ANNUAL REPORT

AND

AUDITED FINANCIAL STATEMENTS FOR 2013

ENERGY COMMISSION

Annual Report

and

Audited Financial Statements for the Year ended 31 December, 2013

Republic of Ghana

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PMB, Ministries Post Office
ACCRA

Ghana Airways Avenue
Airport Residential Area
ACCRA

Tel: **0302 813756/7/9**
Fax: **0302 813764**
Email: **info@energycom.gov.gh**
Website: **www.energycom.gov.gh**

TABLE OF CONTENTS

- **CHAIRMAN'S REMARKS**

1.0 THE COMMISSION

- **ACTIVITIES**

2.0 TECHNICAL REGULATION

2.1 Electricity Supply Industry

2.2 Natural Gas Supply Industry

2.3 Energy Efficiency Promotion and Climate Change

2.4 Renewable Energy

2.5 Inspection and Monitoring

3.0 POLICY PLANNING AND IMPACT ASSESSMENT

3.1 Strategic Planning and Policy

3.2 Social, Environmental Impact and Technology Assessment

4.0 HUMAN RESOURCE DEVELOMENT, FINANCE AND ADMINISTRATION

4.1 Human Resource Development

4.2 Public Affairs

4.3 Finance

- **APPENDICES**
  - **AUDITED FINANCIAL STATEMENTS FOR 2013**

CHAIRMAN'S REMARKS

The growth and transformation of the Ghanaian economy continued in 2013. This has led to an increased use of electricity for lighting and for powering electrical appliances and equipment in homes, businesses and industries. Paradoxically, the country experienced challenges in the supply of light crude oil and natural gas for electricity generation. The volatility and price increase of crude oil in 2013 to a peak of US$ 105.43 per barrel made it difficult for wholesale electricity suppliers who depend on light crude oil for electricity generation. As a result of the high crude price, there was an upward adjustment to the average end-user tariff.

Furthermore, the West African Gas Pipeline, which was ruptured in August 2012, making a 200 MW power plant that depends solely on natural gas to be idle for almost one year, was repaired and restored into operation in August 2013. It is unfortunate to note that natural gas deliveries after the restoration of the West African Gas Pipeline were still below the contract volumes and not adequate to sustain increased electricity production. Hence, despite the total installed capacity of 2630 MW, these plants could not produce electricity because of lack of fuel.

These challenges were compounded by the country's inability to import adequate electricity from CIE of La Cote d'Ivoire to make-up for the shortfall in domestic electricity supply. The demand for electricity could therefore not be met hence the utilities had to resort to a national load management exercise to the frustration of the public, industry and businesses.

Given the challenges confronting the electricity sector, the Energy Commission embarked on a public awareness campaign on efficient uses of electricity and conservation as a means of managing the scarce resources available. The Commission continued with the implementation of the Refrigerator Rebate Scheme and the Capacitor Installation Project.

In response to the Renewable Energy Law and the Feed-In Tariff (FiT) scheme, there has been a flood-in of applications for grid-connected electricity supply from renewable energy sources especially solar PV. The Energy Commission in 2013 issued 22 provisional licenses for a proposed generation of 2,055 MW of solar PV. In order to

create the appropriate framework for the promotion of renewable energy, the Commission developed a Net Metering Code and a Renewable Energy Grid Code. A Framework for the establishment and operationalization of the Renewable Energy Fund was also developed.

In order to ensure the integrity of the national grid in view of possible large injections of electricity from solar PV, the Commission in collaboration with GIZ undertook a study to assess the impact of large solar PV injection onto the grid.

The Commission also developed Drafts of a Model Power Purchase Agreement (PPA) and continued with the implementation of the Sustainable Energy for All (SE4All) Initiative, and the implementation of the Electrical Wiring Regulations.

The challenges facing the energy sector in Ghana seem monumental. In order to situate these challenges in the long-term perspective and find innovative solutions to ensure energy supply security in the future, the Energy Commission continued with updating the Strategic National Energy Plan. The Plan, which will be completed in 2014, offers the platform for reviewing the country's energy policies and strategies.

In the coming years, the Commission will focus on building the capacity of its staff and on strategic collaboration with stakeholders in the energy sector to follow proven best practices in building a robust energy environment for Ghana, although funding is a significant challenge.

The Energy Commission in 2013 lost its Chairman, Professor Abeeku Brew-Hammond. In recognition of his contributions to the Commission in particular and the energy sector as a whole, we have reproduced in this Annual Report, the entire text of the Energy Commission's Tribute to a leader worthy of commemoration. May his soul rest in peace.

Dr. Francis Dakura
Ag. Chairman

1.0 THE COMMISSION

1.1 INTRODUCTION

The Energy Commission, established by the Energy Commission Act, 1997 (Act 541) is a statutory body corporate with perpetual succession and a common seal.

The Act provides for the Commission's functions relating to the regulation, management, development and utilization of energy resources in Ghana. It also provides for the granting of licenses for the transmission, wholesale supply, distribution and sale of electricity and natural gas.

1.2 GOVERNING BOARD

The Governing Board of the Energy Commission consists of seven members appointed by the President of Ghana acting in consultation with the Council of State of the Republic. In making the appointments, the President takes into consideration the knowledge, expertise and experience of the persons so appointed and in particular, their knowledge in matters relevant to the functions of the Commission.

The Executive Secretary is responsible for the day-to-day administration of the Energy Commission and is required to ensure the implementation of the decisions of the Board.

The current composition of the Commission is as follows:

1. Dr. Francis Bawaana Dakura	Ag. Chairman*[1]
2. Dr. Seth Ohemeng-Dapaah	Member
3. Dr. Rudith King	Member
4. Mr. Charles Kofi Wayo	Member
5. Mr. Winfred Nelson	Member
6. Dr. A.K. Ofosu Ahenkorah	Executive Secretary

[1] Replaced the substantive Chairman, Prof. Abeeku Brew-Hammond who passed on 25th March, 2013

TRIBUTE FROM THE BOARD, MANAGEMENT AND STAFF OF THE ENERGY COMMISSION TO THE LATE CHAIRMAN OF THE COMMISSION, PROFESSOR ABEEKU BREW-HAMMOND

"The Righteous perish and no one ponders in his heart, devout men are taken away and no one understands. Those men who walk upright enter into peace. They find rest as they lay in death." – ***Isaiah 57:1 & 2***

Proffessor Abeeku Brew-Hammond joined the Energy Commission, as Chairman of the Commission's Board in July, 2009. During his tenure he has, demonstrated strong leadership skills both in the affairs of the Commission and in its relations with local and international institutions with functions relating to energy. His vision, focus, drive, energy and a tendency to be unfazed by challenges yielded significant contributions from the Energy Commission to the energy industry in Ghana.

Particularly within the renewable energy sub-sector, Prof. Abeeku Brew-Hammond, ensured the successful development and passage of the Renewable Energy Act 2011, Act 832 which has put Ghana steps ahead in the move to integrate renewable energy into the national energy mix. He also ensured the development of the Bioenergy Policy which is expected to be adopted by government for the promotion of the efficient use of bioenergy in Ghana. Prof. Brew-Hammond's contributions also include the implementation of a Research and Development Support Project which seeks to provide funding for innovative research activities and woodlot cultivation. Currently, studies which focus on conversion of biomass material into bio-ethanol, impact analysis of grid-connected solar PV systems on the performance of distribution networks, energy from waste in urban slums and sustainable woodlots cultivation are on-going.

Prof. Brew-Hammond was appointed as a Member of the United Nations Secretary-General's Sustainable Energy for All (SE4All) High Level Group, for the initiative which was initiated in 2011. Under his leadership Ghana became the first nation among participating countries to launch its Action Plan, which was developed in record time

and presented at the Rio +20 summit in June, 2012 and launched by the Energy Commission and the UNDP in Ghana in October, 2012.

