ECREEE Regional Workshop:

Accelerating Universal Energy Access Through the Use of Renewable Energy and Energy Efficiency

Mensvic Hotel, Accra, Ghana 24 – 26 October 2011

Financing Mechanisms for Energy Access in Rural and Peri-urban Areas

Dr M'Gbra N'Guessan, VP Africa, Econoler
ECREEE/UNDP Consultant, Team Leader

1. INTRODUCTION

Financing Universal Access
.....is possible in ECOWAS:

- **Three conditions for achieving universal access to energy services in ECOWAS Region:**

1) **Financing**
   - both domestic and international
   - up front and accelerated
2) **National Policies**
   - sync with the ambitious targets
3) **Capacities**
   - Individual, institutional and organisational

Financing ..... is the most critical:

- **Take into consideration, the cost of RE and EE technologies for almost 200 million people in West Africa who cannot afford them:**
  - **An appropriate financing mechanism must be established and directed to rural & P-U areas:**
    - At the domestic level : new funds must support **up front costs** for RE and EE technologies
    - At international level : **availability of funds** to the rural and peri-urban poor should be accelerated (Fast Start Financing)
  - **Stakeholders need to make energy access projects using RE and EE technologies more bankable**

Clean technologies

- **In addition to financing:**
  - **Technology awareness is also important :**
    - Beneficiaries' opinion and perceptions have an impact on public sector investment
    - Social acceptability of proposed clean technologies plays a significant role in the success of government energy access programs
      - *The **choice of technologies** should respond best to interventions tailored to match the basic needs of the poor*
  - **Enhanced policy and institutional frameworks**

Policy and Regulatory Frameworks

- **The White Paper to play a critical role in driving national efforts in the Region:**
  - **However, each country need to translate the Regional Policy into National One:**
    - National Policy Document on Energy Access should include the main objective of the WP
    - Adjust the targets
    - Define a strategy and adopt appropriate tools for promoting access to energy for the poor
    - Set-up legislation and associated regulation

Enhance the Institutional Framework

- **Coordination and operation capacity**
  - **Strong institutions in the country for promoting RE and EE technologies could:**
    - Help meeting policy targets as set by country governments (access rate; RE share in energy mix; % of energy efficiency achieved/NAMA)
    - Ensure better cooperation (both international / regional) in the implementation of ECOWAS White Paper
    - Encourage technology development/transfer

Success Stories Around the World

- Some examples for illustration:
  - **In Asia**: China and Viet Nam have improved energy access for their citizens
  - **In Latin America**: Peru is a known
  - **In West Africa**: Cape Verde is about to achieve electrification of the country
  - **In East Africa**: Rwanda could be cited to have a successful approach to promote modern energy services

2. FINANCING ENERGY ACCESS

Financing Energy Access for All

- Typology of activities that could be financed:
  - Electricity access
    - on-grid electrification
    - mini-grid electrification
    - off-grid electrification
  - Clean cooking facilities
    - LPG stoves
    - biogas systems
    - advanced cook stoves
  - Motive power
    - Diesel motor & generator for water pumping and milling
    - Solar PV for water pumping and milling

Financial Need to Achieve EA for All

- According to the IEA, $756 billion needed to achieve universal access to energy or $36 billion/year in 2010-30 (**Cooking: $2-3 billion**)
  - In sub-Saharan Africa, more investment has been dedicated to electricity access rather than to clean cooking facilities
  - For the ECOWAS Region, all sources of financing will need to be tapped to achieve the Regional Policy Goals:
    - **International funds including carbon financing**
    - **Public/private partnerships**
    - **Bank finances at multi and bilateral level, loans, micro-finance, etc.**

Sources of Financing for Energy Access

- At least, five sources of funding
  - Country government sources
  - Multilateral and bilateral development sources
  - Carbon financing
  - Private sector sources
  - New and upcoming innovative financing

Country government sources

- **Government established rural electrification funds**
  - **New generation funds designated as Rural Energy Funds (REF / FER) target broad energy access aimed to subsidize energy access projects:**
    - by public agencies
    - by regional and local governments
    - by private sector (individual and SMEs)

