to be considered when designing CDM projects in the country. Potential CDM projects should, as a rule:

- Comply with the Environment Management Act (2004) and its Environmental Impact Assessment and Audit Regulation (2005).
- Address National Environmental Policy and related action plans and strategies
- Aim at transferring a technology which is environmentally friendly
- Aim at poverty alleviation by generating additional employment and improving standards of life (i.e., be in line with the 2005 National Strategy for Growth and Reduction of Poverty, National vision 2025 for the mainland and Vision 2020 for Zanzibar).
- Bring in additional investment finance or capital flows.
- Foster or create partnerships with local institutions, NGOs or local private companies.
- Bring economic and social development to the country

# CLEAN DEVELOPMENT MECHANISM IN TANZANIA

The Clean Development Mechanism (CDM) creates new opportunities for Tanzanian companies and institutions to secure investment through the implementation of well designed projects that generate carbon credits. As of early 2008, one CDM project (Mtoni landfill gas recovery project, with a total of 202,271 CERs/year) in Tanzania has been registered and more than a dozen of others are currently in the pipeline (see matrix).

Tanzania offers tremendous opportunities for investors. The Tanzania Investment Centre (TIC) provides information to potential investors on various available investment opportunities. Among the country's advantages to investors are its abundant natural resources such as arable land, a wide base for raw materials; political stability, market based economy (excellent investment climate, investment incentive and liberalized foreign exchange controls) and excellent geographical location in the East Africa region.

Tanzania has considerable resources for clean power generation which include hydro, gas and biofuels that make it a good CDM destination. Proven natural gas reserves are estimated at 45 billion m<sup>3</sup> with a potential capacity of 2,100 MW while hydroelectric energy has a potential capacity of 4,700 MW of which only 10% has been developed. Other untapped indigenous energy resources include solar, wind and geothermal energy. A large proportion of the population also still lack access to modern and efficient energy services. Some potential CDM areas include;

- Landfill gas  
This is a promising area because nearly all towns/



## Facts about Tanzania

- Official language: Swahili and English.
- Area: 942 699 km<sup>2</sup>.
- Population: 35 554 625 (2002).
- Per Capita: ~US\$ 350.
- Overall economic growth rate: 6.8 % (2006).
- Currency: Tanzania Shillings.
- The largest country in East Africa.

cities have at least one waste dumping site. Already Tanzania has registered one landfill gas to energy project (Mtoni landfill gas project) and two more are in the pipeline.

- Coal mine methane  
Potential areas include Mchuchuma, Liganga and Kiwira.
- Fuel switching in the power, industrial, and transport sector  
-This involves switching to either natural gas or biomass from heavy fuel oil or other non renewable sources of energy. Over 20 processing industries have switched away from HFO/diesel to natural gas since 2005 and 10 more are in process. Some CDM projects in the cement sector are already underway.
- Industrial energy efficiency  
-Mining, processing and production of metals such as aluminium, copper, manganese and gold. This covers a smaller area compared to fuel switching in industries.  
-Energy efficiency in cement companies and power distribution lines (grid)
- Biomass-cogeneration

## CDM benefits to Tanzania:

1. Additional financial inflow of investment.
2. Employment opportunities.
3. Environmentally benign technology.
4. Improved standard of living in rural areas.
5. Clean and safe environment.
6. Mitigate the effects of Climate Change.



Biomass is the largest renewable resource available that can be converted into a variety of fuels. Examples of biomass residues/wastes are rice husks, sugar cane bagasse, coconut shells and corn cobs.

- **Agricultural Sector**
  - Briquetting of agricultural residues in areas with large population pressure on wood resources using, for example, rice husks and straw wastes.
  - Anaerobic digestion of processing wastes from dairies, slaughterhouses, agricultural manure and the alcoholic beverage industry.
  - Management of animal waste and displacement of Nitrogenous fertilizer.
- **Renewable Energy**
  - Wind and wave energy: in areas with strong wind like Singida, Makambako, Mufindi, and Kilimanjaro.
  - Solar energy: for generating electricity and heat/drying for industries (e.g., fish processing), public buildings and hotels.
  - Geothermal energy: some potential in volcanic and rift valley areas in Tanzania.
- **Afforestation and reforestation:**
  - Including community agro-forestry, plantation forestry, rangeland improvement, degraded lands restoration and dry land rice.

