



WORK PROGRAMME AND BUDGET FOR 2009

June, 2009

ENERGY COMMISSION
WORK PROGRAMME AND BUDGET FOR 2009

Introduction

The main highlights of the 2009 Budget Statement and Economic Policies of the Government of Ghana entrusts a number of expectations and obligations on the Energy Commission. Besides the Energy Commission Act, (Act 541, 1997) mandates the EC to perform certain functions. The following outlines the work programme and budget for the Energy Commission for the 2009 fiscal year. The source of financing the budget are a) Government of Ghana (GoG), b) Energy Fund, c) Development Partners and d) Internally Generated Funds.

MANDATES OF THE ENERGY COMMISSION

The Energy Commission is mandated under Act 541, 1997 to plan, regulate, manage and develop energy supply and utilization in Ghana. The Commission is the technical regulator of the electricity and natural gas utilities. Specifically the Commission is mandated to receive and assess applications, and grant licences to public utilities for the transmission, wholesale supply, distribution and sale of electricity and natural gas, establish and enforce standards of performance for public utilities engaged in the transmission, wholesale supply, distribution and sale of electricity and natural gas; promote and ensure uniform rules of practice for the transmission, wholesale supply, distribution and sale of electricity and natural gas.

Macro Economic Framework and Budget Priorities

Government of Ghana Medium-term Macroeconomic Targets

In line with the medium term policies, of the government as enshrined in the 2009 budget statement, the following are the main macroeconomic targets:

- average real GDP growth of about 8 per cent;
- average consumer price inflation of a single digit;
- gross international reserves of not less than three months of import cover;
- overall budget deficit equivalent to 3.0 per cent of GDP;
- Stabilization of the total public debt at no more than 60 per cent of GDP.

2009 Budget Objectives

Based on the 2008 fiscal outturn, and the world economic outlook the broad financial objectives for 2009 include:

- real GDP growth of 5.9 per cent;
- average inflation target of 15.3 per cent;
- end period inflation of 12.5 per cent;
- an overall budget deficit equivalent to 9.4 per cent of GDP;
- gross international reserves of more than two months of import cover of goods and services.

Broad Outlook for 2009

According to the 2009 Budget, the Energy Sector outlook for 2009 is to rollout a programme for the Government's Energy for Growth Agenda.

Power Sub Sector

The key elements of the Government's Energy For Growth Agenda for the Power Sector are (i) increase power generation capacity to 5,000 megawatts in the medium term, (ii) add capacity at the transmission and distribution levels, (iii) open up the sub sector to independent power producers and private sector participants, (iv) increase access to electricity in all households, (v) pursue regional cooperation projects, (vi) implement power sector reforms, (vii) strengthen the regulatory institutions and (viii) reduce the cost of electricity production to achieve lower tariffs.

Energy Sector Regulations for Power Sector Reforms

The budget statement specifically stated that the Energy Commission will facilitate the preparation of regulations to govern the operations of the Energy Sector as provided under the Energy Commission Act 541. This will include National Electricity Grid Code; Natural Gas Occupational Health and Safety Regulations; Energy Efficiency Standards and Labelling (Refrigerator, Refrigerator-Freezer and Freezer) Regulations, LI 1947; and the Renewable Energy Law.

The Ministry will support the capacity development efforts of the regulatory institutions namely the Public Utilities Regulatory Commission (PURC) and the Energy Commission (EC) to enhance their regulatory oversight of the energy sector.

Energy Efficiency and Conservation

The Ministry will also implement measures to improve energy conservation in electricity consumption through energy management and efficiency projects in public institutions and also public education on energy conservation. The Ministry will implement projects to improve energy utilization in large electricity consuming public sector institutions.

2008 ACHIEVEMENTS & OUTLOOK FOR 2009

ENERGY SECTOR REGULATION

In 2008 the Energy Commission prepared and submitted regulations for the approval of Parliament, which set the much needed level playing field for the full implementation of the power sector reform programme.

The following regulations and procedures were developed in 2008:

1. Electricity Transmission (Technical Operations and Standard of Performance) Rules, 2008, LI 1934;
2. Electricity Distribution and Sale (Standards of Performance) Regulations, 2008, LI 1935.
3. Electricity Regulations, 2008, LI 1937; and
4. Siting Procedures for Energy Infrastructure.

A task force comprising staff of the Energy Commission, the National Grid Company and the Public Utilities Regulatory Commission began work to finalize the development of Electricity Market Rules and the National Electricity Grid Code which will govern the operations of the Electricity Transmission Utility. In 2009 the Power Sector activities will focus on the review and adoption of these rules and codes. The Wiring Regulations will be finalized and processed for Parliamentary approval to ensure uniform standards for electrical wiring of buildings and installations. All electricity related regulations passed since 2005 will be promoted, enforced and monitored for compliance. Work on the Electricity Distribution Code will commence in 2009.

In anticipation of the development of a robust natural gas market, based on supplies from Nigeria and from the Jubilee Oil fields, the Commission has also prepared and submitted the following regulations to Parliament for passage into law in 2008:

1. Natural Gas Transmission Utility (Standards of Performance) Regulations, 2008, LI 1936 and

In 2009 the Commission will conclude work on the following regulations which have reached various stages of development for passage into law.

1. Natural Gas Occupational Health and Safety Regulations; and
2. Natural Gas Pipelines Safety (Construction, Operation and Maintenance) Regulations.

The Commission will also prepare licenses for electricity and natural gas service providers in accordance with license manuals which have already been developed and published.

In the Renewable Energy sub-sector a Permitting Manual for Renewable Energy Service Providers has been developed to regulate activities in this sector. Barring any unforeseen delay, the Renewable Energy Law is also expected to be completed and passed in 2009. The law will define the mode of integration and introduce specific incentives and guidelines to guide the future of the development of renewable energy.

ENERGY EFFICIENCY

The deployment of six million energy efficient lamps in residences and institutions was completed in March 2008. This action has led to a confirmed load reduction of 124MW. Fluorescent lamps in some educational, health and government facilities were also replaced with efficient lighting systems to reduce government expenditure on electricity.

To prevent the dumping of obsolete and inefficient refrigerating appliances on the Ghanaian market the following regulations have been developed to govern the local manufacture, imports, sale and use of energy consuming gadgets and appliances in Ghana.

1. Energy Efficiency (Prohibition of Incandescent Lamps and Used Air Conditioner) Regulations, 2008 – LI 1932; and
2. Energy Efficiency (Standards and Labeling of Refrigerating Appliances) Regulations, 2009.

The regulations prohibiting the importation and sale of incandescent lamps and used air conditioners was successfully passed by Parliament in October 2008. However the second regulation on energy efficiency and labeling regulations for refrigerating appliances could not pass because it could not secure the mandatory 21 parliamentary Sitting days required after laying for it to pass into law. This regulation will therefore have to be reintroduced to Parliament for passage into law in 2009.

To further promote the local manufacture, importation and use of energy efficient refrigerating appliances in Ghana, a rebate scheme funded from carbon credits and loans will be instituted in 2009. The rebate scheme which will be operated for four years at a total cost of US\$12.07 million financed with a grants totaling US\$5.93million and carbon credits of US\$6.14million over the period is expected to save between 300 and 1200 kWh per refrigerating appliance per year. An estimated 1-2 million inefficient refrigerators are expected to be scrapped under the scheme over the 4 year period.

The following funds have been secured for the project as at May 2009:

Global Environment Facility Grant – US\$1,773million

UNDP – US\$200,000

Multi Lateral Fund – US\$730,000

Total Funds secured: -US\$2,703,000

Additional funds will be sought from the Government of Ghana and other Climate Change Mitigation sources.

NATURAL GAS MARKET DEVELOPMENT

The development of the local gas market will be pursued in accordance with the Natural Gas Utilization and Infrastructure Development Plan. Studies to determine the potential for natural gas utilization in the regions is expected to be completed by the third quarter of 2009. In 2009, the Commission will focus on the safety aspects of Natural Gas transportation, delivery and usage and will propose for Parliamentary consideration the Pipeline Safety (Construction, Operation and Maintenance) Regulations.

STRATEGIC PLANNING & POLICY

The Commission has begun regular publication of the Annual Energy Statistics. In 2009 the Commission intends to complete the establishment and operation of the National Energy Data Processing and Information Centre. Data collection in households, service and commercial sectors will be executed to update energy consumption data for these sectors.