Prof. Brew-Hammond will be missed sorely by the entire Board, Management, Staff and non-staff colleagues at the Energy Commission for his strong leadership and interest in their welfare.

Prof., as Members of the Board affectionately called him, was wonderful to work with. He was not impulsive and his measured style of leadership always restrained him from responding quickly to a question. He needed time to think and reflect before responding, and the answer always came back with wisdom. Prof. in his usual style would always share a joke or two to calm tempers during meetings. He would listen attentively to contributions of colleague Members even when he disagreed. Prof. was warm, courteous, friendly and very supportive.

By virtue of Prof.'s visionary leadership, the Energy Commission has for the first time since its establishment in 1997 procured from scratch a fully-fitted Office Building on the Ghana Airways Avenue in Accra.

Prof., we have for some years now enjoyed your beautiful and melodious old-time highlife tunes which you strung yourself from the strings of your guitar during our end-of-year parties, the most recent being at our new office last December, 2012. We had looked forward to more of such timeless moments with you while we continued to learn from the depth of professional wisdom you possessed. But God has other plans and as mortals we can only thank Him for the few years He blessed us with your fellowship and pray that He grants you perfect rest in His bosom. We are assured of this for John the Revelator says in Chapter 21:3 & 4:

"And I heard a loud voice from heaven saying, "Behold, the tabernacle of God is with men, and He will dwell with them, and they shall be His people. God Himself will be with them and be their God.

"And God will wipe away every tear from their eyes; there shall be no more death, nor sorrow, nor crying. There shall be no more pain, for the former things have passed away

Then He who sat on the throne said, "Behold, I make all things new." And He said to me, "Write, for these words are true and faithful."

Prof.! Prof.! Prof.!, rest in perfect peace! Damirifa Due Ampa!

The Late Professor Abeeku Brew-Hammond

1.3 OBJECT AND FUNCTIONS

The Commission is required by law to regulate, manage the utilization of energy resources in Ghana, to provide the legal, regulatory and supervisory framework for all providers of energy services in the country: specifically by the granting of licenses for the transmission, wholesale, supply, distribution and sale of electricity and natural gas and related matters.

The critical statutory mandates of the Energy Commission include the following:

(a) To recommend national policies for the development and utilization of indigenous energy resources;

(b) To advise the Minister on national policies for the efficient, economical, and safe supply of electricity, natural gas, and petroleum products having due regard to the national economy;

(c) To prepare, review and update periodically indicative national plans to ensure that all reasonable demands for energy are met;

(d) To secure a comprehensive data base for national decision making on the extent of development and utilization of energy resources available to the nation;

(e) To receive and assess applications, and grant licences under Act 541 to public utilities for the transmission, wholesale supply, distribution, and sale of electricity and natural gas;

(f) To establish and enforce, in consultation with the Public Utilities Regulatory Commission, standards of performance for public utilities engaged in the transmission, wholesale supply, distribution and sale of electricity and natural gas;

(g) To promote and ensure uniform rules of practice for the transmission, wholesale supply, distribution and sale of electricity and natural gas;

(h) To pursue and ensure strict compliance with Act 541 and regulations made under it; and

(i) To perform any other function assigned to it under the Act or any other enactment.

Under the Renewable Energy Act, 2011 (Act 832) the Energy Commission is to:

a. advice the Minister on renewable energy matters
b. creat a platform for collaboration between the government and the private sector and civil society for the promotion of energy resources
c. recommend and advice relevant stakeholders on the educational curriculum on efficient use of renewable energy sources and evolve programmes for its mainstreaming on the educational institutions
d. recommend for exemptions from customes, levies and other duties, equipment and machinery necessary for the development, production and utilization of renewable energy sources;
e. in consultation with the Public Utilities Regulatory Commission recommend financial incentives necessary for the development, production and utilidation of renewable energy resourcse;
f. promot the local manufacture of components to facilitate the rapid growth of renewable energy resource;
g. Promot plans for training and supporting local experts in the field of renewable energy
h. promote the benefits of renewable energy to facilitate its utilization
i. in consultation with relevant stakeholders set targets for the development and utilization of renewable energy sources; and
j. implement the provisions of the Act.

1.4 STRUCTURE

The Commission's operations are structured under three (3) Directorates as follows:-

1. Office of Technical Regulation and Promotion of Renewable Energy and Energy Efficiency.

The Directorate is made up of the following Divisions :

(a) Technical Regulation Division;

(b) Renewable Energy Promotion Division;

(c) Energy Efficiency Promotion and Climate Change Division; and

(c) Inspectorate and Enforcement Division;

The Technical Regulation Division is responsible for matters relating to the supply, transmission and distribution of electricity such as licensing of service providers, elaboration of regulations, codes of practice, guidelines and procedures for the electricity supply and distribution industry; and inspection and monitoring of compliance with licensing terms and conditions, regulations, rules and codes of practice by service providers in the power sector. For the natural gas sector, the Office handles the regulation and licensing of all midstream and downstream operations including gas processing, LNG re-gasification, gas imports, gas pipeline transportation and gas distribution and consumption.

2. Office of Strategic Planning, Policy and Social, Environmental Impact and Technology Assessment

The Directorate is made up of the following Divisions:

(a) Strategic Planning and Policy Division; and

(b) Social, Environmental Impact and Technology Assessment Division;

The overarching responsibility of the Policy and Planning Office is to prepare indicative plans and make policy recommendations which would ensure that all demands for energy are met in an efficient and sustainable manner to ensure steady socio-economic growth. Specifically, the Office is required per the provisions of Act 541 to among other things, advise the Energy Commission Board and Minister for Energy on national policies for the development and utilization of indigenous energy resources; to review energy policies and prepare Energy Policy Briefs,; to prepare Annual and Medium-term Energy Outlooks for Ghana; to prepare Annual National Energy Statistics; and manage the National Energy Information Centre at the Commission. The Directorate is also charged with conducting environmental impact assessment of all national energy plans, programmes and projects; preparing and monitoring guidelines to ensure that environmental and social issues are incorporated into the development and implementation of energy projects; conducting and reporting on the assessment of energy technologies and making recommendations regarding their use in Ghana; and preparing Environmental and Technology Policy Review Papers for the Commission'.

3. Office of Finance and Administration

This Directorate is made up of the following Units:

(a) Human Resource and Administration Division;

(b) Finance Unit; and

(c) Public Affairs Unit

The Finance and Administration Directorate is charged with ensuring that the Commission continuously possesses the needed capacity and the financial, human and technological resources required to effectively and efficiently play its role as Technical Regulator in the energy sector. The specific tasks of this Office include developing and implementing systems and procedures for the efficient and effective delivery of general administrative services of the Commission; coordinating the preparation of annual budgets of the Commission; developing a human resource plan to provide the requisite skill

levels to meet the Energy Commission's mission and objectives; coordinating the procurement of contracted general services for the Commission; developing and implementing staff performance appraisal and incentive systems; and ensuring that the Energy Commission is constantly in touch with the public by maintaining healthy relations with the Ghanaian Media.

4. In addition to the above Directorates, there are two Units and the Electricity and Natural Gas Technical Committee:

(a) Legal Unit

As a State institution established by an Act of Parliament, the entire mandate of the Energy Commission is founded on legal provisions and regulatory boundaries which have to be followed to the letter. The Commission's Legal Unit is required to make appropriate recommendations relating to the efficiency and effectiveness of established regulatory frameworks and strategies; to serve as the Board Secretariat and in that regard to advise Members of the Board on all legal matters; to represent the Commission on all legal matters; to maintain an accurate Register of licenses; and to follow up on inspection reports and where necessary take appropriate action against defaulting service providers.

