



**DEVELOPING
RENEWABLES**
Renewable Energy that benefits all

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Ghanaian country study: Part B – Energy and Policy

Final and approved version

SIXTH FRAMEWORK PROGRAMME PRIORITY 3
Underpinning the economic potential and cohesion of a larger and more integrated EU

SPECIFIC SUPPORT ACTION

RECIPES
Renewable Energy in emerging and developing countries: Current situation, market Potential and recommendations for a win-win-win for EU industry, the Environment and local Socio-economic development
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Recipes for the implementation of renewable energy sources that benefit the local and global environment, the socio-economic situation in emerging and developing countries and the European industry

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1. Introduction

In RECIPES project, the data collection phase is realised by local experts in 15 Emerging and Developing countries. **Ghana** is one of the selected countries.

Experts are asked to provide 5 parts, describing the Renewable Energy present and future situation in their country:

- Part A: Questionnaire providing data on RE situation.
- Part B: Energy and Policy
- Part C: Country Maps
- Part D: Description of RE projects
- Part E: Interviews with stakeholders

This document (Part B – Energy and Policy) aims at providing highlights of the current policy concerning energy and renewable energy. It provides answers from the local experts to questions asked by the RECIPES team.

RECIPES Ghanaian local expert is Sven Dervedde from [Ghana Energy Foundation](#). The Foundation is a non-profit, public-private partnership institution, devoted to the promotion of energy efficiency and renewable energy, as a key strategy to Ghana's growing energy needs.

2. Main energy issues:

Is there an explicit national energy policy?

The Energy Commission has published the Strategic National Energy Plan SNEP 2006-2020. The document is expected to be adapted as the national energy policy in January 2006.

SNEP 2006-2020 consists of three parts, namely the Petroleum Sector, the Electricity Sector and Traditional Woodfuels and Renewables.

Is this policy defined in policy documents, like white books?

SNEP 2006-2020 will become the policy document by beginning of 2006.

some regulatory frameworks are available on the homepage of the Energy Commission

www.energycom.gov.gh

The SNEP 2006-2020 will be available at the website whenever the document is adapted.

What are the main characteristics of the national energy policy?

- **Promote** Energy Efficiency to minimize energy waste.
- Expansion of the National grid to all communities with >500 people
- Expansion of generation to eliminate power shortage.
- Liberalisation of the power generation market
- Set up an independent transmission company to manage the national transmission grid.
- Allow the development of independent power producers.

Promote Energy Efficiency to minimise demands on power generation and eliminate waste in energy distribution. All incandescent bulbs are to be replaced with compact fluorescent lamps.

The national electric grid is being extended to all communities with more than 500 people in a distance of up to 20 km from an MV line.

This is to promote local development plans. Smaller communities will be served with renewable sources.

Correspondingly power generation sources are being expanded to match a 7 % annual increase in power demand. Independent power production policy is being incorporated in the national energy policy. The national plan is to set up an independent transmission company to manage the grid. Independent power producers will be able to operate economically to augment the generation sources.

Are provinces / federal states autonomous in formulating their own energy policy?

NO. Energy Policy formulation is under the Ministry of Energy and specifically handled by the Energy Commission.

Where do provincial / state energy policies differ from national energy policy?

n/a

Does the country participate in international organisations and treaties dealing with energy and environment? If yes, which.

Ghana is signatory to the United Nations Framework Convention for Climate Change (UNFCCC).

Ghana is signatory to several conventions on climate change, biodiversity, land degradation and other environmental issues including the Kyoto Protocol.

Within the West African sub region, ECOWAS, of which Ghana is a key member, is promoting regional energy cooperation and integration. The West African gas Pipeline (WAPG) and the West African Power Pool (WAPPOOL) offer considerable opportunities for inter country trade, cross-border infrastructure in energy.

How are energy markets for electricity, natural gas and petroleum organised: state monopoly, state or private oligopolies, competitive market?

Electricity:

Power Generation:

The Volta River Authority (VRA) is operating the hydro power plants at Akosombo and Kpong and the Takoradi Thermal Power Station at Aboadze near Takoradi. The Thermal Power Station consists of the Takoradi Power Company (TAPCO; 330 MW) wholly owned by VRA and the Takoradi International Company (TICO; 220 MW). TICO is jointly owned by VRA (10%) and CMS of Michigan, USA (90%).

VRA is 100% owned by the Government of Ghana.

Power Transmission

VRA (see above)

Power Distribution:

Electricity Cooperation of Ghana (ECG) - Southern Sector (Greater Accra, Ashanti, Central, Eastern, Western and Volta Region)
ECG is 100% owned by the Government of Ghana

Northern Electrification Department (NED) – Northern Sector (Brong Ahafo, Northern, Upper East and West Region)
NED is a subsidiary of VRA.

Under the ongoing Power Sector Reform ECG and NED will be merged to form one distribution company. It is also expected that the operation of the transmission network will be separated from VRA management.

natural gas: is not yet available; the West African Gas Pipeline is under construction and will be completed by December 2006. It is not yet finally decided which company will do the distribution of gas in Ghana.

Petroleum:

Importation and Refinery are : Tema Oil Refinery (TOR)
Distribution and sales: liberalized;
Various Oil Marketing Companies OMC are active;
MOBIL, TOTAL, ENGEN, Shell, OANDO, etc and other small private entities

Several private companies are actively exploring for oil and gas.

What is the legal basis for energy market organisation?