The 2009 National Energy Symposium and Energy College, which will focus on Oil and Gas development, will be held in the third quarter of 2009.

RENEWABLE ENERGY RESOURCES

The Energy Commission in collaboration with the Department of Urban Roads will implement a pilot Solar Traffic Lighting project to collect data to be fed into national policy on traffic lights. Under the project locally designed solar powered traffic lights which have most of their components locally fabricated, will be installed at two major road intersections.

Under the Ghana Energy Development and Access project, the Energy Commission and the Ghana Standards Board will establish a Test Laboratory/ Centre at the Ghana Standards Board for testing and certification of solar systems in Ghana. This is to facilitate the monitoring and enforcement of the National Standards on Solar Energy Systems to prevent the dumping of sub-standard systems in the country.

In Ghana's quest of integrating renewable energy into the country's energy mix, the Commission will sensitize the public, local and foreign investors on the Renewable Energy Law which is intended to provide the enabling environment for massive investments in the Renewable Energy sector.

The Renewable Energy and Energy Efficiency Partnership (REEEP) has approved a project to establish a GIS based Renewable Energy Database for Ghana at a total cost of 92,000Euro to be implemented in 15months.

SOCIAL AND ENVIRONMENTAL IMPACT ASSESSMENT

The Social and environmental impacts of energy sector activities and projects need to be monitored and tracked to advise government of policy direction. In 2009 the Commission will undertake an assessment of the impact of electrification on some selected communities with regards to the productive uses of energy and poverty reduction. A stakeholders meeting will be held to discuss the impact of the CFL project so as to discuss the results achieved and firm conclusions and recommendations to government.

Cost of Project Implementation & Financing

The Energy Commission will require a total of GH¢1,993,533 to implement its work programme in 2009. The activities will be funded from the Energy Fund levy estimated at GH¢1,000,000 in 2009 and internally generated funds of approximately GH¢500,000 expected from electricity and renewable energy license fees. An amount of US\$385,000 is expected from the IDA under the GEDAP project.

To generate funds for the Commission's present and future programmes, it is proposed that the Energy Fund levy be increased from the current level of 0.05Gp/litre to 1.0Gp per litre. This will generate about GH¢10million part of which would be used to finance the programmes.

One-page summary details of the various programmes earmarked for implementation during the 2009 calendar year are provided below.

**ESTIMATED BUDGET HIGHLIGHTS
(JANUARY - DECEMBER 2009)
TO BE FUNDED FROM THE ENERGY FUND**

ITEM	ENERGY FUND OBJECTIVE	ESTIMATED AMOUNT (GH¢)
1.	HUMAN RESOURCE DEVELOPMENT IN THE ENERGY SECTOR	225,400
2.	PROMOTION OF ENERGY EFFICIENCY AND PRODUCTIVE USES OF ELECTRICITY, NATURAL GAS AND PETROLEUM PRODUCTS	808,640
3.	RENEWABLE ENERGY RESOURCES INCLUDING SOLAR ENERGY	101,312
4.	SUCH OTHER RELEVANT PURPOSES AS MAY BE DETERMINED BY THE COMMISSION	776,520
5.	TOTAL	1,911,872

**HUMAN
RESOURCE
DEVELOPMENT
IN THE ENERGY
SECTOR**

HUMAN RESOURCE AND ADMINISTRATION UNIT

1. Time Management Computerization

Objective: The objective of the project is to track employee attendance and monitor and control employee lateness and absenteeism in order to provide quick, reliable and accurate information on each staff member's attendance.

Justification

Since the establishment of the Commission, lateness and absenteeism have been manually managed and this method has not been able to adequately solve the problem of absenteeism or lateness. The application of the software and hardware would provide a true assessment of staff attendance since staff must use their fingers to clock in and out daily.

Activities Completed

A demonstration of the biometric software was presented to Management in December 2008 and a proforma invoice has been sent to the Commission.

Activities Pending

- Installation of biometric time and attendance software
- Training of HR & Admin. staff on the software;
- Draft new control procedures;
- Educate/train users and other stakeholders;
- Run a pilot of the system;
- Review reports/quality control;
- Supervise live run.

Expected Output:

An automated attendance management system which monitors and controls lateness and absenteeism.

Cost: GH¢3,000.00

2. STAFF TRAINING AND DEVELOPMENT

Objective: To help improve, sharpen and shape professional acumen of professional staff and also train support staff for excellent delivery of responsibilities. Improve upon staff professionalism.

Justification

Staff training and development are key to the success of the Commission. It will enable staff become current with fast changing world trends. Secondly, the Commission will establish synergies and collaborate with other international regulatory agencies through internship programmes for mutual benefits.

Activities

- collaborate with the PURC as specified in Act 541;
- collaborate with international energy regulatory and development bodies to train professional staff;
- Sponsor training for staff;
- Organize team building seminars for all categories of staff.

Output: Improvement in over all output of staff

Cost: GH¢150,000.00

3. DEVELOPMENT OF CORPORATE PLAN FOR THE ENERGY COMMISSION

Objective: To develop a strategic corporate plan for the Commission.

Justification

The Energy Commission has no official strategic corporate plan so the services of a consultant will be used to develop a corporate plan which will serve as a long term guide for the Commission's operations into the future.

Activities completed

- Expressions of interest have been made
- Standard Request for Proposal for preparation of the strategic corporate plan is available.

Activities Pending

- The Board is to review the Terms of Reference and provide its input before the selected consultants are asked to bid for the job.
- Engage consultants for the preparation of the Commission's corporate plan

Output: A well-drafted strategic corporate plan that guides the present and future activities of the Commission

Cost: GH¢25,000.00

4. IAEA-GHANA CAPACITY BUILDING PROJECT FOR SUSTAINABLE ENERGY DEVELOPMENT

The International Atomic Energy Agency (IAEA) has been assisting Ghana to develop energy planning capability by training a core of Ghanaian energy professionals in IAEA energy planning modeling tools. Selected staff of the Commission and those of other major stakeholders continued to receive training in the use of the MESSAGE planning model during the year 2008. Two professionals from the Energy Commission and the Atomic Energy Commission benefited from intensive training held in South Africa and sponsored by the IAEA.

In addition, the Commission

1. Organized a one week workshop on the use of WASP IV model for the planning of least cost electricity generation plan.
2. Undertook the review of peak electricity demand (an input for WASP IV model) using MAED-el model.
3. Undertook least cost electricity generation planning for 2009 – 2030 using WASP IV model.
4. Undertook the drafting and review of the Planning for Sustainable Energy Development study report.
5. The Commission also organized a one week workshop training on LEAP planning model, and assisted in reviewing and evaluating the energy component of Long-term Planning for Ghana by the National Development Planning Commission (NDPC).

Projection for 2009

1. The IAEA has approved a new project – Energy and Nuclear Power Planning study for the country.
2. Establishment of a National Steering Committee for the Project.
3. Establishment of a National Project Team comprising stakeholders for the Project.
4. National Training Workshops for the use of IAEA's energy planning models.
5. Data collection for undertaking Energy and Nuclear Planning Study.
6. Undertake Energy and Nuclear Planning Study.
7. Draft study report

Budget: GH¢40,000.00

5. INTERNAL COMMUNICATION (Monthly Divisional Presentations/Newsletter)

Objective:

1. To ensure that each division does a presentation on its activities to inform other staff on the units' activities thereby aligning divisional goals to corporate strategy.
2. To institute a monthly "Know Your Commission" newsletter featuring new trends in renewable energy, power, natural gas, energy efficiency and climate change and social and environmental issues related to energy.

Justification

These monthly meetings are necessary to enhance internal communication between management and staff, emphasize a sense of belongingness and create a positive attitude to work.

The newsletter will ensure that all Commission staff are abreast with energy matters and will be able to serve as worthy links between the Commission and the general public.

Activities Completed

- Timetable for divisional presentations drawn
- Divisional Heads informed about dates of their presentations

Activities Pending

- Create an internal electronic newsletter dubbed "Know Your Commission" to improve internal communication.
- Editorial Board to be set up

Output: All Energy Commission staff informed about what each division within the Commission is doing and can efficiently relate the activities of the Commission to the general public.

Cost: GH¢1,800.00

6. ESTATE MANAGEMENT

Objective: To ensure routine maintenance of Commission's property and premises.