(b) Internal Audit Unit

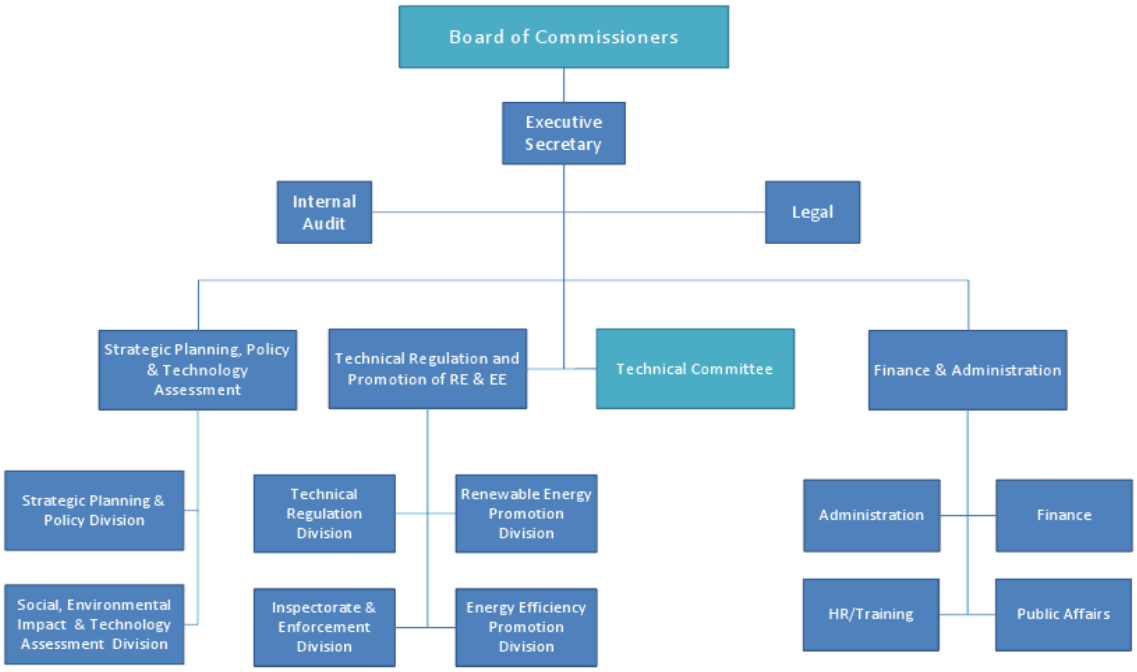
In keeping with the good governance principles of transparency and accountability, the Commission's Internal Audit Unit is charged with planning, managing, organizing and controlling its audit functions across the entire spectrum of activities of the Commission as well as ensuring that proper books of accounts are maintained in line with current trends and international best practice. The Unit also ensures that standard

accounting practices, policies and procedures are adhered to and that adequate procedures have been instituted for the detection of risk and for the prevention or elimination of such risk.

(c) Electricity and Natural Gas Technical Committee

Section 29 of the Energy Commission Act, 1997 (Act 541) mandates the Energy Commission to establish an Electricity and Natural Gas Technical Committee to oversee the development, implementation and monitoring of Rules of practice for electricity and natural gas public utilities. The Committee is required to assist the Commission to prescribe by legislative instruments, technical and operational rules of practice for electricity and natural gas utilities and to enforce such rules.

1.5 ORGANOGRAM OF THE ENERGY COMMISSION



1.6 OUR MISSION

The Energy Commission's mission is to advise on reliable and sustainable energy provision to the Minister and effectively regulate the utilization of all energy forms in the country.

1.7 OUR VISION

The Energy Commission's vision is to become a leading energy planning and regulatory institution reputed with transparency, excellence and innovation in Africa and beyond.

2.0 TECHNICAL REGULATION

2.1 ELECTRICITY SUPPLY INDUSTRY

2.1.1 Implementation of the Electrical Wiring Regulations

The Electrical Wiring Regulations 2011, L.I. 2008 (EWR) was passed into law in February 2012. The purpose of the EWR is to ensure that electrical wiring in Ghana is undertaken by qualified and certified personnel. This is to ensure the safety of persons, property and livestock from the hazards that arise from the presence, distribution and use of electrical energy.

Regulation 8 of the EWR requires the Commission to issue guidelines for the certification of electricians within six months after the coming into force of the Regulations. Pursuant to Regulation 8, a certification guideline was developed in August 2012 and a Syllabus for the certification examination was also developed in collaboration with the Technical/Vocational Education Directorate of the Ghana Education Service.

Furthermore, application forms and practical test items for the conduct of the examinations were developed. Electrical Installation Certification Forms and identification cards for successful Certified Electrical Wiring Practitioners (CEWP) were printed for distribution to certified practitioners.

The Commission conducted the first edition of the Certified Electrical Wiring Professional (CEWP) Examination on 24 February, 2013 and 20 May, 2013. Four hundred and fifty (450) applicants sat for the examination (see Table 1 below).

Table 1: Statistics on First Electrical Wiring Practitioners Examinations

EXAMINATION (*CANDIDATES WITHOUT ECG LICENSE BEFORE 24TH FEBRUARY, 2007***)**

	NO. OF PASS	NO. OF FAIL	NO. OF PROVISIONAL	TOTAL
DOMESTIC WIRING	32	11	85	128
COMMERCIAL WIRING	5	27	0	32
INDUSTRIAL WIRING	8	15	0	23
				183

REGULARIZATION (*CANDIDATES WITH /INDOOR WIRING ECG LICENSE BEFORE 24TH FEBRUARY, 2007***)**

	NO. OF PASS	NO. OF FAIL	NO. OF PROVISIONAL	TOTAL
DOMESTIC WIRING	49	6	74	129
COMMERCIAL WIRING	66	17	0	83
INDUSTRIAL WIRING	32	3	0	35
				247

STRAIGHT PROVISIONAL

CANDIDATES WHO APPLIED FOR PROVISIONAL LICENSE WITHOUT PASSING THROUGH EXAM

DOMESTIC WIRING	19
COMMERCIAL WIRING	0
INDUSTRIAL WIRING	0

SUMMARY

	NO. OF PASS	NO. OF FAIL	*NO. OF PROVISIONAL	TOTAL
DOMESTIC WIRING	81	17	178	276
COMMERCIALWIRING	71	44	0	115
INDUSTRIAL WIRING	40	18	0	58
				449

NB. ALL CANDIDATES IN THE PROVISIONAL CATEGORY WERE ISSUED DOMESTIC CERTIFICATION CLASS

The low participation in the first edition of the examination was attributed to late and inadequate publicity. The results showed that only about 42.7% of participants passed. The Commission intends to undertake an aggressive sensitization and outreach educational programme targeting more practitioners and encourage training institutions to take up the opportunity to train and prepare electricians before writing subsequent CEWP examinations.

2.1.2 Monitoring of Power Outages of Distribution Utilities in Ghana and Enforcement of Quality of Service Requirements

The Electricity Supply and Distribution (Technical and Operational) Rules 2005, L.I 1816 and Electricity Supply and Distribution (Standards of Performance) Regulation 2008, L.I. 1935 provide for performance benchmarks for electricity supply and distribution. One of such benchmarks is the frequency and duration of outages. The Commission has been experiencing challenges in obtaining reliable data on power outages, a pre-requisite to enforcing the regulations on outage frequency and duration. This is because the reports submitted by the utilities are based on "averaged" outage data, which tends to obscure the high frequency and/or duration of outages experienced by some customers at the district level.

The Energy Commission therefore set out two initiatives to verify the credibility of outage data received from the utilities. The first initiative involved the signing of a Memorandum of Understanding (MoU) with GSM Airtime in 2011. The MoU sought to develop and operate a Toll Free Short Code service which would allow the general public to report on outages, and poor voltage levels by sending text (SMS) messages to the Commission. The second initiative involved the collation of detailed outage data from selected substations and fault centres of the distribution utilities, with a view to understanding the problem triggering the outages, and defining an appropriate format for reporting outages.