Electricity – for now, all companies are government owned monopolies. However, the liberalisation of the electricity market is under preparation and in the near future private power generators will be able to apply for licenses with the Energy Commission.

Oil Products - Distribution companies require licensing by the Energy Commission.

The current setup of Government monopolies and independent operators working next to each other is fully recognised by the Energy Commission which is the sole licensing office. Both government and private organisations have to obtain licensing from the Energy commission to stay in operation.

Are there independent regulators for the electricity, gas and petroleum industries?

Energy Commission (EC) – licensure and policy issues.
Public Utility Regulatory Commission (PURC) – utility pricing
National Petroleum Authority (NPA) – fuel pricing

3. Renewable Energy (RE) Policies and Programmes

Are there specific policies concerning renewable energies?

The objective of Governmental Policy is to increase the use of renewable energy sources and technologies in the Ghanaian energy mix to achieve a penetration of 10% by 2020.

Are these policies defined in policy documents, please provide document name and source?

Strategic National Energy Plan 2006-2020, Volume Two Part III: Energy Supply to the Economy – Traditional Woodfuels and Renewables;
Energy Commission, October, 2005.

What are the main characteristics of these policies?

- Regulatory Framework for grid-connected renewable energy power generation;
 - The Energy Commission will institute the necessary regulatory framework
 - The Energy Commission will develop technical regulations, including standards of generation and interconnection to the grid
 - The Government through PURC will institute favourable feed-in tariffs for electric power from renewables in particular and embedded generation in general.

- Overcoming the barrier of high initial cost
 - The Government plans innovative capital subsidy arrangements to assist rural communities acquire Renewable energy Technologies.
 - The government will rationalize the fiscal regime regarding import duty and VAT on RE Technologies.
 - The current tax and Duty exemption for Solar and Wind Power Equipment will be expanded on biomass utilization equipment, appliances and system components.

- Government will support the promotion of local manufacturing of RE devices and equipment.

Are there specific legislations to promote renewable energy in general or certain technologies?

No.

Are there current national programmes to promote the realisation of renewable energy?

Solar and Wind Energy Resource Assessment; Objective: to acquire adequate data for planning and policy. (by EC)

Master Plan study on Rural Electrification in the Northern area of the country; presently being undertaken by the Ministry of Energy (MoE) and Japan International Cooperation Agency (JICA) The objective of the program is to formulate policy recommendations for rural electrifications utilizing RE in Northern Ghana.

An interim Report has been submitted by JICA in September 2005 for review and discussion by the stakeholders. The Ministry of Energy has yet to implement it into their policy.

Beginning of December 2005 the Ministry of Energy placed a call for proposals in the national newspapers calling on the private sector to submit proposals for embedded power generation plants from RE by end of December 2005.

Are there provincial / state programmes to promote renewable energy? Please provide details.

National renewable energy is being discussed and some projects have been implemented both privately and publicly. But without a national policy promotion has not been very aggressive. Once the policy is ready with defined technology implementation schedules promotion is expected to pick up.

Are there specific organisations for the promotion of renewable energies?

YES:

Energy Foundation, a private-public partnership NGO, established by the Ministry of Energy and the private Sector in 1997 is in charge of promoting Renewable Energy and Energy Efficient Technologies. (www.ghanaef.org)

The Energy Commission does, by regulation of the Energy Commission Act, administrate the Energy Fund. One purpose of the fund is the promotion of Renewable Energy, however, the programme is not well defined nor well pursued to date. (www.energycom.gov.gh)

KITE is a private organisation which promotes environmental and renewable issues. It also helps to arrange financing for businesses in these fields. (www.kiteonline.net)

How are the current national programmes to promote RE financed?

1. The Energy Commission administrates the Energy Fund which is supposed to facilitate RE promotion. This fund is partly supposed to be disbursed for RE promotion. The fund is generated from a levy on fuel sales.
2. KITE has a collaboration with another company E&CO based in South Africa to manage AREED funded projects in the country. KITE arranges for these financing schemes for private enterprises who are engaged in sales and system installation.

The AREED financing is based strictly on business viability. The program prefers RURAL location of projects.



How is the present attitude to realise projects under the Clean Development Mechanism?

Very Good. Several pilot projects are under preparation The Energy Foundation is working on a project with an international consultant in identifying potential CDM projects. These will estimate carbon credits available with each project. The sale of the potential carbon credits may be used to finance project implementation.

The Environmental Protection Agency (EPA) under the Ministry of Environment and Science is in the process of establishing a National Regulatory Authority to certify CDM facilitation, trading and projects.

Are there (pilot) projects under CDM ?

In planning status, yes!

What kind of projects?

Energy Efficient; Improvement of Efficiency of Fossil Fuel single cycle Power Plant into a combined cycle; Wind Power Plants.

4. Renewable energy and industrial policy

Are there established rules for technology transfer, licensing and patents for foreign and national manufacturers ?

Contractually, not by government.

Are the licensing and bidding rounds attractive for new companies?

No. Only two companies are licensed, but there is no incentive to have that license.

Is it (legally) allowed to transfer profits of foreign enterprises abroad, especially for energy sector enterprises and manufacturers of renewable energy equipment?

Yes.

Are there examples of joint ventures in RE industries in this country?

Yes; many PV companies have foreign mother companies.

Is there specific legalisation concerning foreign RE-investment?

No.

Is there over the years a flexible or firm attitude toward foreign investors; the latter might put off foreign enterprises. For instance tax regulation. Is there a special position regarding RE in this attitude?

No.