The Designated National Authority (DNA) was established in 2004. The DNA works hand in hand with different public and private sectors forming a technical review committee. The technical committee members vary according to the type of project and relevant sector. The DNA has developed a “Handbook for Clean Development Mechanism project activities in Tanzania” in 2006, which gives important information about CDM project opportunities in Tanzania and procedures required from Project Idea Note (PIN) stage to issuance of CERs. This Handbook is currently under revision. The DNA assumes the following roles:

- Issuance of Letters of No Objection (required) and Letters of Approval for CDM projects;
- Confirmation of national sustainable development criteria
- Awareness raising on CDM project activities.
- Coordination of national agencies/stakeholders.

**Important:** An administrative fee is charged by the DNA for the technical review of potential CDM projects.

### **Capacity Building for CDM initiatives in Tanzania.**

Through the UNEP CD4CDM project, Tanzania is conducting training and awareness-raising activities and developing a pipeline of CDM projects. The project has conducted workshops and seminars at both sectoral and national level, provided legal and other inputs to the CDM regulatory framework, and supported the development of a dozen PINs and two PDDs. The project was executed by the UNEP Risoe Center, EPMS and CEEST Foundation in 2007-2008.

Tanzania is one of eight countries in East and Southern Africa benefiting from a regional CDM capacity building program that will be executed by UNDP and the UNEP Risoe Center in 2008-09. The project will support PDD development and further institutional and human capacity building.

In 2006, EPMS in collaboration with Earth Council conducted e-learning training courses on CDM for Tanzania and other English speaking LDCs. This involved staff from Tanzania Investment Centre, Vice President’s Office, government ministries and private sectors.

Other in-country capacity building workshops conducted by the DNA.

## CDM projects in pipeline

No	Project name	Sector	Expected CERs (tCO <sub>2</sub> eq/year)	Status	Type of the project	PP	Consultants
1	Bio-latrine Methane gas capture and energy generation	Biomass	3,728	PIN	Small Scale	CARMATE-Cand prisons	EPMS under CD4CDM programme
2	Biogas capture in sisal waste to generate electricity at Katani Tanga Ltd	Biomass	40,000-50,000	PIN	Small Scale	Katani Ltd	EPMS under CD4CDM programme
3	Biogas capture in sisal waste to generate electricity at Dominion Estates Ltd	Biomass	15,000-35,000	PIN	Small Scale	Sagera estates	EPMS under CD4CDM programme
4	Biomass co-generation project at Tang Cement, Ltd	Biomass	86,938	PIN	Large Scale	Tanga cement Co. Ltd	EPMS under CD4CDM programme
5	Same and Mwanga Forest Project (SMFP)	LULUCF	> 1,000,000	PIN	Small scale	SafariJet Services Ltd	CEEST under CD4CDM programme
6	Forest Plantation Project in Bagamoyo, Coast Region	LULUCF	> 500,000	PIN	Small Scale	Community Development Cooperation Ltd	CEEST under CD4CDM programme
7	Biomass Efficiency in SME (Prison, Schools, colleges and Restaurants) in Southern Highlands	Energy efficiency	TBD	PIN	Small scale	TASONAB	CEEST under CD4CDM programme
8	Mpanda Mini-Hydro project in Rukwa Region	Renewable energy	TBD	PIN	Small Scale	TASONAB	CEEST under CD4CDM programme
9	Fuel switching from the use of gen sets to natural gas in Mtwara and Lindi.	Fuel switching	25,000-32,000	PDD	Small Scale	Artimus Ltd	ESD-CAMCO
10	Wind power energy in Singida	Renewable energy	70,000	PDD	Large scale	Wind energy Dar es Salaam	ESD-CAMCO
11	Fuel switching from the use of HFO to natural gas in Mukwano industry	Fuel switching	2,000-3,000	PIN	Small Scale	Mukwano Group Ltd	EPMS under CD4CDM programme
12	Landfill gas recovery and power generation	Waste management	TBD	PIN	Small Scale	SafiAnzania	EPMS under CD4CDM programme
13	Partial substitution of coal by biomass residues in cement manufacturing	Biomass	TBD	PIN	Large Scale	Mbeya Cement Co.	EPMS under CD4CDM programme
14	Reforestation project in Mafinga, Iringa	LULUCF	56142.5	PIN	Small scale	Green resources Ltd	Green resources Ltd.

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ENERGY, CLIMATE  
AND SUSTAINABLE  
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