Justification

It is a fact that employees spend a greater part of their day at the workplace. It is therefore important that office/work environment and facilities thereof are maintained and kept in excellent conditions to enhance productivity.

Activities Completed

- List of toiletries and other sanitary materials prepared
- List of faulty air conditioners and electrical fitting prepared

Activities Pending

- Maintain and supervise existing maintenance contracts with relevant service providers in accordance with Procurement Law and engage new service providers if necessary;
- Ensure good maintenance and sanitation practices at the Commission's offices.

Output: Commission's property and premises are in the best of operating conditions, in a clean and healthy environment at all time.

Cost: GH¢5,600.00

**PROMOTION OF
ENERGY
EFFICIENCY AND
PRODUCTIVE
USES OF
ELECTRICITY,
NATURAL GAS
AND PETROLEUM
PRODUCTS**

POWER

1. LICENSING & MONITORING FRAMEWORK FOR ELECTRICITY INDUSTRY

Objective

Issue *Licenses* to all commercial service providing companies in the power sector as stipulated under Section 11 of Act 541.

Justification

The Energy Commission (EC) has, since January 2008, established a comprehensive licensing framework for the sector following the development and publication of a Licensing Manual for Electricity Service Providers to serve as a guide to potential investors interested in the power sector. Following this development, three thermal power generation licenses have been issued for the development and operation of three new power plants which are at various stages of development. However the call for existing power plants to regularize their operations by securing final operational licenses to support their operations in accordance with the established laws of country have so far not yielded satisfactory results.

The Commission will during this year seek to implement and enforce to the letter the provisions of the newly established regulatory frame and bring defaulting operators in line with the law for their operations to be closely monitored by the Commission. The Commission will also develop a framework for the solicitation and procurement of additional power generation from IPPs in order to ensure deficits in electricity supply are identified on time and filled in a transparent and competitive manner.

Activities

- a) Processing of licence applications
- b) Technical Committee review of draft licences and approval by the Commission
- c) Printing and issue of licences to service providers.
- d) Establishment of a permitting regime for Bulk Customers of Electricity
- e) Development of framework for the procurement of electric power generation from Independent Power Producers (IPPs)
- f) Review and implementation of monitoring schemes and enforcement of standards

Output

Final Licenses issued to commercial electricity service providing companies.
Framework for the procurement of electric power generation from IPPs developed.

Estimated Budget: **Local: GH¢58,080.00** **Foreign: 0.00**

2. MARKET RULES FOR WHOLESALE ELECTRICITY SUPPLY MARKET

Objective

To develop and establish Market Rules for the Wholesale Electricity Supply Market (WESM) in accordance with Section 56 of Act 541.

Justification

The power sector reform and restructuring strategy adopted by the Government of Ghana requires that a Wholesale Electricity Supply Market (WESM) that allows for choices and competition in the wholesale supply of power be established. Such a market, in principle, requires to be guided by rules and regulations (backed by legislation) that should essentially reflect government's broad policy objectives regarding the structure and administrative management and operation of the market. The regulations to establishing the WESM, Electricity Regulations, 2008 was passed by Parliament and became effective in October 2008. Meanwhile the detailed market rules to guide the operations is yet to be finalized and adopted for use by the players.

Activities

- a) Technical Committee review and packaging of the draft market rules developed by the Commission.
- b) Review of the draft Market Rules by the ETU and other stakeholders for comments.
- c) Finalize the draft Market Rules and organize a Stakeholders' Forum to adopt the Market Rules
- d) Establishment of mechanisms leading to kick-start operation of the WESM
- e) Capacity Building
- f) Monitoring activities to ensure compliance in accordance with LI 1937.

Output

Market Rules established to guide the operation of the Wholesale Electricity Supply Market enacted.

Estimated Budget: **Local: GH¢90,000.00** **Foreign: US\$50,000**

3. PREPARATION OF THE NATIONAL ELECTRICITY GRID CODE & STANDARDS OF PERFORMANCE

Objective

Develop and establish the National Electricity Grid Code for the effective and efficient coordination of the development and operation of the National Interconnected System (NIS).

Justification

The establishment of a new electricity market as anticipated under the power sector reform requires the development and establishment of a code of practice that will conform to the regulations established for the restructured wholesale power supply market. The Code will specify in detail the rules, codes and procedures as well as obligations and liabilities of all players in the market. While Electricity Regulations would just state the broad policy of open access to transmission both within Ghana and also to facilitate cross border trade as required under the ECOWAS Energy Protocol, the technical rules and procedures for implementing these policies would be captured in the grid code

Activities Completed

- a) The draft Electricity Transmission (Technical, Operational & Standards of Performance) Rules has been passed by Parliament as legislative instrument No. 1934 which provides the legal framework for the development and enforcement of the National Electricity Grid Code.
- b) The draft Grid Code has gone through a series of reviews by experts and stakeholders and is currently at its final stages of review.

Activities Pending

- a) Finalize the draft document and organize a stakeholders' forum to adopt the national Electricity Grid Code.
- b) Establish mechanisms for effective monitoring of ETU operations by the Commission in accordance with the provisions of the Grid Code and LI 1934.
- c) Capacity Building
- d) Monitoring activities by the Technical Committee to ensure compliance

Output

National (Electricity) Grid Code established for efficient, secure and reliable operation of the NIS.

Estimated Budget: Local: GH¢35,000.0 Foreign: US\$50,000

4. RULES & REGULATIONS FOR WIRING AND ELECTRICAL INSTALLATIONS

Objective

Develop regulations for wiring and electrical installations and establish a licensing and enforcement regime for electrical contractual services in Ghana.

Justification

During the early nineties, even before the Energy Commission Law was contemplated, the need for rules to guide and regulate the activities of contractors, electricians etc with respect to wiring and electrical installations was recognized to curb the incidence of fire outbreaks resulting from shoddy wiring in building & installations. This led to the establishment of a Technical Committee under the auspices of the Ministry of Energy (the “regulator” at the time) to put together rules and regulations to guide activities of the trade. The Committee came out with a report proposing a set of regulations for electrical installations in buildings without any measures to facilitate enforcement.

Activities Undertaken

In line with Section 56 (iii), (iv) and (v) of the Energy Commission Act, Act 541, the EC set up a Wiring Review Committee to review and update the existing wiring regulations and provide for its enforcement through an LI under the Act. The Review Committee concluded its work during 2008 and have submitted the draft wiring regulations to the Commission for final review by the Technical Committee of the Commission.

Activities

- a) Review by Electricity & Natural Gas Technical Committee and consideration by Board of Commissioners.
- b) Interaction with all stakeholders through a Workshop to discuss the draft document to secure acceptability and support for the Regulations by majority of stakeholders.
- c) Process regulations for enactment into law by Parliament.
- d) Establish monitoring and enforcement regime/mechanisms for regulation.

Output

Legislative Instrument on Rules & Regulations for Wiring and electrical installations in buildings enacted.

Estimated Budget: **Local: GH¢95,000.00** **Foreign: 0.00**

NATURAL GAS DIVISION

5. Preparation of a Natural Gas Demand and Supply Forecast

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Objective

To identify potential industrial customers and estimate gas quantity.

Justification

In accordance with the Natural Gas Infrastructure Development Plan, there is the need to undertake studies to identify natural gas potential customers and their associated demand forecasts in all the regions of the country and match the forecast demand with potential supplies of natural gas from the various supply sources. This forecast will enable appropriate and effective planning of associated infrastructural developments to ensure a sustainable development of the national economy.

Activities

- a) Conduct surveys with questionnaires to identify potential industrial and commercial natural gas customers;
- b) Estimate gas needs of each potential customer;
- c) Estimate natural gas demand and supply projections over a 20-year period.

Output

Potential natural gas customers and estimated total gas demand by region.

Budget: GH¢40,000.00.

6. Development of Natural Gas Wholesale Supply Licence

Objective

To develop a framework for licensing a Natural Gas Wholesale Supply Licence .

Justification

In order for a Natural Gas Wholesale Supplier to operate within the acceptable norms, it will be necessary to satisfy some minimum requirements. The Natural Gas Wholesale Licence will therefore specify the necessary requirements for the Wholesale Supplier.

Activity

- a) Review and finalization of draft Wholesale Supply Licence by the Technical Committee for approval by the Board of Commissioners; and
- b) Printing and binding of the Natural Gas Wholesale Supply Licence.

