

GLOBAL WORKSHOP ON CLEAN ENERGY DEVELOPMENT, WASHINGTON D.C USA



STATUS OF CLEAN ENERGY DEVELOPMENT PROGRAMS IN GHANA

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NAME	COUNTRY
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OUTLINE

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- ❑ RENEWABLE ENERGY EFFORTS
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COUNTRY OVERVIEW

Structure of Ghana Power Sector (Major Players)

AGENCY	RESPONSIBILITY
MINISTRY OF ENERGY	Formulation of broad Policies, Programs and Project for the entire sector
Volta River Authority, Bui Power Authority, IPPs	Power Generation
Ghana Grid Company (GRIDCo)	Power Transmission , Independent System Operator (ISO)
Electricity Company of Ghana, Northern Electricity Company (NEDCo)	Power Distribution (Southern Ghana) Power Distribution (Northern Ghana)
Energy Commission of Ghana	Licensing, Technical Performance Standards formulation, Policy advisor, MOE
Public Utilities Regulatory Commission	Setting of Tariffs, Quality monitoring consumer protection
Energy Foundation	NGO devoted to the promotion of Energy Efficiency and Renewable Energy in Ghana

COUNTRY OVERVIEW

The Ministry of Energy is responsible for driving renewable energy (clean energy) policies.

Broad government policies for power sector;

- Increase generation from about 2,000 MW to 5,000 MW by **2015** by exploiting thermal/renewable energy technologies
- Achieve universal electricity access rate by **2020**
- Improve and modernise distribution infrastructure for efficient service delivery and reduce system losses to **18%** by **2015**

Key Targets for Renewable Energy use in Ghana;

- Increase Share of modern Renewable Energy Technology in electricity supply system from **1%** to **10%** by the year **2020**.
- Increase the use of Renewable Energy in remote and poor rural areas
- Increase the contribution of bio-fuel in transportation fuel supply

RENEWABLE ENERGY EFFORTS

- Biomass is the predominant energy consumption in Ghana at over 60%

Key efforts in promoting RE technology

- RE features prominently in Ghana's long term energy strategy document
- Provision of up to 50% partial capital subsidy through GEDAP (IDA) for RE power systems start ups.
- Provision of 15,000 homes in remote off-grid communities with solar systems through a 10.9 million-dollar support from the World Bank

RENEWABLE ENERGY EFFORTS - CTD

- Exploitation of several renewable energy resources – Bio Energy, Wind , Solar, Small Hydro etc

Exploitable resources include;

ENERGY SOURCE	EXPLOITABLE (MW)
Wind	200 - 300
Solar	20
Small – Medium Hydro	150
Modern Biomass	90

TECHNOLOGIES

Current technologies aimed at pursuing a low carbon economy have been implemented in the following key areas;

- **Solar PV**

For electrification in off-grid rural communities regions
Centralized system could provides AC to the grid

- **Solar Thermal**

For solar water heaters and solar crop dryers

- **Wind**

Application of small wind power systems for rural electrification and water pumping.

The Volta River Authority targets 150MW Wind Generation by 2015

TECHNOLOGIES - CTD

- **Biogas technology**

 - For direct lighting and cooking
 - For bio-sanitation

- **Co-generation**

 - Biomass-fired co-generation plant

ENERGY EFFICIENCY

➤ **Compact Fluorescent Lamps(CFL) Project**

Introduction of CFLs by utilities for energy efficiency. This will save approximately 124.2MW in peak demand, 429,525 MWH of electricity annually and save about 150,000 tCO₂ per annum

➤ **Legislation**

Enforcing through legislation on appliance efficiency labeling for the importation and use of inefficient electricity consuming equipment and appliances.

➤ **Demand Side Management Programmes**

Reactive Power Management by electric utilities to reduce peak system demands

Demand management by large industries/institutions

INCENTIVES & POLICIES

Key Incentives:

- Feed-in tariffs would be available to industries that can generate part of their energy demand from renewable resources
- Removal of import duty and VAT on renewable energy technology(RET) equipment
- Soliciting of funding from international donors to support local agencies which promotes RET
- Introduction of subsidies to cover high initial cost of renewable energy technologies particularly those located in rural communities

INCENTIVES & POLICIES - CTD

Key Renewable Energy Policy goals:

- Achieve **10%** contribution of modern renewables (excluding large hydro and woodfuels) in the electricity generation mix by 2020.
- Reduce the demand on woodfuels from 72% to 50% by 2020.
- Renewable Energy law addressing the following.
 - Feed-in-Tariff
 - Obligatory purchase
 - Renewable Energy Fund
- Support sustainable regeneration of woody biomass resources through legislation and fiscal incentives for re-forestation particularly in schools.
- Establishment of Energy Fund to support the R&D and promotion of RE

INCENTIVES & POLICIES - CTD

Key Renewable Energy Policy goals Ctd:

- Establishment of Energy Foundation to promote energy efficiency and renewable energy in Ghana.
- Institution of Energy Efficiency Standards and Labelling (Non-Ducted Air-conditioners and Self-Ballasted Fluorescent Lamps) Regulations, 2005 (**LI 1815**)
- ECG has a PPA with a developer of 50MW renewable Wind Generation Project
- Volta River Authority (VRA) currently developing a 150 MW wind and 2MW Solar Power Plant with target commission date of 2015

CONCLUSION

The key strategies outlined in this presentation fall well within Ghana strategy of ensuring the development of clean energy to support its economic development

Key barriers to exploitation of clean energy (RETs) such as high initial capital, lack of favourable pricing policy and financing schemes are systematically being addressed.



THANK YOU