Examples of Government Financing mechanisms for Energy Access

- Liberia: Rural Energy Fund under RREA (matched with donors funds)
- Burkina Faso: Rural Electrification Fund
- Senegal: Rural Electrification Fund (+ donors resources + Carbon finance)
- Ghana and Mali: AREED SEED Financing for energy entrepreneurs (LPG; Motive power; Electrification …)
- Cameroon: Rural Energy Fund under ANER (matched with donors funds)

Sources of Financing for Energy Access

- **Multilateral development sources**
  - **World Bank Group / African Development Bank**
    - Grants/Credits
    - Loans
    - Equity
  - **In FY2009 and FY2010, funding for energy access**
    - $3.2 billion for access (according to the Bank's own assessment) including **Lighting Africa and ESMAP** Programs well-known
  - **Objective:**
    - Improving access and reliability of energy supply
    - Facilitating the shift to a more environmentally sustainable energy development path

World Bank Group Energy Financing

World Bank Group Energy Lending	FY2009	FY2010	FY09&10
Overall energy lending (Bank assessment)	$8.3 billion	$13 billion	$21.3 billion
Energy access lending (Bank assessment)	$2.2 billion	$1.0 billion	$3.3 billion
Oil and coal lending for energy access (Bank & independent assessments)	$0	$0	$0

- **In 2010, the WBG provided Additional Financing** to a number Governments in Africa for Energy Development and Access Expansion Project: Ethiopia; Tanzania, etc.

WBG Financing: the case of Tanzania

- **In 2010, the WBG provided Additional Financing to the Government of Tanzania for Energy Development and Access Expansion Project (TEDAP)**
  - TEDAP consists of three components:
  - (1) a grid component of **US$85.8 million** focusing on urgent investments in TANESCO's transmission and distribution network;
  - (2) an off-grid component of **US$22.5 million** (including **US$6.5 million from GEF**) to support an institutional set-up for the newly established Rural Energy Agency (REA) and to develop and test new off-grid electrification approaches for future scale up; and
  - (3) a technical assistance component of US$3.2 million.

WBG Financing: the case of Tanzania (2)

- **Several grant resources have been made available to Tanzania for rural and renewable energy development, including :**
  - the **Lighting Rural Tanzania grant** in the amount of US$1.1 million financed under the Africa Renewable Energy and Access Grant (AFREA) and
  - the **Energy SME (ESME) grant** in the amount of US$ 6.5 million funded by the Russian Trust Fund for the ESME development in Sub-Saharan Africa

The AfDB Group Clean Energy Financing

- In 2008, the African Development Bank Group's **Clean Energy Investment Framework for Africa (CEIF)** was submitted to Members of the Boards of Directors

PROPOSALS FOR A CLEAN ENERGY INVESTMENT FRAMEWORK FOR AFRICA: Role of the African Development Bank Group

