

MINISTRY OF ENERGY



2018 ANNUAL PROGRESS REPORT

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ABBREVIATIONS

AOGCP	Accelerated Oil and Gas Capacity Programme
BOST	Bulk Oil Storage and Transportation Company
BPA	Bui Power Authority
CNNC	China National Nuclear Corporation
CSO	Civil Society Organizations
CWE	China International Water and Electric Corporation
CWM	Cash Waterfall Mechanism
DP	Development Partners
E&P	Exploration and Production
E. I	Executive Instrument
EC	Energy Commission
ECG	Electricity Company of Ghana
GCMC	Ghana Cylinder Manufacturing Company
GEDAP	Ghana Energy Development and Access Project
GMP	Gas Master Plan
GNGC	Ghana National Gas Company
GNPC	Ghana National Petroleum Corporation
GPP	Gas Processing Plant
GPR	General Petroleum Regulations
GRIDCo	Ghana Grid Company Limited
HPS	High Pressure Sodium
HRMD	Human Resource Management and Development
HSSE	Health Safety, Security and Environment
IAEA	International Atomic Energy Agency
IGA	Intergovernmental Agreement
IGF	Internally Generated Funds
KIPP	Kpone Independent Power Plant
kV	Kilovolts
kW	Kilowatts
LED	Light Emitting Diode
LPG	Liquefied Petroleum Gas
LRBEN	Licensing Round Bid Evaluation and Negotiation
MDAs	Ministries, Departments and Agencies
M&E	Monitoring and Evaluation
MMscf	Million Standard Cubic Feet
MTDP	Medium Term Development Plan
MW	Megawatts
NEDCO	Northern Electricity Distribution Company

NES	National Electrification Scheme
NMTDPF	National Medium Term Development Plan Framework
NPA	National Petroleum Authority
NPA	National Petroleum Authority
OCTP	Offshore Cape Three Points
OHCS	Office of the Head of Civil Service
PC	Petroleum Commission
PDS	Power Distribution System Limited
PNDCL	Provisional National Defense Council Law
PPA	Power Purchase Agreement
PPBME	Policy Planning, Budgeting, Monitoring and Evaluation
PSP	Private Sector Participation
PV	Photovoltaic
RE	Renewable Energy
RLPGPP	Rural Liquefied Petroleum Gas Promotion Programme
ROW	Right of Way
RSIM	Research, Statistics and Information Management
SDG	Sustainable Development Goals
SGN	Sankofa Gye Nyame
SHEP	Self Help Electrification Programme
SMTDP	Sector Medium Term Plan
TOR	Tema Oil Refinery
TRP	Turret Remediation Project
VALCO	Volta Aluminium Company
VRA	Volta River Authority
VRA-RTF	VRA- Resettlement Trust Fund
WAPCO	West African Power Company
WAPP	West African Power Pool

CHAPTER ONE

INTRODUCTION

The Ministry of Energy is responsible for energy policy formulation, monitoring and evaluation as well as supervision and coordination of activities of the Energy Sector. It is also mandated to initiate and develop policies that would ensure efficient, reliable and affordable supply of high quality energy services for the Ghanaian economy and for export.

As required, the Sector Medium Term Development Plan was developed in consonance with the National Medium Term Policy Framework – An Agenda for Jobs: “Creating Prosperity and Equal Opportunity for All” (2018-2021). The preparation of the Ministry of Energy’s Annual Progress Report (APR) is pursuant to regulations 19 of L.I 2232 stipulating that Sector Ministries, Departments and Agencies should prepare Annual Progress Reports.

This APR provides the basis for assessing the progress of the Sector in the year 2018. It provides an overview of the status of implementation of the projects and programmes identified in the Sector Medium Term Development Plan (SMTDP). The APR indicates the details of the targets set for the year and the mapping of indicators which serve as a basis of measure of the progress of the projects. The APR reviews the performance of the Sector with reference to the M&E plan to assess the implementation of its key policies and programmes earmarked for the year.

The key objectives of the APR are to:

1. Provide the background information required to assess the performance of the programmes and projects identified for the year
2. Provide a precise description of the indicators, targets and goals of the planned programmes and projects
3. Provide a summary of the project and the overall status of the projects/programmes
4. Evaluate the progress made during the year toward the projected target (Planned % complete vs. actual % complete)
5. Ensure efficient and effective tracking in relation to information on schedule, project period, budget and cost.
6. Describe the key milestones and significant accomplishments
7. Use the Report as a basis of strengthening the performance of the Ministry

STATUS OF IMPLEMENTATION OF THE SMTDP

The Sector Medium Term Development Plan (SMTDP) is a four-year plan developed by the Ministry in collaboration with its Sector Agencies. The SMTDP spans over the period 2018-2021 and incorporates all the programmes and projects to be implemented within the period. The Sector falls under the policy goal; “safeguard the natural environment and ensure a resilient built environment”.

In the preparation of the Sector Medium Term Development Plan (2018-2021), the following objectives were adopted in order to achieve the stated goal.

Power Sector Policy Objectives

- Ensure availability of, clean, affordable and accessible energy;
- Ensure efficient transmission and distribution system;
- Ensure energy availability and reliability;
- Ensure efficient utilization of energy;
- Enhance capacity for policy formulation and coordination; and
- Improve financial capacity and sustainability of utility companies.

Petroleum Sector Policy Objectives

- Promote petroleum exploration
- Promote development and use of indigenous capabilities for exploitation of petroleum resources;
- Leverage oil and gas industry as a catalyst for national economic development;
- Minimize potential environmental impacts of oil and gas industry;
- Reduce greenhouse gas emissions;
- Make Ghana the aviation hub for West African sub region; and
- Build an efficient and effective Government machinery.