These two initiatives are expected to provide information on power outages to enable the Commission compare the information provided by the utilities with the information

provided by customers. This analysis will allow the Commission to obtain a clear picture of the nature of outages in the distribution network.

Once the nature of the outages occurring in the distribution network becomes clear, the Commission in collaboration with PURC would engage the distribution utilities to develop and undertake an action programme aimed at bringing the outages to levels compliant with the provisions of the Electricity Supply and Distribution (Standards of Performance) Regulation 2008, L.I. 1935 and the Electricity Supply and Distribution (Technical and Operational) Rules 2005, L.I 1816

The Toll Free Short Code Service was launched at Teshie in the Accra East Region of the Electricity Company of Ghana (ECG) on 28th November, 2013.

The National load shedding exercise in 2013 hindered the implementation of the Toll Free Short Code Service for monitoring power outages in the distribution network. It is anticipated that the exercise would be revived when stable power supply is restored.

2.1.3 Implementation of Wholesale Electricity Market Rules

The Electricity Regulations, 2008, LI 1937, which established the Wholesale Electricity Market (WEM), requires a set of rules and regulations that reflect Government's broad policy objectives regarding the structure and administrative management of the Electricity Market. The implementation of the WEM, which was launched in July 2012, mandated the Commission to receive and assess license applications and issue Provisional Wholesale Electricity Supply Licenses to qualified applicants for the wholesale supply of Electricity in Ghana. In 2013, the following licenses were issued:

1. Thirteen(13) Provisional Wholesale Electricity Supply Licenses with a total capacity of 3860MW;
2. Siting Permit applications were assessed and issued to the following four deserving applicants:
   i. Amandi Energy Limited for 240 MW plant to be sited at Aboadze;
   ii. Marinus Energy Limited for 80 MW plant to be sited at Atuabo;

iii. Tema Gas and Electric Limited for 126MW plant to be sited at Tema: and
iv. Jacobsen Jelco Limited for 360 MW plant to be sited at Aboadze.

3. As part of the implementation of the WEM, a Stakeholder's meeting was held to discuss the issues of pricing of legacy hydropower, signing of Power Purchase Agreements (PPAs) by Bulk Customers and arrangements for the purchase of power on the spot-market. The meeting recommended that the Commission should develop a framework for the purchase and sale of power on the spot-market. Following this recommendation, the Commission developed a decision document, which proposed the pricing and settlement arrangement for the purchase and sale of power on the spot market.

   The implementation of the Wholesale Electricity Market was delayed due to inadequate generation capacity, unreliable gas supply for gas-fired generating units and the inability of PURC to publish the Ancillary Services Tariff.

2.2 NATURAL GAS INDUSTRY

2.2.1 Development of Rules, Regulations and Codes for the Natural Gas Industry in Ghana

In an effort to ensure an effective operation and management of the emerging Natural Gas market in Ghana, the Energy Commission has developed a number of rules and regulations, which include the following:

i. The Natural Gas Pipeline Safety (Construction, Operation and Maintenance) Regulations 2012, L.I. 2189.

ii. An update of the 2008 License Application Manual for Service Providers in the Natural Gas Industry to include guidelines for the acquisition of Natural Gas Processing Plant License and Liquefied Natural Gas (LNG) Facilities License was completed and approved by the Board. The updated Natural Gas License Application Manual is to serve as a guide for prospective natural gas service providers with regards to licensing requirements. The Manual will also assist in ensuring compliance with codes and standards governing quality, health and safety in the industry as stipulated by the Energy Commission Act, 1997 (Act 541).

iii. The Natural Gas Transmission Access Code outlines the requirements, procedures, practices and standards governing the development, operation, maintenance and use of the Natural Gas Transmission System in Ghana. The Code also describes the conditions of access to gas transmission services, rules governing the conduct of a natural gas transmission utility and establishing service quality requirements for natural gas transmission utility. This was completed in 2013.

iv. The development of Natural Gas Occupational Health and Safety Regulations continued during the year under review.

v. A Provisional License was issued to Quantum Power Ghana Gas Limited for the operation of 250 to 750 MMSCFD Liquefied Natural Gas ((LNG) Facility to be located near Tema.

vi. A Construction Permit for the construction of the Gas Processing Plant at Atuabo in the Western Region was issued to Ghana National Gas Company Ltd.

2.3 ENERGY EFFICIENCY PROMOTION

2.3.1 Promoting Appliance Energy Efficiency and Transformation of the Refrigerating Appliance Market in Ghana

The project seeks to apply a combination of energy performance standards and labeling and consumer incentives to transform the electrical appliance market in Ghana from one characterized by energy inefficient appliances to that of highly energy efficient appliances.

During the year under review, the following activities were undertaken:

i. Training Workshops on Energy Efficiency of Refrigerators

The Commission continued with organizing training workshops for refrigerator and air conditioner retail shop assistants. Two training workshops were organized in Accra and Kumasi for shop attendants of new retail shops that have joined the ongoing Refrigerator Rebate Scheme. The objective of the training workshop was to educate the shop assistants on the promotion of refrigerator energy efficiency through the Ghana Refrigerator Standards and Labelling and the Refrigerator Rebate Scheme.

ii. The Refrigerator Rebate Scheme

After the successful implementation of the pilot phase of the Refrigerator Rebate Scheme which was limited to Accra and Tema, the Commission in collaboration with the United Nations Development Programme (UNDP) scaled up the Rebate Scheme to make it available in all ten regions of the country.

During the year under review, three new refrigerator retail outlets, PZ Cussons, Rowi Ghana Limited and Melcom Ghana Limited, applied and were admitted to participate in the Rebate Scheme. Consequently, the number of

retail outlets and refrigerator brands available for purchase by consumers increased.

As at the end of December 2013, about 3,000 used refrigerators had been turned-in by consumers who had purchased new and more energy-efficient appliances.

iii. Monitoring and Enforcement of Refrigerator Energy Efficiency Regulations

The Commission undertook a monitoring exercise of refrigerator retail shops in six regions (i.e. Western, Central, Ashanti, Brong Ahafo and Eastern Regions). The exercise was undertaken to assess the progress of the implementation of Refrigerator Rebate Scheme and compliance with minimum energy efficiency standards.

In October 2013, the Commission visited the Tema and Takoradi Ports to assess the level of compliance by importers with the ban on the importation of used refrigerators as stipulated by the Energy Efficiency (Prohibition of Manufacture, Sale or Importation of Incandescent Filament Lamp, Used Refrigerator, Used Refrigerator-Freezer, Used Freezer and Used Air-conditioner) Regulations, 2008 (LI 1932) which came into force in June 2013. As part of the visit, Port Authorities, Customs and National Security officials were educated on effective ways of enforcing the ban on the importation of used refrigerators.

By December 2013, six months after the ban came into effect about two thousand and fifty (2050) imported used refrigerators had been confiscated and scrapped.

2.3.2 Capacitor Installation Project

As part of the promotion of efficient energy use in the country, this project was implemented to improve energy efficiency of public buildings and facilities. The aim was to reduce electricity use and the associated Government expenditure through the installation of automatic power factor correction capacitors at selected facilities.

The Commission in May 2013 visited all the institutions that benefited from the second phase of the capacitor installations programme in 2010. A total of twenty five (25) installed capacitors were inspected and assessed to determine the working conditions of the capacitors. The Commission also interacted with the maintenance units of the institutions visited to learn lessons that could be used to effectively plan and implement the third phase of the project.