FINAL VERSION

The AfDB Clean Energy Portfolio

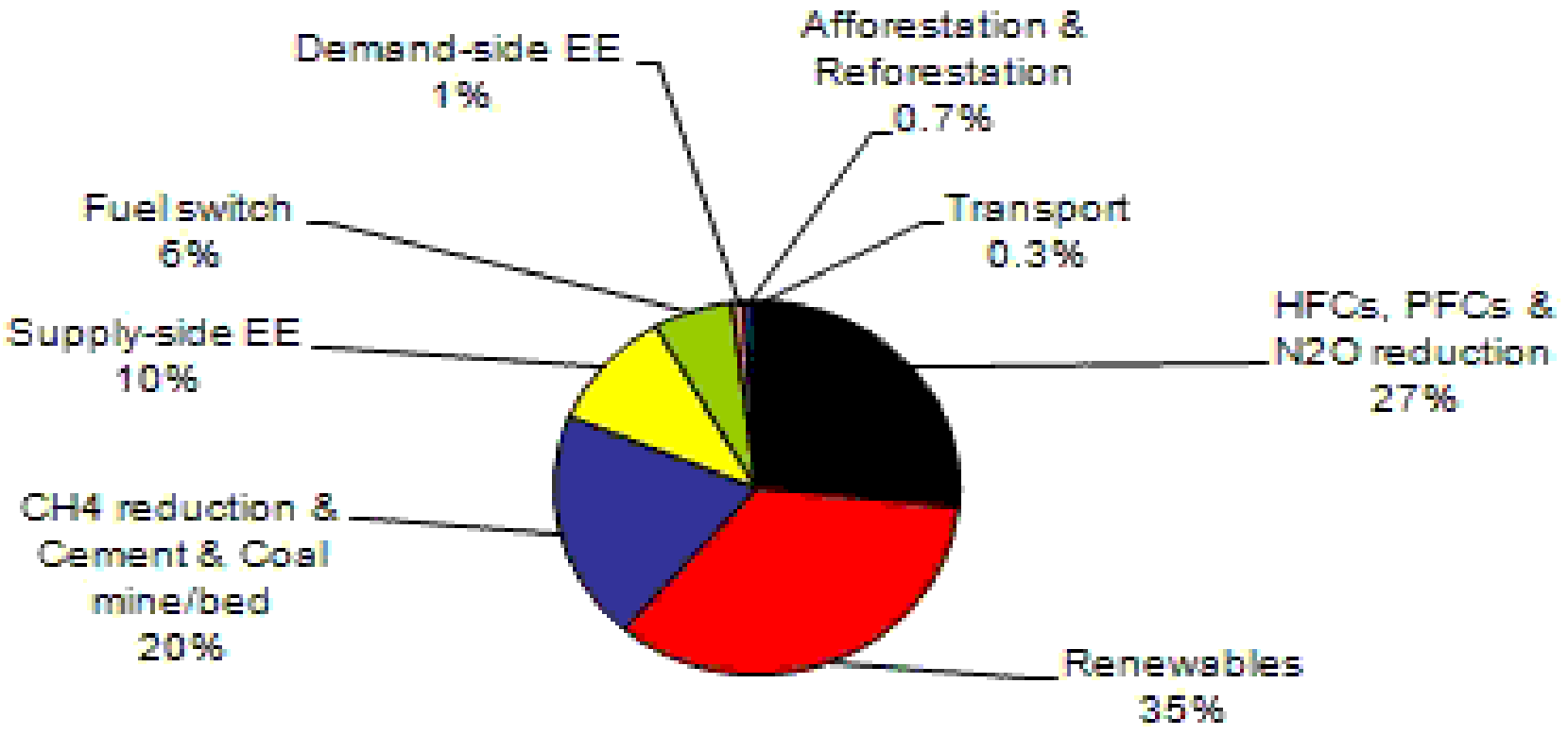
- The Bank Group's pipeline of clean energy operations, some of which are expected to be appraised during the five-year period 2008-2012.
- Additional operations in the pipeline include:
  - A solar thermal power plant in Morocco;
  - Hydro-power projects in Sierra Leone and Uganda;
  - Micro-hydro and wind energy in Madagascar;
  - Development of cogeneration utilizing bagasse from sugar factories as a fuel;
  - Development of small size hydro for tea factories;
  - Rural electrification in Tanzania with solar and hydro components;
  - Renewable energy project in Gambia; and
  - Community forestry management projects (in Benin, Burkina, Ghana).

Carbon Finance for Clean Energy

Role of Carbon Finance

- Carbon market is only emerging and is still fragmented with the CDM and EU ETS
- The market will grow with NAMA to dominate
- EE and RE dominate number of CDM projects but are more limited on carbon credits
- Carbon finance can help make EE & RE projects for clean energy access financially viable
- Market value for CDM during 2008 –2012 estimated to be between $5 and $10 billion annually, potentially leveraging 5 to 10 times in core investment

CDM Credits expected until 2012 from CDM projects in each sector



Currently 60% of the CDM projects are renewables, delivering around 35% of the credits

3. CONCLUDING REMARKS

Conclusion and Recommendations

- **Many financing sources** exist that should be tapped to promote universal access, particularly for the poor
- **Recommendations:**

- To the ECOWAS Commission: need to show leadership and maintain political commitment for mobilizing funds
- To the ECREEE: Mapping Energy Access financings
- To ECOWAS country governments: Develop internal capacity to raise international funding including carbon financing under NAMA and other innovative financing
- **To partner agencies**: Credit lines for energy access (RE and EE) should be established on most of ECOWAS countries as in East African Community by the French AFD and in South Africa by the German KfW