Output

The output of this project will be a Natural Gas Wholesale Supply Licence.

Budget: GH¢12,500.00

7. Development of Natural Gas Transmission Utility Licence

Objective

The objective of this project is to develop a framework for licensing the Natural Gas Transmission Utility.

Justification

In order for a Natural Gas Transmission Utility to operate within the acceptable norms, it will be necessary to satisfy some minimum requirements. The Natural Gas Transmission Licence will therefore specify the necessary requirements for the Utility.

Activity

- b) Review and finalization of draft Transmission Licence by the Technical Committee for approval by the Board of Commissioners;
- c) Printing and binding of the Natural Gas Transmission Licence.

Output

Natural Gas Transmission Licence developed.

Budget: GH¢10,000.00.

8. Development of Natural Gas Distribution Licence

Objective

The objective of this project is to develop a framework for licensing a Natural Gas Distribution Company.

Justification

In order for a Natural Gas Distribution company to operate within the acceptable norms, it will be necessary to satisfy some minimum requirements. The Natural Gas Distribution Licence will therefore specify the necessary requirements for the distribution company.

Activity

- a) Develop draft Natural Distribution Licence.
- b) Review of draft Distribution Licence by the Technical Committee for approval by the Commission; and
- c) Printing and binding of the Natural Gas Distribution Licence.

Output

The output of this project will be a Natural Gas Distribution Licence

Budget: GH¢90,000.00

9. Development of Regulations for the Natural Gas and Oil Industry

Objective

To develop standards for natural gas and oil industry operations in Ghana.

Justification

The Commission has initiated the drafting of regulations to guide the development and operations of the natural gas and oil industry in Ghana. The initial drafts prepared for the Natural Gas Pipeline Safety Regulations and the Natural Gas Occupational, Health and Safety Regulations made references to some relevant international standards. However, a subsequent review of the draft legislations revealed that it would be necessary to have appropriate Ghanaian Standards instead of the international ones referenced in the legislations. In view of the above, the Commission has decided to collaborate with the Ghana Standards Board to use appropriate procedures and guidelines to identify and adopt the relevant international standards for use in Ghana.

Activities

- a) Constitution of Oil & Gas Standards National Technical Committee by Ghana Standards Board;
- b) Identification of suitable international standards similar to those referenced in the draft legislations;
- c) Review and selection of specific oil & natural gas standards for adoption;
- d) Coordination of activities of the National Technical Committee on Oil and Gas.
- e) Drafting of natural gas safety regulations and OHS regulations by Electricity & Natural Gas Technical Committee of the Energy Commission to facilitate enforcement of the gazetted standards; and
- f) Parliamentary forum to brief all stakeholders including the Parliamentary Sub-Committee on Subsidiary Legislation as part of the processes leading to the enactment of the legislations.

Output

Natural Gas Pipeline Safety and Natural Gas Occupational, Health and Safety Standards gazetted and associated legislations enacted.

Budget

GH¢100,000.00

ENERGY EFFICIENCY AND CLIMATE CHANGE (EECC) DIVISION

10. Energy Conservation and Efficiency Legislative Instruments

Objective

The objective of this project is to develop and gazette efficiency standards and labels for electrical appliances and enactment of L.I.s to facilitate enforcement.

Justification

Ghana is now operating in the regime of ensuring that electrical appliances imported or manufactured for use in Ghana meet certain minimum standards and also that, these appliances are well-labeled to help consumers make informed decisions on their purchases. This development has become necessary to obviate the practice of dumping of inefficient appliances from abroad onto the Ghanaian market. Presently, appliance labeling and standards are being implemented for non-ducted air-conditioners and self-ballasted compact fluorescent lamps.

It is evidently clear that a kilowatt saved is by far more cost-effective than a kilowatt generated. To this effect, there would be intensive public education to encourage the use of efficient appliances by electricity consumers so as to cut down on their consumption. By implementing refrigerator standards and labels in Ghana, the country stands to benefit from carbon credits under the Kyoto Protocol of the UNFCCC.

Activities

- a) Resubmission of efficiency LI on refrigerators and freezers for Parliamentary approval
- b) Publicity campaigns and public education to support enforcement of existing standards
- c) Finalize the draft and prepare draft Legislative Instrument on new appliance efficiency standards for submission to the Attorney General's Office for processing and approval by Parliament.
- d) Development of a rebate scheme for promoting the purchase of efficient appliances through a combination of government tax and a programme to secure carbon credits in accordance with the Kyoto Protocol.

Output

- Public awareness and compliance with existing regulations ascertained
- Efficiency LIs for electrical appliances including that for refrigerators & freezers enacted

Estimated Budget: Local: GH¢183,060.00

Foreign: 0.00

11. Promoting of Appliance Energy Efficiency and Transformation of Refrigerating Appliances Market in Ghana – Project Preparatory Phase

Objective

To reduce energy waste and environmental damage by transforming the Ghanaian market toward efficient refrigerating technologies through effective implementation of mandatory standards and accelerated phase out of inefficient, obsolete and inappropriate refrigerating appliances.

Justification

Ghana is now operating in the regime of ensuring that electrical appliances imported or manufactured for use in Ghana meet certain minimum standards and also that, these appliances are well-labeled to help consumers make informed decisions on their purchases. Presently, appliance efficiency standards and labeling are being implemented for non-ducted air-conditioners and self-ballasted compact fluorescent lamps and legislation for refrigeration appliances is to be introduced during 2009. This project which is being implemented in collaboration with the Global Environment Fund (GEF) and Multilateral Fund (MLF) is a further step towards achievement of market transformation activities for other energy consuming electrical appliances. The project is expected to erase some of the significant barriers to the smooth implementation of labeling, minimum performance standards and consumer education and incentive programs and the penetration of higher efficiency appliances in Ghana.

Activities

Project preparation activities will be undertaken during the year including the following:

- Analysis and identification of gaps and barriers in existing legislation and regulations and their effective implementation
- Conduct of identified studies to elaborate detailed project design
- Establishment of a monitoring and evaluation plan
- Finalize the full size UNDP/GEF project document and documentation required for final GEF endorsement

Output

Full size UNDP/GEF Project document developed.

Estimated Budget: **Local: GH¢75,000.00** **Foreign: US\$80,000**

12. National Climate Change Mitigation Strategy for Ghana

The issues of climate change are some of the most important subjects of international discussion in the world. Not only environmental NGO's, but primarily politicians and representatives of governments, international institutions, business researchers and media take part in the debate.

Justification

This is a joint project with the Environmental Protection Agency (EPA). The Framework Convention on Climate Change commits Parties to the Convention to develop national programs and measures to respond to climate change. One of the key responses that countries can make is to adopt measures that can reduce atmospheric accumulation of Greenhouse Gases (GHG) and thereby delay the predicted impact of GHG on global climate. Such measures may either reduce GHG emissions (abatement) or increase terrestrial storage of carbon (sequestration). Because these measures can moderate GHG, they are termed "mitigation" options.

A mitigation assessment involves a national-level analysis of the potential cost and impacts of various technologies and practices that have the capacity to mitigate climate change.

Activities Completed

The 14th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP14), along with the 4th Session of the Meeting of Parties to the Kyoto Protocol was held in Poznań, Poland on 1-12 December 2008 at which Ghana was represented. A report has been duly issued.

In preparation of the new unit on Energy Efficiency and Climate Change, a member of the Division, Kennedy earlier attended Climate Change related Conference in South Africa., specifically Carbon Markets in Africa. The seminar was held in Cape Town, South Africa on 17 – 18 November 2008. The conference was organized for experts from African Sub region, with the aim to empower CDM project developers with the expertise and knowledge to successfully enter the carbon market.