2.3.3 Development of Energy Efficiency Strategy Document

The aim of developing an Energy Efficiency Strategy (EES) Document was to outline energy efficiency programmes which when implemented would achieve Government's policy objective of saving at least 10% of consumption of all forms of energy in the country by 2020.

The Energy Efficiency Strategy Document is expected to provide information on Government's energy efficiency policies and programmes and to serve as a guide for investors, Development Partners and the private sector who would want to play a role in energy efficiency promotion in Ghana. The document would also guide the effective promotion, coordination, monitoring and evaluation of energy efficiency policies and programmes in Ghana.

In 2013, the strategy document was finalized.

2.4 RENEWABLE ENERGY PROMOTION

2.4.1 Monitoring of Grid-Connected Solar and Wind System Pilot Project

The Energy Commission in 2009 initiated a Grid-Connected Solar PV Electricity Supply System Pilot Project. The project was implemented on a public-private-partnership arrangement where funds from the Energy Fund were used to leverage both individual and institutional investments in financing grid-connected solar PV projects. A total of 160.57kWp of grid connected solar PV systems had been installed in 16 institutions and residential houses in 3 regions by the end of December 2012.

The Commission in 2013 monitored and evaluated the grid connected solar PV systems which were installed in the institutions and residential houses. The objective of the monitoring was to collate relevant data on the 16 grid connected solar systems to guide the development of the Net Metering Code for grid connected solar systems in Ghana.

The monitoring showed that:

i. The electromechanical meters, which were installed on the premises of some of the beneficiaries, had been replaced by ECG with prepaid meters. These prepaid meters are not reversible meters, and therefore the electricity produced by the solar systems, the excess which is supposed to be exported to the grid is recorded as import. Thus the beneficiaries were charged for this electricity that they had produced.

ii. As a result of the installation of the prepaid meters, the bills of beneficiaries which hitherto were reducing increased significantly.

To address the above challenge of net metering, the Commission in collaboration with ECG procured 350 single- and three- phase reversible meters, which are expected to be installed by December 2014.

2.4.2 Wind Measurement Activity

Report on the one-year contains wind measurement was prepared. The report comprises the annual average wind speeds, capacity factors, estimated cost of energy and estimated annual energy production for five sites. A summary of the analyzed wind measurement is shown in Table 1.

Table 2: Analyzed Wind Measurement Data

Site	Annual Average Wind Speed @ 60m (m/s)	Capacity Factors (%)	Estimated Cost of Energy ($/MWh)	Estimated Annual Energy Production (MWh/yr)
Ekumfi Edumafa	4.64	22 - 24	43 – 65	5,073 - 5,799
Gomoa Fete	4.52	17 - 19	54 – 85	4,040 - 4,439
Sege/Ningo	5.47	25 - 29	35 – 57	6,088 - 6,751
Atiteti	5.97	25 – 30	34 – 57	6,377 - 7,125
Avata	5.07	22 - 26	39 – 62	5,515 - 6,030

A two-day training programme in wind data analysis using Windographer was organized by the Commission for key staff in the energy sector. Fifteen participants from Energy Commission, Ministry of Energy and Petroleum (MoEP), Ghana Grid Company Ltd. (GRIDCo), Public Utilities Regulatory Commission (PURC), Ghana Meteorological Agency, Council for Scientific and Industrial Research (CSIR) and Volta River Authority (VRA) attended the programme.

The Commission continued its wind measurement at 60 meter height at Mankoadze in the Central Region, Sege in the Greater Accra Region and Atiteti, Denu and Anloga in the Volta Region. The monthly average wind speed data for these five sites at 60m height since the installation of the various masts are shown in the figure below.

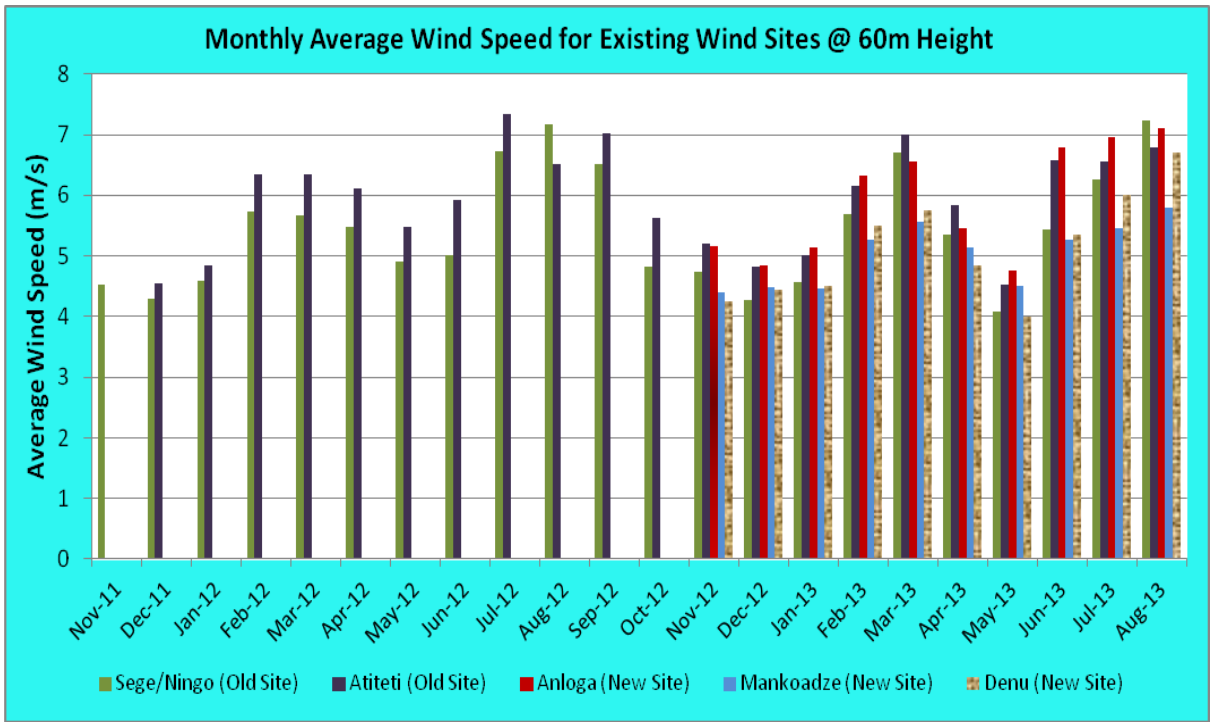


Fig. 1: Monthly Average Wind Speeds @ 60m Height

2.4.3 Implementation of the Renewable Energy Act

In an effort to implement proposals under the Renewable Energy Act, the Commission in 2013 prepared the following documents:

1. A reviewed Schedule of RE Licence Fees;
2. A Proposal for the establishment of the Renewable Energy (RE) Fund;
3. A Framework for the operationalization of the Renewable Energy Fund;
4. A Final draft model Power Purchase Agreement (PPA);
5. A Final draft Net Metering Code; and
6. A Draft RE Grid Code.

The following activities were also undertaken during the period under review:

- A workshop was held with stakeholders in Accra to identify technology gaps in the Renewable Energy industry under the Ghana-China technology transfer initiative.

A proposal for funding was submitted to the Danish Government which has been approved and funding is expected to be approved by end of 2nd quarter 2014.

- The Commission in collaboration with the Environmental Protection Agency subjected the draft Bioenergy Policy to a Strategic Environmental Assessment to ensure synergy with other policies.

2.4.4 Sustainable Energy for All (SE4ALL) Initiative

The Ghana Action Plan developed in 2012 in response to the United Nations Secretary General's Sustainable Energy for All (SE4ALL) initiative, aims at achieving SE4ALL goals and targets by 2020 focusing on the following programmes and projects:

1. Productive Use of Energy in agriculture (irrigation), agro-processing and fisheries;
2. Promotion of LPG use;
3. Promotion of improved cookstoves; and
4. Promotion of biogas use in boarding schools, hospitals and prisons.