PROPORTION OF THE SMTDP IMPLEMENTED IN 2018

Indicators	Target	Actual
	2018	2018
1. Proportion of the annual action plans implemented:		
a. Percentage completed	65%	60%

b. Percentage of ongoing interventions	30%	25%
c. Percentage of interventions abandoned	-	5%
d. Percentage of interventions yet to start	5%	10%
2. Proportion of the overall medium-term development plan implemented	25%	20%

Table 1: Proportion of the SMTDP implemented in 2018

Upon the adoption of these objectives, Sectors Agencies, Directorates and Units developed planned programmes and projects which will lead to the achievement of the set objectives and ensure that the Ministry delivers upon its mandate. These Projects/ Programmes were monitored and evaluated quarterly to ensure that the milestones were attained.

PURPOSE OF M&E FOR THE STATED PERIOD (2018)

The underlying purpose of the M&E for 2018 is to measure the progress made so far towards the achievement of the Sector Medium Term Development Plan. The M&E plan for Ministry of Energy therefore highlights:

1. Mapping of the progress made for the year under review against the target set.
2. Details of the funding sources for these projects/programmes being implemented in the Sector
3. Risk and challenges faced in the implementation process and how to mitigate them
4. Status of implementation with reference to the key milestones and significant accomplishments
5. Direction of the planned projects/programmes for 2019 and ensures that resources are efficiently allocated to achieve the set target

PROCESSES INVOLVED IN CONDUCTING M&E

In the preparation of the Annual Progress Report, data was collected through field interviews, surveys, quarterly reports, annual reports and measurement of system voltages or energies using the appropriate measuring instruments.

The data was collated and analyzed by the Policy Planning, Budgeting, Monitoring and Evaluation (PPBME) Directorate of the Ministry. Recommendations and conclusions identified have been documented in this report. The timelines for data collection and analysis are detailed in the SMTDP, 2018-2021.

Difficulties Encountered

The Ministry encountered a number of challenges in the preparation of the M&E Report. Key among these challenges were;

1. Delay in submission of Reports from Agencies under the Sector;
2. Difficulties in obtaining annual figures that reflect the actual performance of the projects from the relevant institutions;
3. Lack of uniformity in reporting templates; and
4. Inadequate cooperation amongst Stakeholders.

CHAPTER TWO - M&E ACTIVITIES REPORT

PROGRAMME AND PROJECT STATUS FOR 2018

PROJECT DESCRIPTION	DEVELOPMENT DIMENSION OF POLICY FRAMEWORK	LOCATION	CONTRACTOR/CONSULTANT	CONTRACT SUM GH¢	SOURCE OF FUNDING	DATE OF AWARD	DATE STARTED	EXPECTED DATE OF COMPLETION	EXPENDITURE TO DATE	OUTSTANDING BALANCE	IMPLEMENTATION STATUS (%)	REMARKS
GENERATION PROJECTS												
Execution of 340 MW Kpone Power Project	Environment, Infrastructure and Human Settlement	Tema	Cenpower	Approx. US\$900 million	Cenpower	2012	2016	2019	-	-	97.78%	
Implementation of 400MW plant by Early Power	Environment, Infrastructure and Human Settlement	Tema	Early Power	-	Earlypower	2016	2017	Phase 1 2019 Phase 2 2020	-	-	40%	
Relocation of the 450 Karpowership from Tema to Takoradi	Environment, Infrastructure and Human Settlement	Relocation Tema - Takoradi	Amandi/KGCL	USD\$7.8M	Karpower	2018	2018	2019	-	-	38%	The Revised completion date is July 2019. Efforts are however being made to achieve completion in June 2019.
TRANSMISSION PROJECTS												
330kV Aboadze-Prestea Transmission Line Project	Environment, Infrastructure and Human Settlement	Western Region	Amandi Energy Solutions Limited	USD\$29,693,521.34	Amandi Energy Solutions Limited	Jun-14	Sep. 2014	August 2018	USD\$26,031,521.34	USD\$3,662,000.00	98%	Project ongoing and will be completed
Aboadze 330kV Substation Expansion Project	Environment, Infrastructure and Human Settlement	Western Region	Amandi Energy Solutions Limited	USD\$31,965,806.98	Amandi Energy Solutions Limited	Oct-15	Sep. 2017	Sep 2019	USD\$21,017,518.15	USD\$10,948,288.80	70%	Project is ongoing

PROJECT DESCRIPTION	DEVELOPMENT DIMENSION OF POLICY FRAMEWORK	LOCATION	CONTRACTOR/CONSULTANT	CONTRACT SUM GH¢	SOURCE OF FUNDING	DATE OF AWARD	DATE STARTED	EXPECTED DATE OF COMPLETION	EXPENDITURE TO DATE	OUTSTANDING BALANCE	IMPLEMENTATION STATUS (%)	REMARKS
Volta-Achimota-Mallam 161kV Transmission Line Upgrade	Environment, Infrastructure and Human Settlement	Corridor within Tema, Achimota and Mallam suburbs of Accra	Sieyan and Transrail	USD\$14,744,799.95	Agence Francaise De Development	Sep-18	July - 17 (Volta-Achimota)	December -10 (Achimota-Mallam) Dec - 18	USD\$10,035,346.28	USD\$4,709,453.67	53% (Volta - Achimota) 30% (Achimota - Mallam)	Encroachment along Right of Way
330 kV Kumasi - Bolgatanga Transmission Line Project	Environment, Infrastructure and Human Settlement	Corridor from Kumasi to Bolgatanga through Kintampo and Tamale	WSP/PB of United Kingdom, KEC International Ltd of India and Elecnor of Spain	USD\$155,315,461.66	Agence Francaise De Development	Mar-16	August 2018	Dec. 2018	USD\$127,649,683.53	USD\$27,665,778.13	96.30%	AfD Payment Hold up and non-pament adversely affecting the progress of work
330 kV Kumasi, Tamale and Bolgatanga Substations under the 330kV Transmission Line Project	Environment, Infrastructure and Human Settlement	Kumasi, Kintampo, Tamale and Bolgatanga	Sinohydro of China		Agence Francaise De Development	May-16	Aug 2016	December 2018			98%	
225kV Bolgatanga-Ouagadougou Interconnection project	Environment, Infrastructure and Human Settlement	Corridor from Bolgatanga to the Ghana/Burkina Faso border	AECOM Canada Ltd. Of Canada, Eiffage Energies of France, Fichtner of Germany	USD\$27,123,651.78	Agence Francaise De Development	Dec-15	Feb 2016	June 2018	USD\$25,971,560.64	USD\$1,152,091.14	100%	It was completed and started with test commercial operation to Burkina Faso
DISTRIBUTION PROJECTS												
Rural Electrification Project (SHEP PROJECTS)	Environment, Infrastructure and Human Settlement	Nationwide	Various contractors	Various contracts	GoG	N/A	1990	2020				