Projection for 2009

- Participation in International UNFCCC workshops/Conferences
- Training for personnel in CDM Project preparation
- Analyzing the potential cost and impacts of various technical or policy measures on net GHG emissions, socio-economic conditions and national environmental quality; and
- Identifying policies and programs that have potential to encourage adoption of attractive mitigation technologies and practices

Budget: GH¢20,000.00

**RENEWABLE
ENERGY
RESOURCES
INCLUDING
SOLAR ENERGY**

RENEWABLE ENERGY DIVISION

PROJECTS FOR 2009

The Renewable Energy Division will implement the following projects in 2009:

1. Renewable Energy Regulations and Law
2. Establishment of Solar Testing and Certification Centre
3. Off-grid Rural Electrification
4. Wind Resource Measurement
5. Licensing of Renewable Energy Service Providers
6. EIA on Randall Falls Mini-hydro Plant
7. Pilot Solar Traffic and Security Light Systems

Summary sheet

No.	Activity	Cost		
		Energy Fund (GH¢)	Donor (GH¢)	Total (GH¢)
1.	Renewable Energy Regulations and Law	60,000.00	250,000.00	310,000.00
2.	Establishment of Solar Testing and Certification Centre	10,000.00	30,000.00	40,000.00
3.	Off-grid Rural Electrification	20,000.00		20,000.00
4.	Wind Resource Measurement	5,312.00	80,000.00	85,312.00
5.	Permitting of Renewable Energy Service Providers	4,000.00		4,260.00
6.	EIA on Randall Falls Mini-hydro Plant		30,000.00	30,000.00
7.	Pilot Solar Traffic and Security Light Systems	2,000.00	180,000.00	182,000.00
	TOTAL	101,312.00	570,000.00	671,312.00

1. RENEWABLE ENERGY REGULATIONS AND LAW

Objective

The objective of the project is to create the enabling fiscal, legal and regulatory environment that would stimulate the effective participation and injection of private capital into the renewable energy sector;

Justification

While RETs are generally speaking not competitive for grid-connected electricity supply, the contribution of wind and biomass co-generation, in the short to medium term periods, could be enhanced by means of regulatory intermediation and financial incentives.

First, regulatory requirements such as Renewable Energy Portfolio Standards that specify minimum percentage for renewable energy sources in the mix of electricity generation sources from power companies will promote RETs. In general, renewable energy based power supply, whether from power companies or individuals, should have priority dispatch status of all the electric energy they produce into the national interconnected electricity grid system.

For small-decentralised RETs, a system of licensing and standardisation needs to be developed in order to ensure high quality installation and performance.

Currently, the legal and regulatory frameworks for the development of the country renewable energy resources are non-existent. In this respect, the Energy Commission will ensure the development of the Renewable Energy Regulations and their passage into law to provide the necessary legal backing and regulatory framework for the development of the renewable energy resources in the country.

Activities Completed

On the insistence of the World Bank the consultancy for the RE Law was split into two components comprising Electricity and Biomass Components. The consultancy on the Electricity component was awarded to PriceWaterhouseCoopers, Ghana and submitted its interim report on the project at the end of December 2008. The report was discussed at a stakeholders meeting and comments made are to be incorporated in the draft final report to be submitted in January 2009.

The revised TOR in the Biofuels and Woodfuel component which was reviewed by the EPA, Forestry Commission, MOFA, and KITE has been submitted to the World Bank for 'no objection' to invite the shortlisted companies to submit technical and financial proposals.

Activities Pending

1. RE Law: Electricity Component:

- Submission and review of draft final report.
- Submission and review of report
- Stakeholders' workshop
- Internal and Parliamentary discussion
- Enactment of Law by Parliament

2. RE Law: Biofuels and Woodfuels:

- Invitation of shortlisted consulting firms for technical and financial proposals
- Evaluation of the proposals
- Award of contract
- Submission and review of report
- Stakeholders' workshop
- Internal and Parliamentary discussion
- Enactment of Law by Parliament

Expected Output

1. Renewable Energy Law

Estimated Budget:

Local: GH¢60,000

Foreign: GH¢250,000.00

2. ESTABLISHMENT OF SOLAR TESTING AND CERTIFICATION CENTER AT GHANA STANDARDS BOARD (GSB)

Objective

The objective of the project is to establish a solar testing and certification centre at the Ghana Standards Board (GSB). This is to enhance the certification of solar products manufactured or imported into the country.

Justification

As a regulatory body, the Energy Commission is required to ensure that energy products imported or manufactured in the country meet specific standards. It is the responsibility of the Commission to ensure that dealers in Renewable energy products comply with Standards of Safety, reliability and quality in the renewable energy market.

Hence the EC in collaboration with GSB has developed National Standards for Solar Systems and Biofuels which were gazetted under the Standard Names: National Standards of Electrotechnical Industry and Automotive Fuel respectively in 2008.

Following this the World Bank has expressed its committed to equip GSB with Testing and Certification facilities to enhance its testing and certification of locally produced and imported solar systems under the Ghana Energy Development and Access Project (GEDAP).

Activities Completed

The Standards for the Solar Systems and Biofuels which were gazetted under the Standard Names: National Standards of Electrotechnical Industry and Automotive Fuel respectively.

Activities Pending

- Dissemination of the Standards on Solar energy systems, Biofuels and Permitting Manual through public notice and fora with stakeholders' workshops (AGSI, CEPS, Charcoal exporters, etc.)
- Provision of list of equipment and budget for the setting of the Testing and Certification facilities by GSB.
- Award of contract for the supply and installation of equipment
- Commissioning of Centre

Expected Output

- 1) The public, especially the relevant bodies, made known about Solar and Biofuels Standards and RE Permitting Manual.
- 2) Solar Testing and Certification Centre setup at the Ghana Standards Board.

Estimated Budget: Local: GH¢10,000.00 Foreign: GH¢30,000.00

3. OFF-GRID RURAL ELECTRIFICATION PROJECT

Objective

The objective of the project is to develop a platform for the participation of the private sector in the development of the off-grid electricity market as well as promote Renewable Energy Systems for electrification.

Activities Completed

All the solar street lights installed 2 years ago at the Adansi North District were duly maintained by the Contractor, Wilkins Engineering. Teacher Mantey has recently been connected to the national grid. In this regard, the systems that have been installed there will be dismantled and installed at nearby communities that are not connected to the grid.

Activities Pending

Solar streetlighting and school systems at Teacher Mantey will be relocated to nearby communities without grid electricity. The maintenance of the systems would also be continued.

Expected Output

Solar streetlighting and school systems at Teacher Mantey will be relocated to nearby communities.

Estimated Budget: **Local: GH¢20,000**

4. WIND RESOURCE MEASUREMENT

Objective

The objective of the project is to secure a comprehensive and reliable database on wind resource to facilitate the development and utilisation of wind energy in the country.

Justification

Under the SWERA project, 40 km resolution wind resource data provided by NREL indicates that the wind regime along the Ghana-Togo border is very strong (over 8.0 m/s at 50 m) and could support a large scale wind farm construction whose generated electricity could be exported to Togo for foreign exchange.

In view of this promising wind power potential, the Energy Commission began to measure wind speed and direction at 4 sites in the Nkwanta, Amedzofe, Aflao and Anloga areas. Twenty months of recording data indicates that the average wind for the period is 5.7 m/s at 20 m for Anloga, 3.7 m/s at 20 m for Amedzofe and 3.5 m/s at 30 m for Nkwanta. The above information does not confirm the NREL satellite data.

Activities Completed

The three wind measuring equipment at the Amedzofe and Nkwanta sites were decommissioned. One of the equipment dismantled was installed to replace the mast at Anloga which collapsed in May as a result of the rusting and breaking of the guide wires that supported the tower. A request has been made to the World Bank to support EC expand its wind measuring programme to take wind measurements at 4 additional sites. TOR on this has already been sent to the World Bank for 'no objection' to begin the procurement process. A proposal prepared on a project for the "Development of Wind Atlas for Ghana" has also been approved for funding by REEP..

Activities Pending

1. Continue with the collection and analysis of wind data from the mast at Anloga.
2. Awaiting approval for 'no objection' for the TOR.
3. Award of contract to install the wind measuring equipment.
4. Installation of equipment at 4 sites.
5. Collection of wind data.

Expected Output

Wind speed and direction, temperature measurement ongoing at 4 sites.

Estimated Budget: **Local: GH¢ 5,312.00** **Foreign: GH¢80,000.00**

5. PERMITTING OF RENEWABLE ENERGY SERVICE PROVIDERS

Objective

The objective of this activity is to grant renewable energy service providers permit and enforce compliance of permit conditions to ensure judicious utilization of renewable energy resource and prudent business conduct in the country's renewable energy industry.