The Commission and the Ministry of Energy and Petroleum facilitated a one- week visit of the USAID Mission to Ghana to explore opportunities to support the Government in implementing the Ghana SE4ALL Action Plan. The visit ended with an Aide Memoire and an Investment Prospectus for the implementation of the Ghana SE4ALL Action Plan.

In addition, the Commission signed an MOU with UNDP for institutional support for the implementation of the SE4ALL Action Plan. Under this project, technical standards for improved cookstoves for Ghana are to be developed, adopted and gazetted. The project is also expected to establish a woodfuel cookstoves Testing and Expertise Centre. The Technology Consultancy Centre (KNUST) was selected to set up and operate the Woodfuel Cookstoves Testing and Expertise Centre. Procurement of the equipment for the project will commence in January 2014.

The Commission also collaborated with the Netherlands Development Organisation (SNV) and Ghana Alliance for Clean Cookstoves (GHACCO) to organise the first ever National Woodstoves Festival at the Commission's premises. The festival showcased the different types of improved woodfuel cookstoves produced by local artisans to the general public. Some of the stoves are shown in Figures 2 and 3 below:

Figure 2:

Figure 3:

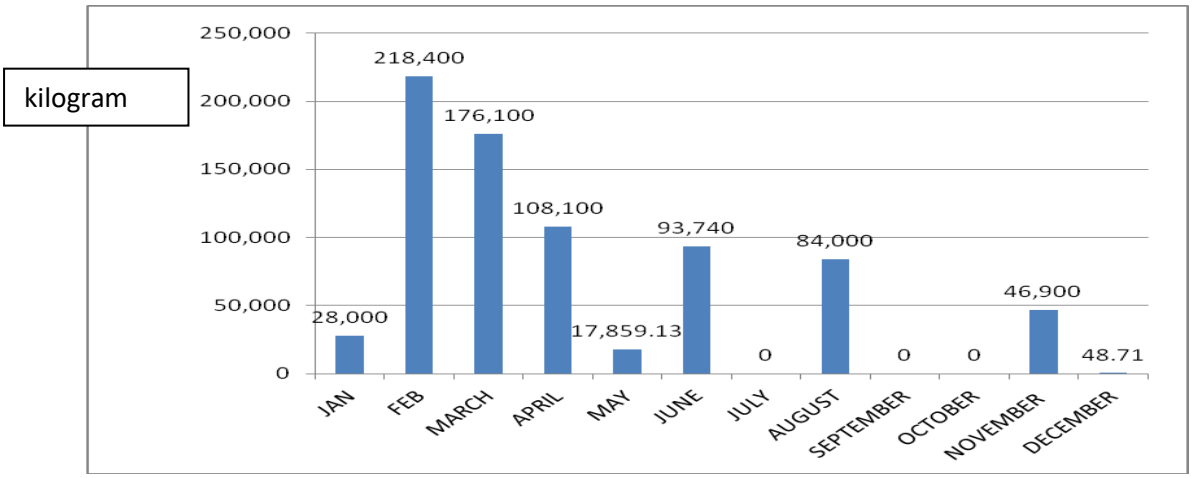
This event is to be held every year to promote the use of efficient woodfuel cookstoves in Ghana. A baseline study was also initiated to assess the level of awareness of improved cookstoves in Ghana under this collaboration. The report is expected to be ready in January 2014.

2.4.5 Licensing of Renewable Energy Service Providers

2.4.5.1 Charcoal Export Licenses

The Commission granted Charcoal Export Licenses to seven companies. This brought to nine the total number of companies licensed to export charcoal as at the end of the year 2013. A total amount of 1,031 metric tonnes of charcoal was exported in 2013 by these companies. The monthly charcoal export in 2013 is presented in Figure 4:

Figure 4: Monthly Charcoal Exports in 2013



2.4.5.2 Wholesale Electricity Generation and Supply Licenses

Twenty Six (26) Provisional Wholesale Electricity Generation and Supply Licenses were granted to twenty four (24) companies to generate electricity from renewable energy sources. The companies proposed installation of a total capacity of 3,370MW. The breakdown of the licenses according to renewable energy source is presented below in Table 3 below:

Table 3: Renewable Energy Licenses issued in 2013

Type of Wholesale Electricity Generation and Supply Licence	**Number of Licenses Granted**	***Proposed Capacity of Plant**
Solar	22	2,055
Wave	1	1000
Biomass	1	60
Waste to Energy	2	254.31
TOTAL	**26**	**3,369.31**

*The proposed capacity as indicated by applicants and these are not approved capacities by the Commission.

Three (3) Importation and thirteen (13) Installation and Maintenance Licenses were granted to companies to operate in the renewable energy industry.

2.5 INSPECTION AND ENFORCEMENT

2.5.1 Enforcement of Regulations in the Natural Gas Industry

The Energy Commission is required to ensure through inspections and enforcement activities that the activities of licensees are executed in accordance with the established legal and regulatory frameworks.

The construction of the 110 km, 20 inch natural gas pipeline from Atuabo to Takoradi took off in July, 2012 and is expected to be completed by the 4th quarter of 2014.

The Energy Commission is responsible for ensuring that the construction of the natural gas pipeline infrastructure is carried out in accordance with the Natural Gas Pipeline Safety (Construction, Operation and Maintenance), Regulations 2012 (L.I.2189). Regulatory inspections conducted on the Gas Pipeline were in respect of Regulations under the Natural Gas Pipeline Safety (Construction, Operation and Maintenance), Regulations 2012 (L.I.2189) specifically:

1. **Regulation 5:** A person does not commence the construction of a pipeline unless that pipeline has been designed in accordance with the requirements of these Regulations.

2. **Regulation 16:** A person who constructs a pipeline facility shall do so in accordance with a comprehensive written specification as indicated in the Sixth Schedule.

3. **Regulation 17**: The Commission shall authorize a person to inspect each pipeline facility to ensure that the construction meets the standards specified in the sixth schedule.

4. **Regulation 26:** A person shall not operate a new segment of a pipeline, or return to service a segment of a pipeline which has been relocated or replaced, until

i. It has been tested in accordance with the ninth schedule to substantiate the maximum allowable operating pressure; and

ii. Each potentially hazardous leak has been located and eliminated.

A total of five (5) inspections were conducted by the Commission in respect of the above Regulations in the year 2013.

The findings were generally acceptable. The Ghana Gas Company has been notified of the inspection findings and Commission has issued out enforcement directives on detected violations.

2.5.2 Enforcement of Energy Efficiency Regulations

In order to ensure that only appliances that met the minimum energy efficiency standards were imported into the country, the Government of Ghana enacted Legislative Instruments on Standards and Labeling of Household Refrigerating Appliances, Air-Conditioners, Compact Fluorescent Lamps and the prohibition of importation of used refrigerating appliances and used air-conditioners.

The law prohibiting the importation of used refrigerating appliances, which was passed in 2008, became effective on 1st July, 2013.

The Commission together with the Customs Division of the Ghana Revenue Authority (GRA) had seized about 2,051 imported used refrigerators and 164 used air-conditioners at both the Tema and Takoradi Ports as at the end of 2013. These seized appliances were sent to the City Waste Management Company for dismantling and disposal.

The Commission in 2013 rented a warehouse for the storage of detained imported appliances, which were suspected of not meeting the minimum efficiency standards. The use of the warehouse facilitated the enforcement of standards and labelling of

imported household refrigerating appliances, air-conditioners and compact fluorescent lamps.