PROJECT DESCRIPTION	DEVELOPMENT DIMENSION OF POLICY FRAMEWORK	LOCATION	CONTRACTOR/CONSULTANT	CONTRACT SUM GH¢	SOURCE OF FUNDING	DATE OF AWARD	DATE STARTED	EXPECTED DATE OF COMPLETION	EXPENDITURE TO DATE	OUTSTANDING BALANCE	IMPLEMENTATION STATUS (%)	REMARKS
China International Water and Electric Corporation (CWE) – 5 REGIONS	Environment, Infrastructure and Human Settlement	Ashanti Brong Ahafo Eastern Volta Central Regions	China International Water and Electric Corporation	USD\$97,000,000.00	GoG Industrial and Commercial Bank of China (ICBC)	30/12/2013	2013	2021	US\$74,538,883.22	US\$22,461,116.78	Phase 1 80%	Phase 1 is 80% complete. Phase 2 scheduled to commence in Q4 2019
Hunan	Environment, Infrastructure and Human Settlement	Eastern Volta Northern	China Hunan Construction Group Corporation	USD\$92,000,000	Industrial and Commercial Bank of China (ICBC) GoG	13-11-2014	2018	2020	US\$28,257,029.22	US\$63,740,970.78	20%	Project is ongoing
Weldy Lamont and Associates	Environment, Infrastructure and Human Settlement	Western Central Brong Ahafo	Weldy Lamont and Associates	USD\$357,733,500.00	Export-Import Bank of USA (EXIM-Bank)	16/09/2008	Sep-2011	Dec-2019	US\$341,435,844.94	US\$16,297,655.06	85%	Delays in clearance of some containers from the port
RENEWABLE ENERGY												
Solar Lantern Distribution Programme	Environment, Infrastructure and Human Settlement	Nationwide	TAJ Investments Limited	GH¢12,600,000.00	GoG	2016	Nov. 2016	June 2019			85%	Limited budgetary allocations
Solar Rooftop Project	Environment, Infrastructure and Human Settlement	Ministry of Energy	Messr Elecnor SA	GH¢410,887.55	GoG	2/11/2018	2/11/18	06/2019	N/A	GH¢410,887.55	35%	Contract awarded awaiting installation. The project will replace a current 50kWp system which is 20years old
Nuclear Power Programme	Environment, Infrastructure and Human Settlement	Classified	Not yet procured	USD\$12billion (Est)	GoG, DP	N/A	2012	2030			5%	Candidate site identified. Established owner operator.

PROJECT DESCRIPTION	DEVELOPMENT DIMENSION OF POLICY FRAMEWORK	LOCATION	CONTRACTOR/CONSULTANT	CONTRACT SUM GH¢	SOURCE OF FUNDING	DATE OF AWARD	DATE STARTED	EXPECTED DATE OF COMPLETION	EXPENDITURE TO DATE	OUTSTANDING BALANCE	IMPLEMENTATION STATUS (%)	REMARKS
												Established regulatory and Government body. Signed InterGov Agreement with international partners
Scaling-Up Renewable Energy	Environment, Infrastructure and Human Settlement	Nationwide	Tetra Tech ES. Inc. SRC Consulting DevtPlan Consult	US\$1.5M	SEFA AfDB	Oct 2018	Oct 2018	Feb 2019	0.8M	0.7M	80%	Feasibility study and sensitization of target communities completed
PETROLEUM DOWNSTREAM												
Rural LPG Promotion	Environment, Infrastructure and Human Settlement	Districts/Constituencies across the country	GCMC Messrs Sojafric Industries Limited (2018)	-	GoG	-	2013	N/A	GH¢25,294,073.36			19,500 cook stoves and accessories and 2,040 cylinders

Table 2: Programmes and Projects Status for 2018

UPDATE OF FUNDING SOURCES AND DISBURSEMENTS

The table below seeks to provide the funding sources and disbursements for the key programmes and projects carried out in the year under review.

REVENUE AND EXPENDITURE ANALYSIS

2018 BUDGET PERFORMANCE AS AT 31 DECEMBER 2018					
SOURCE	APPROVED BUDGET	RELEASES	ACTUAL EXP.	VARIANCE	PERCENTAGE UTILIZED
	GHC	GHC	GHC	GHC	(%)
COMPENSATION OF EMPLOYEES (GOG)	2,630,392.00	3,014,167.94	3,014,167.94	- 383,775.94	114.59
GOOD AND SERVICES (GOG)	1,941,790.00	1,556,714.00	1,556,714.00	385,076.00	80.17
CAPEX (GOG)	85,441,770.00	66,226,359.00	66,226,359.00	19,215,411.00	77.51
COMPENSATION OF EMPLOYEES (IGF) (ENERGY COMMISSION)	16,586,305.00	11,335,907.96	11,335,907.96	5,250,397.04	68.34
GOOD AND SERVICES (IGF) (ENERGY COMMISSION)	40,435,493.00	13,573,232.04	13,573,232.04	26,862,260.96	33.57
CAPEX (IGF) (ENERGY COMMISSION)	2,510,189.00	520,860.00	520,860.00	1,989,329.00	20.75
GOODS AND SERVICES (DONOR)	178,362,595.00	1,462,722,347.00	1,462,722,347.00	- 1,284,359,752.00	820.08
CAPEX (DONOR)/ OTHERS	586,488,879.00	112,963,494.77	112,963,494.77	473,525,384.23	19.26
TOTAL	914,397,413.00	1,671,913,082.71	1,671,913,082.71	- 757,515,669.71	