Justification

The operation of Renewable Energy service providers is expected to:

- a. conform to the Renewable Energy market rules
- b. conform to competition, efficiency and fair market conduct
- c. avoid abuse of monopoly or market power
- d. collaborate with other relevant institution to protect the interest of consumers with respect to reliability and quality of renewable energy services
- e. conform to environmentally sound operations and sustainability, and
- f. comply with Standards of Safety, reliability and quality in the renewable energy market.

The Renewable energy industry involves the production and /or generation of electrify, heat, biofuel, biomass charcoal; manufacturing and assembling of RE products; provision of installation and maintenance services for renewable energy technologies; and bulk transportation of RE products like charcoal and biofuels, etc.

To operate in the RE market, the service provider will need to be granted permit by the Commission to do so. The permit is usually subject to certain statutory and other conditions determined by the Commission which have to be enforced to ensure compliance.

The pending charcoal and tree sample analyses to be carried out by CSIR will also be undertaken. This is to ascertain the physical and chemical characteristics of tree samples usually utilized for carbonizing charcoal.

Scheduled Activities

- evaluation of permit applications received from service providers;
- coordination of tree sample analysis study.

Expected Output

1. Charcoal export and other permits granted applicants.
2. Charcoal and tree sample characteristics established.

Estimated Budget: Local: GH¢4,000.00 Foreign: GH¢0.00

6. RANDALL FALLS (KINTAMPO) SMALL HYDRO POWER AND TOURIST CENTRE PROJECT

Objective

The objective of the project is to provide electricity at the Randall Falls site for the development of Kintampo rest stop for recreation and tourist attraction. It is also to serve as a pilot demonstration project.

Justification

Many environmental goals undoubtedly could be met by the significant role hydropower can play including climate change and energy efficiency. In our increasingly carbon constrained world, renewable energy forms such as hydropower and wind power have the potential to meet the economic, social, environment and sustainability criteria demand of this era. Studies of the prospects of Ghana small hydropower development began as far back as in the beginning of the 1980s and countless studies have been carried out by international and local agencies such as Energy Foundation.

The final conclusions of the Energy Foundation study and recommendations led to the selection of one of the most attractive hydro sites, Randall Falls at Kintampo. The delay of the development of the small hydro sites stems from the fact that there was little or no interest by the power agencies in Ghana to generate electricity from mini hydro plants as power from Akosombo was seen to be the cheapest and sufficient for the nation. The prospects for harnessing the Randall Falls site have been fashioned along the tourism and recreational perspective.

Activities Completed

Water Quality, Sedimentology, and Flora and Fauna analyses have been carried out.

Activities Pending

The EIA of Randall Falls minihydro will be carried out.

Expected Output

Environmental Permit for the construction of the Randall Falls minihydro secured from EPA.

Estimated Budget: **Local: GH¢ 0.00** **Foreign: GH¢ 30,000.00**

7. PILOT SOLAR TRAFFIC LIGHT

Objective

The objective of the project is to demonstrate the use of SOLAR traffic lighting system so as to obtain adequate information that will feed into national policy formulation on traffic lights.

Justification

In recent times there has been frequent occurrence of a number of traffic lights in the Accra Metropolis not functioning. The situation is most often caused by erratic power supply which the whole nation is experiencing. The malfunctioning of the traffic lights creates congestion and confusion that result in accidents at major road intersections.

The existing traffic lights use incandescent lamps which have high rated power and therefore with the system working continuously throughout the day leads to high consumption of electrical energy. In the light of the above the Energy Commission in collaboration with the Ministry of Transportation will implement a solar traffic light project at one road intersection in Accra.

Activities Completed

Several consultations have been held with the Ministry of Transportation and the Urban Roads Department to ascertain information regarding the technicalities involved in the project and decided on the site selection.

The procurement process was hindered by the inability of companies to respond to an earlier advertisement. Even with a second advert, only 2 companies tendered for the supply and installation of the system. Evaluation of the tenders is yet to be undertaken.

Activities Pending

1. Evaluation of tender
2. Procurement of solar traffic lights systems
3. Supply and Installation of traffic lights at Palm wine junction
4. Commissioning of solar traffic lights
5. Monitoring and collection of data
6. Report writing

Expected Output

1 Solar traffic light system installed at Palm Wine junction, La.

Estimated Budget: **Local: GH¢2,000.00** **Foreign:US\$130,000**
GH¢0.00BUDGET

**SUCH OTHER
RELEVANT
PURPOSES AS
MAY BE
DETERMINED BY
THE
COMMISSION**

STRATEGIC PLANNING AND POLICY DIVISION

1. NATIONAL ENERGY DATA PROCESSING AND INFORMATION CENTRE (NEDPIC)

Objective

The Energy commission is mandated by law (Energy Commission Act 541 (1997) to secure a comprehensive National Energy Information Database Management System.

The specific objectives of the programme are:

- To create a network of energy and socio-economic data providers and formalize with them data collection formats and procedures to facilitate timely collection of data
- To review current Energy Commission energy data storage system and develop a more robust and functional data storage system for the National Energy Database;
- Process data in the National Energy Database for dissemination

Justification

The Energy Commission is mandated under Act 541 to establish a comprehensive national energy database for effective energy planning and policy formulation to guide the management and the utilization of energy resources. The Commission's capability to fulfill its various functions necessitates the availability of up-to-date and reliable data. The National Energy Data Processing & Information Centre is therefore required to redesign and establish a comprehensive and functional database to store all available and up-to-date on energy and socio-economic activities. This will also facilitate energy planning, research, policy analysis and formulation and fulfillment of the mandates of the Energy Commission.

In 2008, the Commission initiated the process of setting up the centre, by contracting a Consortium of consultants, Nykomb Energetica Ltd & College of Engineering, KNUST, Kumasi to assist the Commission in formulating a strategy for the establishment of a National Energy data Processing and Information Centre (NEDPIC).

The Consortium completed its work and submitted its final report by the end of the out-going year. Among other indicators, the Consortium recommended various hard and software that are required to get the center established and functioning. It also recommended an implementation strategy for the setting up of the NEDPIC. Management has proposed to allow the Consortium to also undertake the implementation exercise. To this effect, a draft Terms of Reference (TOR) has been submitted to the Consultant for study to enable it submit appropriate Proposal.

Activities Pending

- Procurement of Database Software and hardware for the establishment of NEDPIC
- Contracting of an IT Consultant with specialization in database management
- Installation of Database Software and Hardware for the NEDPIC
- Training of Staff in the use of Database Software and Hardware

Output

Functional National Energy Data Processing and Information centre

Budget

Estimated budget is **GH¢40,000.00**

2. NATIONAL ENERGY STATISTICS

Objective

To update the 2000 – 2007 National Energy Statistics with 2008 data

Justification

The National Energy Statistics is a statistical handbook of energy production, transportation, losses and usage in the country. It covers the electricity, petroleum and the renewables including woodfuels. Share of energy consumption by the Demand Sectors , i.e Residential, Commercial and Service, Industrial, Agricultural and Transport are reported too.

Activities Completed

- Review of draft 2000 – 2007 National Energy Statistics
- Compilation of the draft 2007 National Energy Balance

Activities Pending

- Updating of 2000 – 2007 National Energy Statistics with 2008 energy data

Output

Compiled data on the following:

- National Energy Resources
- Energy Supply and usage
- National Energy Balance for 2008

Budget

Estimated budget is **GH¢15,000**

3. SURVEY ON ENERGY USE IN THE INDUSTRIAL, COMMERCIAL AND SERVICES SECTORS OF THE ECONOMY

Justification

The industrial, commercial and the services sectors of every economy play a very important role in its socio-economic development. The industrial sector especially the manufacturing sub-sector, is expected to lead in the rapid transformation of the Ghanaian economy from low-income to middle-income country with US\$1,000 by 2015. After a downward trend in annual growth from a peak of 6.4% in 1997 to 2.9% in 2001, the industrial sector has recovered steadily to growth rates of 4.7% in 2000 and 5.0% in 2005. By the end of 2006, the growth rate of the manufacturing sub-sector has fallen to 4.2%. The services sector also exhibited a downward growth rate from 6.5% in 1997 to 4.7% at the end of 2004. However, by the end of 2006, the growth rate of the sector had increased to 6.5%. The growth rate of these sectors is not satisfactory when set against the government target of achieving a middle-income status by 2015. Among the obstacles cited as hindering the achievement of these targets is unreliable energy supply. It is estimated that these sectors should be able to attain their annual growth rate if intermittent power outages among other obstacles can be eradicated. In order to fulfill its mandate of ensuring that energy demand and supply are met regularly and efficiently, the commission is conducting a survey on energy consumption in the industrial, commercial and the services sectors of the Ghanaian economy.