A total of 11 consignments of imported appliances made up of 700 fridges and 706 air-conditioners were detained in the EC rented warehouse for labeling/relabeling. Enforcement action was initiated to ensure that a total of 2,961 fridges and 1,521 air-conditioners found mislabeled/unlabeled in the warehouses of importers were relabeled/labelled. These appliances were labeled under the supervision of personnel from the Commission before being allowed onto the market.

2.5.3 Enforcement of Regulations in the Renewable Energy Industry

The Commission detected that unlicensed companies were exporting charcoal contrary to section 8 of the Renewable Energy Act, 2011 (Act 832). In view of this contravention, the Energy Commission was designated as an MDA within the GCNET platform to enable the Commission give prior approval for every consignment of charcoal due for export. Eight (8) approvals were granted through this process in 2013.

The Commission also carried out monitoring and inspection of the production facilities of all licensed charcoal exporters to ensure compliance with the conditions of their licenses.

2.5.4 Enforcement of Regulations in the Electricity Supply Industry

The Commission during its regulatory inspection of the Electricity Company of Ghana operations in the Volta Region in June 2012 detected a breach of the provisions of electricity supply interruption as prescribed in L.I. 1935. Consequently a penalty was imposed on ECG.

The country experienced a total power system collapse on 18th July 2013. The Commission was charged by the Minister of Energy and Petroleum to investigate the cause of this power system collapse. The Commission set up a committee comprising

staff of the Commission and Consultants to undertake this study. A report on the findings of the study was submitted by the Commission to the Minister for Energy and Petroleum.

3.0 POLICY, PLANNING AND IMPACT ASSESSMENT

3.1 STRATEGIC PLANNING AND POLICY

3.1.1 Establishment of the National Energy Data Processing and Information Centre (NEDPIC) - Database Component

In fulfillment of the requirements of Section 2 (d) of the Energy Commission Act, 1997 (Act 541), which has to secure a comprehensive data base for national decision-making, the Commission has established the National Energy Data Processing and Information Centre (NEDPIC). NEDPIC has two components – a national energy database and an electronic energy library. Energy data from the database would be processed and made available at the library. The energy library would also store reliable energy information from selected local and international sources. The database component of NEDPIC was established in 2012 and populated with some data on different energy sectors from 1990 to date. Historical data on some energy sectors covering the period before the year 2000 is being sought to fill in gaps which exist in the database.

In the year 2013, the energy database was updated with 2012 energy data. In addition to the above activities, the Energy Commission's Website was reconstructed and re-launched. A Webalizer was activated to monitor traffic flow to the Commission's website. A draft Content Protocol was prepared and selected members of staff of the Commission were trained in Website Content Management Systems.

Furthermore, a National Energy Access Data Task Force (GhEA Task Force) with membership drawn from the Ministry of Energy and Petroleum (MoEP), the Legon Centre for Remote Sensing and Geographic Information Services (CERSGIS), the Ghana Statistical Service (GSS), the National Petroleum Authority(NPA), the Northern Electricity Distribution Company (NEDCo), the Electricity Company of Ghana (ECG), The Energy Centre (TEC, KNUST), the Ministry of Local Government and Rural Development(MLGRD), and the Energy Commission was established as the body to

populate and update the National Energy Database as part of the operations of NEDPIC.

The operations of the Task Force were kick-started under a one-year project dubbed "***Building a reliable energy access database for sustainable energy expansion in Ghana***", co-funded by the Renewable Energy and Energy Efficiency Partnership (REEEP) and the Energy Commission, and implemented by the Energy Centre, KNUST.

3.1.2 Update of Woodfuel Resource Assessment

The country's woodfuel resource base was assessed in 2001 with sponsorship from the Food and Agriculture Organization (FAO) to serve as an input for the initial Strategic National Energy Plan (SNEP) study. The Commission again with funding from the FAO is re-assessing the current wood-fuel resource base, which would serve as an input for updating the SNEP. As part of the woodfuel resource re-assessment, nationwide monthly charcoal weights per bag and prices were collated from 32 selected locations in the country.

3.1.3 Update of the Strategic National Energy Plan (2010-2030)

In fulfillment of the requirements of Section 2 (c) of the Energy Commission Act, 1997 (Act 541), which is to prepare, review and update periodically indicative national energy plans to ensure that all reasonable demands for energy are met; the Commission is updating the Strategic National Energy Plan (2006 to 2020), which was published in 2006.

As part of updating SNEP:

(i) The Energy Technology Catalogue, compiled and published in 2004, was updated to include all new energy technologies, which could be introduced onto

the Ghanaian market between 2010 and 2030. The catalogue contains information on characteristics of the technology (e.g. construction time, efficiency, availability, lifetime, etc), environmental characteristics (e.g. emission levels of pollutants) and cost data (capital, operation and maintenance, and fuel costs) for 2010.

(ii) Issue papers highlighting key issues with respect to the supply and use of energy in industry, commerce and service, and transport sectors of the economy were prepared by the Commission. A three-day stakeholders' workshop was organized in 2013 to discuss these key energy issues as a process of developing policies to address them. A total number of 115 participants took part in the three-day workshop.

(iii) The demands for energy (by fuels and sectors) from 2010 to 2030 of three demand scenarios developed were evaluated using the Long-range Energy Alternative Planning system (LEAP model). The results were presented at the 2nd SNEP Stakeholders' Workshop in 2013 for discussions and comments. A total number of 80 stakeholders participated in the workshop.

(iv) Preliminary analysis of supply strategies for electricity generation, petroleum products and biomass using the LEAP model was also completed.

(v) The preparation of the report to document the results of the LEAP model analysis commenced in 2013. The report would be completed and finalized by the end of 2014.

3.1.4 Update of National Energy Statistics

In fulfillment of the requirements of Section 2 (d) of the Energy Commission Act, 1997 (Act 541) , which is to secure a comprehensive energy database for national decision-making, the Commission collated data on the production and supply of all forms of energy used in the economy in 2012. The data collated was used to update the National Energy Statistics (2000 to 2011) to include the data for 2012. The new version, the National Energy Statistics (2000 to 2012), which contains Tables on Energy Balance and Indicators, Primary Energy Supply, Total Final Energy Use, Electricity Supply and Use, Petroleum Supply and Use, Supply and Use of Biomass

and the prices of all forms of energy used in the economy was uploaded unto the Commission's website.

3.1.5 Annual and Medium Terms Energy Outlook for Ghana

In fulfillment of its mandates, the Energy Commission has since 2009, been preparing annual energy demand and supply forecasts to provide some guide to energy sector operators, potential investors as well as the wider business community wishing to operate in the country.

The Annual Energy (Demand and Supply) Outlook covers estimates of demand for and supply of electricity, crude oil and petroleum products as well as natural gas. The Outlook excludes the forecast prices for petroleum products because these prices include Government taxes and levies and as such hide the true cost of the products. Hence, the forecast is only for the demand of the amounts of petroleum products except for crude oil, which include forecast prices.

3.2 SOCIAL AND ENVIRONMENTAL IMPACT AND TECHNOLOGY ASSESSMENT

The Commission in 2013 undertook the following studies:

3.2.1 Baseline Study of Energy Efficiency and Transformation of Refrigerating Appliance Market in Ghana

The UNDP and the Global Environment Facility (GEF) provided financial assistance to the Government of Ghana to implement a project to promote energy efficiency and transform the refrigerating appliances market in Ghana.

In order to assess the impact of the project, there was a need for a baseline study. The objective of the baseline study was to establish the average refrigerator energy use per annum (kWh/yr); CO_2 emissions (tonnes/yr) and Ozone Depleting Substances (ODS) (tonnes/yr.) for the base year (2012).

The Study's Report recommended that the following baseline indicators should be used for the assessment of the impact of energy efficiency promotion and transformation of the refrigerator appliance market. In measurement of CO2 and ODS emissions, the study recommended that the number of efficient labelled refrigerators deployed be used to measure the CO_2 and ODS avoided emissions. Table 4 below presents the recommended baseline indicators.