Table 3: Details of Revenue and Expenditure

FINANCIAL PERFORMANCE

BUDGETARY ALLOCATION

The total funds expected from Government of Ghana for the Ministry of Energy for 2018 Fiscal year was **GHS 914,397,413.00** (Nine hundred and fourteen million, three hundred and ninety seven thousand, four hundred and thirteen Ghana cedis). The breakdown is as follows:

GHC

Compensation of Employees (GOG)	-	2,630,392.00
Goods and Services (GOG)	-	1,941,790.00

CAPEX (GOG)	-	85,441,770.00
Retained IGF (ENERGY COMMISSION)	-	59,531,987.00
Donor Funds (Development Partners)	-	764,851,474.00
TOTAL		<u>914,397,413.00</u>

RELEASES

In the year 2018, **GHC1,671,913,082.72 (One billion, six hundred and seventy-one million, nine hundred and thirteen thousand and eighty-two Ghana cedis seventy two pesewas)** was the total amount released to the Ministry of Energy. The variance in the budgetary allocation figures as against the releases is due to the funds from Donor Partners for Goods and Services which amounted to **GHS1,462,722,347.00(One billion, four hundred and sixty-two million, seven hundred and twenty-two thousand, three hundred and forty-seven Ghana cedis)**. The releases and expenditure of the Ministry have been highlighted above. All releases were expended in the year 2018 as indicated.

UPDATE ON INDICATORS AND TARGETS

In consultation with stakeholders, the National Development Planning Commission as part of the process of monitoring the implementation of the new policy framework, identified some set of indicators. The progress of these set indicators are monitored by the NDPC periodically.

The Ministry also as part of its process to monitor implementation of its Medium-Term Development Plan (MTDP, 2018-2021) identified other sector specific indicators. All these policy outcome indicators and sector output indicators for 2018 have been assessed and presented in Appendix 4.

UPDATE ON CRITICAL DEVELOPMENT

i. Job Creation

In the year 2018, the Energy Sector created employment under the National Electrification Scheme (NES) which spanned across all levels. Based on data received from monitoring exercises undertaken periodically, it was revealed that six hundred and fifteen (615) individuals had been employed as at August 2018 to work on various projects. The details of the Projects and the Job Categories are in Appendix 1.

Implementation of the Electrical Wiring Regulations

The Energy Commission in 2018 also licensed and certified over 7,000 Electrical technicians to ensure proper wiring of all facilities to protect persons and properties of the nation.

ii. Power Generation Projects

Execution of 340 MW Kpone Power Project by CenPower

In the bid to increase participation of IPP's in the power sector, the power sub-sector amongst other projects completed the installation works under the 340MW CenPower Project. Currently, the 340MW Cenpower plant is at 97.78% complete.

Implementation of 400MW plant by Early Power

This project is to increase participation of IPP's in the power sector to increase power generation capacity.

As at the end of 2018, installation works on the 400MW Early Power Project Phase 1 (147MW) is at 40% completion.

Challenges of Implementation

Some of the challenges of the implementation of the Power Generation Projects include;

- Delay in financing of relocation and usage of OCTP gas
- PCOA negotiations still ongoing
- Procurement delays

iii. Power Transmission Projects

GRIDCO continued with its transmission projects in line with Government's policy to provide adequate, reliable and affordable energy to meet the national needs for export. Key among these projects are:

- The 330kV Aboadze-Prestea Transmission Line Project is 98% complete;
- Aboadze 330kV Substation Expansion Project is 70%;
- Volta-Achimota-Mallam 161kV Transmission Line Upgrade is 53% and 30% for the Volta-Achimota and Achimota-Mallam sections respectively;
- Prestea-Kumasi 330KV Transmission Line is 94%;
- 330 kV Kumasi - Bolgatanga Transmission Line is 96%; and
- 330 kV Kumasi, Tamale and Bolgatanga Substations under the 330kV Transmission Line Project is 98% complete.

The 225kV Bolgatanga-Ouagadougou Interconnection project

The Interconnection project is a component of the West African Power Pool Inter-zonal Transmission Hub Project. It was completed and inaugurated by the Presidents of Ghana and Burkina Faso. This is allowing export of power from Ghana to Burkina Faso.

Challenges of Implementation

Some of the challenges faced in the implementation of the Power Transmission projects are;

- The encroachment on the Right of Way negatively impacted on the progress of the projects;
- Works at the 330/161kV Tamale substation was halted due to non-payment of outstanding invoices;
- Delays and non-payment of Right of Way (ROW) compensation payments affected project implementation schedules;
- Delays in the issuance of tax exemptions; and
- Liquidity challenges leading to the deferment of projects and maintenance works.

iv. Power Distribution

The National Electrification Scheme

The National Electrification Scheme (NES) was instituted in 1989 as Governments principal instrument to achieve its policy of extending the reach of electricity to all parts of the country over a thirty year period from 1990 to 2020. Since the inception of the Scheme, the Ministry continues to work to achieve universal access to electricity by 2020.

Rural Electrification Project

A total of 278 communities were connected to the National Grid in 2018. There are also other projects which are at various stages of completion. The target for 2018 was to connect 1,796 communities to the national grid.

The Ministry embarks on monitoring exercises at the end of every month to monitor the progress of projects under the NES. Details of the number of connected and outstanding communities are in Appendix 2.