Objective

The objectives of the survey are to:

- compute the amount of energy consumed by the sectors
- update the share of energy profile in the industrial and commercial/service sector.
- compute the cost of unserved energy in these sectors
- Establish the sources of energy (petroleum, electricity and woodfuel) to the sectors

Activities Completed

- Prepared and tested questionnaires for the survey.
- Established initial contact with the key stakeholder institutions like the Ghana statistical services, Association of Ghana industries Ghana Chamber of Mines and National Board for Small Scale Industries.
- Survey in schools, hospitals and hotels in the Greater Accra Region.

Activities Pending

- Conduct full survey
- Data analysis and report writing.

Output

- Primary data on energy consumption of the Industrial and commercial sector of the Economy.
- Update of energy profile of the industrial and commercial sectors of the Economy.
- Cost of unserved energy in the various economic sectors.

Budget: GH¢20,000.00

4. SURVEY OF ENERGY USE IN BUILDINGS

Justification

A greater proportion of energy is consumed in residential and office buildings for lighting, cooling and for the operation of appliances. In 2005, the shares of electricity used in households and the commercial sectors were 37% and 14% respectively of the total electricity consumed. However, up-to-date and detailed data on the energy use in building for planning and energy conservation purposes are very scanty. The project therefore is to bridge this data gap and fulfil the Commission's mandate of securing a comprehensive National Energy Information Database Management System.

Objective

The objective of the survey is to estimate the energy use per unit area in buildings in urban and rural areas different agro-climatic zones, namely; savannah, Forest and coastal.

Activities Completed

- Preparation of survey instruments.
- Survey in hotels, schools and hospitals in the Greater Accra Region

Activities Pending

- Data collection nationwide on energy used in buildings in all sectors the economy; households, commercial, industrial, rural, savannah, forest, coastal, poor-income and high income etc.
- Data analysis and report writing

Output

- Up-to-date data and detailed data on energy use in buildings.
- Energy use per unit area in buildings commercial, industrial, residential and in urban and rural areas, different agro-climate zones, namely; savannah, forest and coastal.

Budget :GH¢ 20,000.00

5. WOODFUEL SUPPLY AND CONSUMPTION SURVEY

Justification

Woodfuel is an important source of energy in Ghana and several other African countries. It is estimated that woodfuel (firewood and charcoal) account for about 60% of the final energy consumption in the country. As an important energy source it supports small scale industries, provide direct and indirect employment for many sustain several livelihoods. Since woodfuel is locally produced, it saves the country large amounts of foreign exchange.

In spite of its importance, data on woodfuel, compared to other forms of energy sources such as petroleum is scanty. The project therefore is to bridge this data gap and fulfill the Commission's mandate for securing a comprehensive National Energy Database Management System and to ensure that energy demand and supply are met regularly and efficiently.

Objective

The objectives of the survey are;

- To collect empirical data on woodfuel consumption per unit household and person for urban, rural, agro-climate zones, income groups etc.
- Assess the importance of woodfuel in the energy mix of each sector of the economy
- Establish the sources of woodfuel to the selected areas

Activities Completed

- Design of survey instruments

Activities Pending

- Collection of woodfuel consumption data in Households, Industries and Institutions
- Collection of woodfuel supply data.
- Data analysis and report writing

Output

- Up-to-date data on woodfuel supply and consumption
- Empirical data on woodfuel consumption per unit household and person for urban and rural communities, for the different agro-climatic zones, namely; savannah, forest and coastal zones and for the various income groups namely; poor-income, middle-income and high income etc.

Budget: GH¢20,000.00

7. Assessment of CFLs Programme (Review of Findings)

Objective To review the findings of the CFLs impact assessment report.

Justification The SEA carried out an assessment for the CFLs programme in 2007. The findings among others include Peak Electricity Savings in (MW); fuel savings (thermal electric generation) in GH¢; CO₂ – savings in (kg) and income savings in GH¢ on household electricity bills.

As a result of variability of data sources and methods of estimating savings (electricity, CO₂ and cash), a stakeholder expert group will be constituted to review the CFL impact assessment report.

The implementation of the CFLs intervention as a policy measure and the results achieved has to be discussed with stakeholders and firm conclusions and recommendations made to government.

Activities

1. Review and finalization of report.
2. Workshop for presentation of findings.

Output

1. Final CFLs impact assessment report.
2. Workshop and Publications

Estimated Budget: GH¢ 15,000.00

8. Assessment of Productive Uses of Electricity in the Country (PUE)

Objective

To assess the impact of productive uses of electricity (PUE), thirteen (13) years after the PUE project was implemented in 1996.

Justification:

The PUE project identified by the World Bank as a component of the National Electrification Project had as its goal, the promotion of productive and efficient uses of electricity throughout the country to achieve optimum benefits of the provision of electricity under the National Electrification Scheme (NES).

The implemented activities aimed at increasing productive uses of electricity in agriculture for agro-business, small business enterprises and in households.

The Energy Commission has restated its support for PUE as part of its policy objectives for the electricity sub-sector. It recommends the establishment of a Rural Electrification Board and an accompanied Rural Electrification Fund.

The basis for these recommendations is founded on the premise that Rural Electrification provides energy services for social enterprises and also supports wealth creation activities in the rural area.

The impact assessment of PUE is required to reaffirm the Commission's recommendations of a Rural Electrification Board and to provide information on the payback so far of the PUE.

Activities:

1. Desk and field data collection (nationwide)
2. Assessment of impact using nation-wide data available (done in-house);
3. Report writing
4. Review and Publication.

Output:

Report on findings of impact of PUE.

Estimated Budget: GH¢ 38,200.00

INSPECTORATE UNIT**9. INSPECTION & MONITORING OF ELECTRICITY INDUSTRY OPERATIONS**

Objective

Establish mechanisms for monitoring and carrying out inspection of facilities to ensure that guidelines, licensing conditions and relevant standards of performance and rules of practice are adhered to by the service providing entities and consumers.

Justification

The rationale for specifying licensing conditions and the development of codes, rules and standards for service providing companies in the sector (e.g. generators, network operators etc.) is to define the acceptable limits of their operational regimes and also to set benchmarks for the quality of service and operations of the various licensees. Similarly, bulk consumers of power classified by the Commission are expected to operate along certain guidelines and conditions set by the Commission in order to continue to be classified as such and therefore their operations also need to be monitored. Periodic reports are therefore required to be submitted by the various companies in accordance with the laid down monitoring framework, in order to facilitate compliance monitoring and enforcement by the regulator. This, coupled with independent verification methodologies including surprise physical inspection of sites and facilities (to check on safety standards, maintenance practices and environmental impacts of their operations), would enhance the Energy Commission's function of compliance monitoring enforcement vis-à-vis licensing conditions and associated performance benchmarks with regard to rules, codes and regulations.

Activities

- a) Physical field inspection visits to sites, facilities of power producers, distribution & transmission facilities, bulk customer premises & plants etc. to verify periodic reports and enforce compliance with standards, regulations, licence conditions etc. (Trekking and travel logistics)
- b) Inspection of outlets of importers, wholesalers and retailers dealing in electrical appliances covered by efficiency legislations (i.e. air conditioning and lighting) to enforce compliance with relevant efficiency standards and regulations.

Output

Effective execution of the compliance monitoring and enforcement function of the mandate of the Energy Commission.

Estimated Budget: Local: GH¢56,870

Foreign: 0.0

10. INSPECTION AND MONITORING OF NATURAL GAS OPERATIONS

Objective

To monitor and carry out inspection of works and facilities under construction to ensure compliance with Rules, Regulations and Licensing Conditions for Natural Gas supply and distribution services.

Justification

The Commission has been engaged in the development of a transparent Regulatory Framework for the establishment of a Natural Gas Secondary Market in Ghana.

As construction of Natural Gas facilities take place, it is important to ensure that workers health and safety are guaranteed and the approved design standards on Natural Gas infrastructure are adhered to.

The operations of the two regulating and metering stations in Tema and Takoradi impact upon the regulatory functions of the Commission with respect to the Nigeria gas being delivered to Ghana through the West African Gas Pipeline. The Energy Commission as a regulator requires to monitor the operations of the R&M Stations and be concerned about the quality of gas that is to be transferred through the RMS to the customers.