Table 4: Baseline Indicators Established for the Refrigerator Project

Variables	**Indicators**
CO_2 Emissions (tonnes per year)	n/a*
ODS Emissions (tonnes per year)	n/a
Refrigerator power consumption	1400 kWh/year

**Data on CO_2 Emissions and Ozone Depleting Substances (ODS) for Ghana in 2012 was not available (n/a).*

3.2 3rd Constructional Impact Monitoring Study of the Bui Hydroelectric Power Project

Over time, hydroelectric projects have proven damaging to streams, fisheries, wildlife, species and communities. There is therefore the need for increased regulatory and impact monitoring activities.

The Commission thus conducted the 3rd and final monitoring activity of the Bui Hydroelectric Project to identify issues surrounding resettlement, compensation, community support measures as well as environmental reporting and mitigation compliance.

The BPA resettled seven (7) communities with a population of 1,116 excluding the Bui Game and Wildlife staff.

Compensation was also paid to all persons who lost their houses and farmlands. By the end of 2013, only persons affected by the construction of the transmission lines had not received compensation. Bui Power Authority (BPA) as part of its community support measures has constructed a new landing site for fishermen in the community.

BPA has submitted its Annual Environmental Reports (AER) to the Commission and EPA; however, the following reports are outstanding:

- Post Construction Decommissioning Plan (schedule 6.3.20)
- Emergency Response Plan (schedule No. 6.4.4)
- Final Resettlement Action Plan (Schedule No. 6.7.4)

Recommendations:

1. Compensation

- BPA should expedite action on the compensation payment for farmlands affected as a result of construction of the transmission lines
- BPA should complete resettlement arrangements for staff of the Bui Game and Wildlife division

2. Corporate Social Responsibility (CSR) or Community Support Measures

- The BPA should create awareness to manage the resettled communities' expectations as far as CSR or community support measures are concerned.

- The BPA should develop a stand-alone document outlining the already agreed support measures indicating the dates of implementation similar to the VRA's CSR for the Takoradi thermal plant.

3. Compliance and Outstanding Reports

- The BPA should speed up arrangements for the recreation of a new wildlife park as part of the mitigation measures to replace the area of the wildlife park inundated.

- The BPA should ensure completion of the following reports: Resettlement Action Plan, Post Construction Decommissioning Plan, Emergency Response Plan and Bui National Park Management Plan (BNPMP) for submission.

Figure 5: Energy Commission's Social & Environmental impact monitoring Team at the Bui Dam

3.3 2ND Monitoring Report: Energy Research and Development Projects

The Energy Commission monitored on-going projects under its Energy Research and Development Programme which are being conducted in collaboration with two institutions and three NGOs. The projects are:

- Integrated Biomass Project;
- Conversion of Biomass Materials into Bioethanol;
- Woodlot Cultivation.

3.3.1 Integrated Biomass Project

This project was initiated in 2011 with the establishment of a three-hectare Cassia (*Senna Siamea*) woodlot plantation at Bole in the Northern Region. In addition to the established plantation, six (6) masons were also trained in the construction of an Adam Retort kiln and sixty (60) women in the management and use of these kilns. Ten (10) members of the Bole community were also trained in the fabrication of improved cookstove as part of the project.

3.3.2 Conversion of Biomass Materials into Bioethanol

Under this project, data on the composition of cellulose content of different types of biomass materials (rice husks and corn cobs) was compiled and analyzed to determine the yield of cellulosic bioethanol per weight of various biomass materials. Experimental results showed that reasonable volumes of about 1 – 2 litres of bio-ethanol was produced from the ligno-cellulosic material. The results of this Commission-sponsored study were incorporated into the theses of two MPhil candidates sponsored under the project.

3.3.3 Woodlot Cultivation at Jirapa

The project has acquired about eight (8) hectares of land for the cultivation of woodlot for three communities. Over 1,600 seedlings have been transplanted unto the project site. Community sensitization on desertification has also been conducted for the three

project communities as well as the training of forestation volunteers on the management of forest resources and prevention of bush fires.

4.0 HUMAN RESOURCE DEVELOPMENT

4.1 HUMAN RESOURCES DEVELOPMENT

4.1.1. Recruitment of staff

In 2013, one electrical engineer and two chemical engineers were recruited to work in the Inspectorate and Technical Regulation Divisions respectively.

4.1.2 Training and Development

The Commission's Internal Auditor was awarded a scholarship by the University of Ibadan, with support from the Commission to pursue an M.Phil./PhD in Energy Studies at the University of Ibadan, Nigeria.

A training workshop in Results-Based Monitoring and Evaluation was conducted for selected staff across all Divisions of the Commission.

Nineteen (19) employees of the Commission participated in a training workshop on Records Management conducted by the Public Records & Archives Administration Department, (PRAAD). This was to assist the Energy Commission to set up and maintain an efficient records-keeping system.

4.1.3 Best Worker Awards

The 2013 Best Senior Worker Awards were awarded to Mr. Paul Tintani of the Inspectorate Division and Mr. Kennedy Amankwa of the Energy Efficiency Promotion Division while the 2013 Best Junior Workers Awards Mr. Cephas Linson Dzitorwoko of the Information Technology Unit and Frank Daabeya of the Estates Unit.

4.2 PUBLIC AFFAIRS

The Energy Commission undertook a number of public awareness campaigns and information dissemination activities in the year 2013.

4.2.1 Launch of National Roll-Out of Refrigerator Exchange and Rebate Scheme

The Commission continued its nationwide public education on the Refrigerator Rebate Scheme after the launch of the nationwide rollout of the scheme in early 2013.

The Commission through radio discussions and public fora held across the country educated and informed the public on the use of efficient refrigerators. The scheme offers a rebate to encourage the people to turn-in their old energy inefficient refrigerators at designated sales outlets in exchange for new energy efficient refrigerators.

4.2.2. Launch of Guidelines for Certification of Electricians

The Commission int**er**acted with stakeholders to develop guidelines for the certification of electricians in the country to ensure safety of life and property. Guidelines for the certification of electricians were developed and launched in June 2013.

The Commission also carried out public sensitization activities to create adequate awareness among the general public on the implementation of the EWR

4.2.3. Public Awareness Campaign on Syllabus for Certification of Electricians

Radio discussions and public fora were held across the country to sensitize and educate stakeholders on a Curriculum for the examination and certification of

electricians developed by the Energy Commission in collaboration with the Technical Education Unit of the Ghana Education Service.

4.2.3 Launch of Toll Free Short Code Service

In an effort to obtain credible data on the frequency and duration of power outages, which can form the basis of enforcement action by the Commission, the Commission launched a toll-free SMS sensitization programme at Teshie, Accra East Region of ECG in December, 2013, to monitor the reliability of service delivery by electricity distribution Utilities in Ghana.

4.2.4 Efficient Use of Energy

Public sensitization in the form of jingles in English and four local languages – Akan, Ewe, Ga and Dagbani on efficient use of electricity was carried out on selected radio stations throughout the country before and after the National Electricity Load shedding exercise. Educational materials such as leaflets and posters to inform importers, customs official and the general public about the Ghana energy efficiency standards and labels were produced and distributed.

As part of the continuing public education on efficient use of electricity, the Commission sent out SMS text messages on energy efficiency randomly to people throughout the country. Public announcements and jingles on the rebate scheme, refrigerator standards and labels were also aired on the major radio stations nationwide.

The Energy Commission also participated in the 2013 Housing Fair and the West Africa Clean Energy & Environment (WACEE) Exhibition and Conference in Accra to publicize the Ghana Energy Efficiency Standards and the Refrigerator Rebate Scheme. Relevant stakeholders were met to discuss the implementation of the provisions of the Regulations.