National Electricity Access Rate

The national electricity access rate is 84.32%, as against 84.15% in December, 2017 indicating an addition of 0.17%.

ECG Private Sector Participation Programme

Following the renegotiation of the terms of the Millennium Challenge Compact II, between the Republic of Ghana and the United States of America, a successful bidder for the privatisation of ECG was selected through a competitive procurement process. The takeover by the Concessionaire – Power Distribution Services (PDS) Ghana Ltd was on March 1, 2019.

Challenges of Implementation

In the implementation of the Power Distribution Projects the Ministry encountered a number of challenges, these include;

- Challenges related to the payment of GoG component;
- Difficulties in clearing shipped materials from port;
- Delay in securing insurance for loan effectiveness; and
- Delays in payment to suppliers and contractors

v. Renewable and Alternative Energy

As part of the Government’s strategy and the Paris Agreement target to scale up penetration of RE by 10% by 2030, the Ministry of Energy undertook a number of projects in the Renewable Energy Sub-sector.

Mini-grids Electrification

Five (5) Mini-grids (Krachi East and West) are currently running 100% on Renewable Energy (Solar PV and Wind) in selected island communities and have been handed over to VRA for operations & maintenance.

Solar Lantern Program

In 2018, a total of 36,389 Solar Lanterns (with phone charging functionality) were sold at a subsidized price to off-grid rural households to replace the use of kerosene as the main lighting fuel for non-electrified communities.

Utility Scale Solar

A 20MW utility solar project by Mienergy in Winneba was commissioned in August 2018 by His Excellency the President. This project would inject 1,387MWh/yr of renewable energy into the national energy mix.

Through the implementation of these initiatives, RE in the electricity generation mix stands at 0.8% in 2018 as against the percentage penetration of scaling up RE in the electricity generation mix which stands at 2.7%. These figures however exclude distributed generation systems.

Review of Power Purchase Agreements

The Ministry of Energy in collaboration with the Electricity Company of Ghana (ECG) and the Energy Commission (EC) set out to review and prioritize 13 Renewable Energy Power Purchase Agreements (PPA) to streamline the existing thermal and renewable power purchase agreements. In 2018, the Ministry of Energy reviewed and prioritized 17 Renewable Energy PPAs.

Challenges of Implementation:

With respect to Renewable Energy Project implementation, the following were identified as challenges that derailed the progress of projects;

- Limited number of technical staff to undertake projects and monitor activities;
- Difficulty in securing funding for the MDAs and MMDAs Solar Integration Programme; and
- Delays in obtaining no-objections from partners.

vi. Petroleum Sector

The cumulative production figures from Ghana's three oil production fields is 62,135,235 barrels translated into average daily production of 170,234 barrels.

The total gas export to the Gas Processing Plant at Atuabo for power generation was 34,081.82 MMscf indicating an average of 93.37 MMscf per day.

Further details of the status of indicator progress as at December can be found in Appendix 3.

Rural LPG Promotion Programme

The Rural LPG Promotion programme was launched by the erstwhile Ministry of Energy and Petroleum, to increase access and use of LPG in rural/peri-urban areas through distribution of free LPG cylinders and stoves; expand supply and reach of LPG to rural homes and small businesses. The target for 2018 was to have 40,000 LPG cylinders and cook stoves distributed.

In 2018, the Ministry distributed a total number of 19,500 cook stoves and accessories and 2,040 cylinders under the Rural LPG Promotion Programme (RLPGPP). Currently, the Ministry is reviewing operations in the LPG sector which will include a change from the current private cylinder ownership model to a cylinder recirculation model. This has eliminated the cylinder distribution component of the RLPGPP and wholly replaced it with the distribution of cook stoves.

Challenges of implementation:

The bottlenecks encountered in the implementation of the Rural LPG Promotion Programme include;

- Distributions targets have not been met due to delays in release of funds to GCMC;
- Incapacity to produce required quantities of items;
- Lack of dedicated resources for the implementation of this programme;
- In some rural areas, the LPG Refilling Plants are far from the homes of beneficiaries, making it difficult for beneficiaries to refill their cylinders;
- Unavailability of funds in the LPG Compensation Fund for RLPGPP activities;
- Delay in targeted production of Cylinders and Cook stoves by Manufacturers/Suppliers;
- Unexpected changes in schedule for distribution; and
- Incapacity of MoEn Trucks to move cylinders and stoves in bulk for multiple-district distribution.

Launch of 1st Oil and Gas Licensing Round

As part of Government's continuous efforts to deepen transparency in the management of Ghana's petroleum resources and also to give practical meaning to Section 10 of the new Petroleum (Exploration and Production) Act, 2016 Act 919, His Excellency, the President, launched the 1st Oil and Gas Licensing Round Bid Evaluation and Negotiation (LRBEN) on October 15, 2018.

The competitive tender process is the first ever since the discovery of oil in Ghana.

The new process aims at ensuring transparency, value for money and getting companies with financial and technical expertise in the award of blocks.

General Petroleum Regulations (GPR)

The General Petroleum Regulation was passed into law in August 2018. This regulation will make it possible for disclosure of beneficial ownership, details of contractors and licensees as well as a one-stop-shop platform for accessing all economic and infrastructure data relating to the petroleum industry.

Launch of a Petroleum Register

In accordance with Section 56 of the Petroleum Exploration and Production Act 2016 (Act 919) the Minister for Energy in February 2018 launched the Petroleum Register at the Petroleum Commission. The target for opening the register was to implement and maintain a verifiable and updated Register for all players to experience the fairness, transparency and predictability in the upstream sector.

The Register provides information of Petroleum Agreements, licenses, permits and authorizations. The Register also provides Civil Society Organization's (CSOs) and citizens the platform to monitor all upstream petroleum activities and demand accountability of the government.

The Petroleum Register has currently been updated to also include information on Licensing Rounds committee and newly issued permits. This new dawn further affords the country opportunities to attract reputable oil and gas companies with the requisite capital and technical capabilities to invest in Ghana's geological basins.