With the recent discovery of significant oil and gas accumulation in the territorial waters of Ghana, offshore Western Region, it is necessary to monitor the activities of oil and gas productions and infrastructure development for the processing of the gas from the Jubilee field. It is therefore required of the Energy Commission to ensure through inspections and monitoring activities that the works and operations carried out in the sector are executed in accordance with established Regulatory and legal framework.

Activities

- a) Monitor and carry out inspection of construction works on the transmission and distribution pipelines.
- b) Monitor and carry out inspection of works and operating status of Regulating and Metering Stations (RMS) in Tema and Takoradi each quarter.
- c) Undertake quarterly visits to Cape Three Points to monitor compliance of Occupational, Health and Safety Regulations and design standards on Natural Gas infrastructure development.

Output

Effective execution of the compliance monitoring and enforcement function of the mandate of the Energy Commission.

Estimated Budget: Local: GH¢23,770.00 Foreign: 0.0

11. INSPECTION AND MONITORING (RENEWABLE ENERGY INDUSTRY)

Objective:

To monitor and carry out inspection on facilities of renewable energy service providers for the purpose of

1. Granting of Permits to new applicants
2. Enforcing compliance of Permit Conditions to ensure judicious utilization of renewable energy resource and prudent business conduct in the country's renewable energy industry.

Justification

The operation of Renewable Energy service providers is expected to:

- a. conform to the Renewable Energy market rules
- b. conform to competition, efficiency and fair market conduct
- c. avoid abuse of monopoly or market power
- d. collaborate with other relevant institution to protect the interest of consumers with respect to reliability and quality of renewable energy services
- e. conform to environmentally sound operations and sustainability, and
- f. comply with Standards of Safety, reliability and quality in the renewable energy market.

The Renewable Energy industry involves the production and/or generation of electricity, heat, biofuel, biomass, charcoal; manufacturing and assembling of RE products; provision of installation and maintenance services for renewable energy technologies; and bulk transportation of RE products like charcoal and biofuels, etc.

To operate in the RE market, the service provider will need to be granted permit by the Commission to do so. The permit is usually subject to certain statutory and other conditions determined by the Commission.

Furthermore, the Commission monitors and enforces compliance with all permit rules and conditions. A contravention of the permit conditions could give rise to penalties including suspension or cancellation of permit.

Activities

1. Develop Checklist for Compliance of licensing/Permit Conditions for all Service Providers in the Renewable Energy Industry.
2. Conduct Physical field inspection visits to sites of applicants for the purpose of evaluating applications for permits.
3. Conduct Physical field inspection, visits to sites, facilities of Renewable Energy Service Providers to verify compliance with Standards Regulations, permit conditions, etc.
4. Inspection Reports and follow-up Checks on Sanctions where applicable.

Output

Effective execution of the Compliance monitoring and enforcement function of the mandate of the Energy Commission.

Estimated Budget: GH¢6,000.00

12. INTERNATIONAL AFFILIATIONS/COOPERATION & CONFERENCES

Objective

Strengthen Ghana's membership of the World Energy Council (WEC) and active participation in WEC's Africa regional projects and revival of the Commission's membership of the Africa Utility Regulators (AFUR) Association.

Justification

The World Energy Council (WEC) is a non-profitable organization of energy-affiliated institutions, companies, agencies and individuals organized on country basis and referred to as National Committees. Reorganization efforts aimed at galvanizing the interest of relevant local energy agencies to associate with the WEC commenced a couple of years ago leading to the formation and adoption of a Constitution for the Ghana Energy Association (GhEA) to serve as the Ghana Committee of the World Energy Council. It is the view of the EC that Ghana stands to gain a lot from participating seriously and cooperating effectively with WEC in executing its programs; particularly those targeted for Africa. The EC has also been a dormant member of the Africa Utility Regulators Forum which seeks to get regulatory agencies together to exchange ideas and thereby consolidate the benefits of effective utility regulation on the continent.

Activities

- a) Prepare and discuss GhEA Action Plan
- b) Participation in the WEC Africa Regional meetings
- c) Regularization of EC's membership of AFUR and participation in its programmed activities.
- d) Conclude the registration of GhEA.
- e) International conferences and seminars by staff and Commissioners.

Output

The expected output of this project is a well-established and adequately resourced Ghana WEC Committee and active participation in the activities of WEC and those of AFUR.

Estimated Budget: **Local: GH¢50,000.00** **Foreign: 0.0**

13. REVENUE AND ACCOUNTS

GOAL

To ensure sound and proper maintenance of the Commission's Finances in line with the Financial Administration Act, the Internal Audit Act and the National Procurement Act

IMMEDIATE OBJECTIVE

- To prevent financial information from getting into wrong hands
- To compile and prepare the commission's budget for 2010
- To meet deadlines and submit the commission's draft financial statement for auditing

ACTIVITIES

- Preparation of 2010 budget.
- Auditing of year 2008 financial statement
- Preparation of returns and document
- Tracking expenditure and advise on trends

EXPECTED OUTPUT

- 2010 budget prepared
- Financial statement for 2008 prepared
- Quarterly financial reports produced.
- Sound financial management
- Balance between budget and expenditure maintained.

ESTIMATED COST: GH¢ 85,400

PUBLIC AFFAIRS

14. PUBLICITY

Objective: To showcase the achievements of the EC and to motivate and reward deserving staff and associates of the Commission.

Justification

Whatever heights and successes are chalked by the Commission during a given year are no doubt attributable to the collective effort of its hardworking and dedicated staff. The Commission should therefore take advantage of end-of-year best wishes to reciprocate and also promise staff of a better year ahead. The end of the year also presents an opportunity to show appreciation to groups and individuals through whose effort the Commission was able to successfully fulfill its mandates during the closing year.

Activities Completed

- List of all stakeholders prepared
- List of seasonal souvenirs prepared

Activities Pending

- Arrange for and distribute seasonal corporate souvenirs;
- Organize an End-of-Year Package for all staff;

Output: Image of the Commission is enhanced.

Cost: €150,000.00

15. SUBSCRIPTION OF JOURNALS AND PERIODICALS

Justification

The Commission as an Energy Sector Regulatory institution needs to be abreast with the developments in the Energy field world-wide and subscribing to authoritative journals and periodicals is one sure way of realizing such.

Estimated Budget GH¢ 6,280

16. PUBLICATION OF WORKPROGRAMME OF THE COMMISSION

Objective

To co-ordinate the work programme of divisions and units of the Commission into a handbook.

Justification

To make available the work programme of the Commission in a single handy document to make for easy reference.

Activity

This activity will involve the printing of the Commission's work programme for 2008.

Expected Output

Publication of work programme for the Commission for the year 2007.

Estimated Budget: GH¢3,000

17. PUBLICITY AND PRODUCTION OF DAIRIES AND CALENDARS FOR 2009

Justification

The publication of Diaries and Calendars by the Commission is a yearly routine protocol requirement and it would be complied with for the year 2009.

Estimated Budget - GH¢31,000.00

18. PUBLICATION OF THE COMMISSION'S OFFICIAL JOURNAL– The Energy Review

Objective

To inform and educate the general public on Energy matters through Essays, Comments etc carried in the Journal

Justification –

To use the Journal as the official mouth-piece of the Commission and also to use it as a platform for energy experts and people interested in energy matters to write and exchange thereby and also bring their thoughts into the public domain. Four quarterly editions will be published in the course of the year.

Activity

This involves the submission of articles to an editorial committee that would oversee the publication of the journal.

Expected output

Production and publication of an official journal of the Commission.

Estimated Budget : GH¢ 26,000.00.

19. PUBLICATION OF THE COMMISSION'S ANNUAL REPORT FOR 2007& 2008.

Objectives

To comply with statutory requirements.

Justification

To inform the Ministry of Energy and Parliament and the General public about how the Energy Commission has fulfilled its mandates and performed in the year gone by.

Activity

This project would involve the collation, co-ordination and publication of the activities of the various divisions of the Commission in the last year.

Expected Output

Production and publication of annual reports of the Commission.

Estimated Budget – GH¢ 5,000.00

20. COMMISSIONERS' FEES AND ALLOWANCES

Estimated Budget: 100,000

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