Local Content Fund

In accordance with provision in the Petroleum (Exploration and Production) Act, 2016 (Act 919) a local content fund has been established at the Petroleum Commission.

The Fund seeks to provide financial resources to small and medium scale enterprises to support their participation in oil and gas activities. The Local Content fund will also provide education, training, research and development in the oil and gas sector.

CHAPTER THREE

KEY ISSUES ADDRESSED

The Ministry during the year under review made significant progress in the implementation of planned programmes and projects, highlights of the implemented projects include:

- i. Launching of the first oil and gas licensing round;
- ii. Launching of the Petroleum Register;
- iii. Passage of the General Petroleum Regulations (GPR);
- iv. Establishment of the Local Content Fund;
- v. Implementation of the Electrical Wiring Regulations; and
- vi. Completion of the 225kV Bolgatanga-Ouagadougou Interconnected Project.

KEY ISSUES YET TO BE ADDRESSED

Though the Sector achieved significant progress in 2018, there are still efforts to complete/implement planned programmes and projects which have been earmarked for 2019. Some key projects and programmes to be completed/implemented in 2019 include;

- i. Completion of 192MW Amandi Power Project;
- ii. Completion of 400MW Early Power Project Phase 1 (147MW);
- iii. Relocation of the Karpowership;
- iv. Completion of 161kV Aboadze-Takoradi line upgrade project;
- v. Completion of the Aboadze Prestea Transmission Line;
- vi. Completion of 161kV Takoradi-Tarkwa-New Tarkwa-Preatea line upgrade project;
- vii. Completion of 330kV A4BSP Nkawkaw-Anwomaso Line Project;
- viii. ECG Private Sector Participation Programme;
- ix. Installation of the 65kWp Solar Rooftop System;
- x. Local Content and Local Participation in the Power Sub Sector; and
- xi. Interconnection of GNGC and WAPCO Pipeline Systems.

RECOMMENDATIONS

In line with Governments' priority area to achieve universal access to electricity by 2020, it is recommended that Government of Ghana expedites the release of funds to the Ministry of Energy to procure the outstanding materials to enable the effective completion of works as well as the expansion of intensification works in the communities which were partially covered under the National Electrification Scheme and for other uncompleted projects.

As part of efforts to achieve the Paris agreement target of 10% penetration of Renewable Energy by 2030, Government should make it a priority to encourage private sector investment in utility scale solar and wind energy projects, as well as accelerate the development of mini-grid solutions in off-grid and island communities for lighting, irrigation and other economic activities. The capacity of the Renewable Directorate of the Ministry should also be built to ensure effective implementation of Renewable and Alternative Energy projects.

In a bid to reduce deforestation and promote the use of LPG as a healthier, safer and cleaner fuel in semi-urban and rural areas, the Government should prioritize the availability of funds in the LPG Compensation Fund and encourage RLPGPP and LPG related activities. This will ensure at least 50% of Ghanaians have access to safe, clean and environmentally friendly LPG for increased Domestic, Commercial, and Industrial usage by 2030.

The Ministry of Energy also recommends the aggressive implementation of the Petroleum (Local Content and Local Participation) Regulations, 2013 (LI 2204) to ensure that a significant number of Ghanaian companies are registered with the Petroleum Commission to participate in the upstream petroleum industry in Ghana. This will deepen the promotion of indigenous Ghanaian participation and in-country expenditure in the sector.

Finally, local Content and local participation in the Power Sub Sector should also be encouraged. Such initiatives will ensure that Ghanaian companies play an active role in the electricity and renewable energy sector and provide an enabling environment to ensure the maximum use of financial capital, expertise, goods and services locally thereby creating employment for Ghanaians.

CONCLUSION

The Ministry moderately experienced a smooth implementation of the first year of the SMTDP (2018-2021) and the planned programmes and projects executed have impacted positively on the lives of several beneficiaries and the economy at large. However, there were challenges with budgetary allocations and releases for a number of projects which led to the delay in progress of some of the projects which were earmarked for completion.

The Generation, Transmission and Distribution projects implemented in the year 2018 sought to increase universal access to electricity and ensure availability of clean, affordable and accessible energy for the nation. Key among these were the GRIDCo Transmission line projects and the SHEP projects. The Ministry was able to connect 278 communities to the national grid to bring the national electricity access rate to 84.32%

Various Renewable Energy projects including the Solar Rooftop Programme and the Utility Scale Solar were implemented to increase RE in the national energy supply mix. These projects have led to a penetration of 2.7% of scaled-up RE in the national electricity generation mix. That notwithstanding, other projects such as the installations of solar PV systems at Parliament House and Flagstaff House and the MDAs Solar Integration Model were stalled and could not be implemented in 2018 due to delays in negotiations of PPAs and other funding challenges.

In the Petroleum Sector, significant programmes and projects implemented include the launching of the 1st Oil and Gas Licensing round, the implementation of the Rural LPG Promotion Programme, launching of the Petroleum Register. The Ministry experienced a shortfall in the achievement of the target set for cylinders and stoves distribution under the Rural LPG Promotion Programme. This was mainly due to funding challenges and GCMC production challenges.

The Ministry of Energy is confident that by the end of the four-year period of the implementation of the SMTDP (2018-2021), efficient and effective strategies, policies, projects and programmes would be established to enhance the efficient, reliable and affordable supply of high quality energy services for the Ghanaian economy and for export.

APPENDIX 1

NES - DETAILS OF THE JOB CREATION OPPORTUNITIES

615 temporary jobs have been created under this project as at **August 2018**. Breakdown of details is attached below;

No	Job Category	Weldy Lamont Electrification Project No of Temporary Jobs
A	Laborers	23
B	Artisans	8
C	Technicians	18
D	Foreman	8
E	Technologies	0
F	Adm. Assistants	1
G	Managers	2
H	Senior Managers	0
I	Leadership	0
Total		<u>60</u>

Table 1.1: Jobs created under Weldy Lamont Project

No	Job Category	CWE 5-Regions Electrification Project Phase-1
A	Labourers	20
B	Artisans	9
C	Technicians	14
D	Foreman	3
E	Technologies	0
F	Adm. Assistants	0
G	Managers	3
H	Senior Managers	0
I	Leadership	0
TOTAL		49

Table 1.2: Jobs created under CWE 5-Regions Electrification Project (Aug. 2018)

No	Job Category	Hunan Electrification Project Phase-1 No of Temporary Jobs
A	Labourers	15
B	Artisans	8
C	Technicians	7
D	Foreman	6
E	Technologies	0
F	Adm. Assistants	0
G	Managers	0
H	Senior Managers	0
I	Leadership	0
TOTAL		36

Table 1.3: Jobs created under Hunan Electrification Project (Aug. 2018)

No	Job Category	On-going SHEP-4 Project No of Temporary Jobs
A	Labourers	230
B	Artisans	48
C	Technicians	30
D	Foreman	43
E	Technologies	0
F	Adm. Assistants	2
G	Managers	3
H	Senior Managers	5
I	Leadership	0
TOTAL		361

Table 1.4: Jobs created under SHEP-4 (Aug. 2018)

No	Job Description	On-going SHEP-5 Project No of Temporary Jobs
A	Labourers	36
B	Artisans	17
C	Technicians	35
D	Foreman	16
E	Technologies	0
F	Adm. Assistants	2
G	Managers	3
H	Senior Managers	0
I	Leadership	0
TOTAL		109

Table 1.5: Jobs created under SHEP-5 Project (Aug. 2018)

APPENDIX 2

DETAILS OF COMMUNITIES CONNECTED

PROJECT DESCRIPTION	Q1	Q2	Q3	Q4	STATUS AS AT DEC 2018	2018 TARGET
SHEP-4	9	12	7	37	278	1796
SHEP-5	0	0	0	5		
CWE- 5 REGIONS	40	27	27	26		
WELDY LAMONT & ASSOCIATES	0	0	0	88		
TOTAL	49	39	34	156		

Table 2.1: Details of communities connected

REGION/PROJECT	EARMARKED PROJECTED NO OF TOWNS TO BE COMPLETED	NO. OF TOWNS COMPLETED (JAN-DEC)	VARIANCE
SHEP - 4 ASHANTI	46	8	39
SHEP - 4 BRONG AHAFO	70	21	51
SHEP - 4 EASTERN	37	2	35
SHEP - 4 VOLTA	88	0	51
SHEP - 4 GREATER ACCRA	37	0	37
SHEP - 4 WESTERN	18	0	18
SHEP - 4 CENTRAL	45	0	45
SHEP - 4 NORTHERN	88	8	88
SHEP - 4 UPPER EAST	248	19	248
SHEP - 4 UPPER WEST	54	7	54
SHEP - 5	225	5	220
WELDY	414	88	326
<i>CWE</i>	276	120	156
<i>HUNAN</i>	100	0	100
<i>EBID - PH 2</i>	50	0	50
	1796	278	1518

Table 2.2: Projected number of towns to be completed

APPENDIX 3

OIL AND GAS PRODUCTION

INDICATORS	Unit of Measurement	2017 Value	2018 Value	2019 Baseline	Target for 2019
Petroleum Upstream					
Increased Production of Jubilee Field	Annual volume of oil and gas produced	32,749,975	28,461,755	250,122,541	32,840,000
	Associated Gas Production	44,231.16	44,841.94	348,307.52	34,000
Increased Production of TEN Field	Annual volume of oil and gas produced	20,452,577.00	23,557,361	49,326,078	25,600,00
	Associated Gas Production	26,818.33	39,472.78	72,822.97	11,000
Increased Production of SGN Field	Annual volume of oil and gas produced	5,455,511	10,116,319	15,571,830	13,140,000
	Associated Gas Production	7,214.76	AG: 17,275.07 NAG: 7,136.07	AG: 24,489.83 NAG: 7,136.07	57,000

Table 3.1: Oil and Gas Production Figures

APPENDIX 4

UPDATE ON POLICY OUTCOME INDICATORS AND TARGETS

NO	INDICATOR	UNIT OF MEASURE	2017 DECEMBER BASELINE DATA	2018 TARGET	INDICATOR STATUS IN 2018
1	Total installed capacity of power generation plants (MW)	MW	445 (2017 Actual)	340MW	445
2	Increased RE energy in the national energy supply mix	%	1.5%	1%	0.8 (N.B: Due to increased thermal installed capacity)
		MW	0	- 75MW	- 20MW
3	Distribution losses	%	NEDCO – 31.9%	NEDCO -30.6%	NEDCO – 30.4%
			ECG – 24.25	ECG – 21%	ECG – 25.1%
4	Percentage change in Transmission losses	%	4.10 (2017 Actual)	4.70	4.43
5	Percentage of communities with access to electricity	%	84.15%	85%	84.32%

Table 4.1: Policy outcome indicators and targets

UPDATE ON SECTOR OUTPUT INDICATORS AND TARGETS

NO	INDICATOR	UNIT OF MEASURE	2017 DECEMBER BASELINE	2018 TARGET	INDICATOR STATUS IN 2018
1	Automatic outage per consumer per year	No.	796 (2017 ACTUAL)	800	996
2	Planned outages per year	No.	346 (2017 ACTUAL)	520	414
3	Percentage change in Transmission availability	%	99.49 (2017 ACTUAL)	99.80	99.58
4	Energy Transmitted	GWh	13,678 (2017 ACTUAL)	15,302	15,167
5	Increased System Capacity for Export Improved reliability in transmission network Enhanced Efficiency of System	%	225KV Bolgatanga-Ouagadougou Interconnected Project -Transmission line- 70% complete -330/225kv substation civil works – 85% COMPLETE -Electrochemical Works – 90% Complete	100%	100%
			330kV Aboadze-Prestea Transmission Line Project – 97%	100%	98%
			Volta-Achimota-Mallam 161kV Transmission Line Project – 70%	100%	Volta-Achimota 53%

NO	INDICATOR	UNIT OF MEASURE	2017 DECEMBER BASELINE	2018 TARGET	INDICATOR STATUS IN 2018
					Achimota-Mallam 30%
			330 kV Kumasi - Bolgatanga Transmission Line Project – 80%	100%	96.30%
			330 kV Kumasi, Tamale and Bolgatanga Substations under the 330kV Transmission Line Project – 70%	100%	98%
			Aboadze 330kV Substation Expansion Project – 20%	100%	70%
6	% share and value of service contracts awarded to indigenous companies	% USD\$	44.8% (USD\$ 394,725,375.98)	60-90%	94% USD\$288,031,036
7	% and no. of contracts awarded to indigenous companies	No.	761 contracts awarded to indigenous companies out of 1,070 contracts representing		55 contracts awarded to indigenous companies (26) and JV companies (29)

NO	INDICATOR	UNIT OF MEASURE	2017 DECEMBER BASELINE	2018 TARGET	INDICATOR STATUS IN 2018
		%	(71%)	60-90%	93%
8	Volume of Oil produced and cubic feet of gas production per year	Refer to Table 1.1	Refer to Table 1.1	Refer to Table 1.1	Refer to Table 1.1

Table 4.2: Sector Output indicators and targets

OTHER SECTOR OUTPUT INDICATORS AND TARGETS

No	Indicator	Type of Indicator	Target for 2018	Actual for 2018	Data Sources	Monitoring Frequency	Responsibility	Remarks
1	Number of communities completed and connected to the national grid	Output	1796	278	Distribution Directorate	Monthly	Director/ Distribution Contractor	Unavailability of funds and key materials
2	Automatic outage per consumer per year	Output	800	996	Generation and Transmission Directorate/ GRIDCO Report	Quarterly	GRIDCO	
3	Planned outages per year	Output	520	414	Generation and Transmission GRIDCO Report	Quarterly	GRIDCO	

No	Indicator	Type of Indicator	Target for 2018	Actual for 2018	Data Sources	Monitoring Frequency	Responsibility	Remarks
4	Percentage change in Transmission availability	Output	99.80	99.58	GRIDCO Report	Quarterly	GRIDCO	
5	Energy Transmitted	Output	15,302	15,167	Generation and Transmission/ GRIDCO Report	Quarterly	GRIDCO	
6	Percentage completion of replacement and Rehabilitation works in selected streets in Accra and Kumasi	Output	100%	87%	Distribution Directorate	Monthly	Director/ Distribution Contractor	Delayed payment to contractors
7	Number of staff to be trained	Output	70	72	Human Resource Mgt and Development Directorate	Quarterly	Director/HR	N/A
8	Number of Staff health checks and screening organized	Output	3	3	Human Resource Management Directorate	Quarterly	Director/ HR	Unavailability of funds

No	Indicator	Type of Indicator	Target for 2018	Actual for 2018	Data Sources	Monitoring Frequency	Responsibility	Remarks
					Quarterly reports			
9	Number of impact analysis conducted on Solar Lantern Distribution Programme	Output	9	3	RSIM Quarterly Report	Quarterly	Director/RSIM	Non release of adequate funds to achieve target
10	Number of impact analysis conducted on Rural LPG Promotion Programme	Output	4	1	RSIM Quarterly Report	Quarterly	Director/RSIM	Delay in release of funds
11	Number of Impact assessment on Mini Grid Electrification installations	Output	6	2	RSIM Quarterly Report	Quarterly	D/RSIM	Untimely release of funds
12	Number of Entity Tender committee Meetings held	Output	4	3	General Administration Directorate	Quarterly	D/GA	Minutes for all ETC meetings available

No	Indicator	Type of Indicator	Target for 2018	Actual for 2018	Data Sources	Monitoring Frequency	Responsibility	Remarks
13	Number of reconciliation report of physical stock quantities prepared	Output	4	4	Procurement Unit	Quarterly	D/GA	Quarterly reports prepared and submitted
14	Number of Management Meetings held	Output	12	7	General Administration Directorate	Monthly	D/GA	Unpredictable calendar
15	Number of Ministerial Advisory Board meetings organised	Output	4	2	General Administration Directorate	Quarterly	D/GA	Report for meetings submitted to the Chairman of the Board
16	Number of Audit Committee Meetings held	Output	4	4	General Administration Directorate Internal Audit Unit	Quarterly	D/GA	Audit report prepared and submitted
17	Preparation of Quarterly Sector Reports for OHCS	Output	4	4	All Directorates and Units	Quarterly	D/PPBME	All reports prepared and submitted to OHCS in due time
18	Preparation of Annual	Output	1	1	All Directorates and Units	Annual	D/PPBME	APR submitted to OHCS. Challenges in receiving prompt

No	Indicator	Type of Indicator	Target for 2018	Actual for 2018	Data Sources	Monitoring Frequency	Responsibility	Remarks
	Performance Report							responses from Directorates
19	Preparation of 2019-2022 Budget	Output	Inputs into the Budget finalized	Ministry's Inputs for the Budget Statement and Economic Policy for the 2019 financial year was finalized and submitted to Ministry of Finance in November 2018.	All Directorates and Units	Annual	D/PPBME	Ministry of Energy Budget approved
20	Work Programme Retreat organized	Output	1	1	PPBME Directorate	Annually	D/PPBME	Reports available. Retreat held
21	Mid-Year Performance	Output	1	1	PPBME Directorate	Annually	D/PPBME	Performance Review Report

No	Indicator	Type of Indicator	Target for 2018	Actual for 2018	Data Sources	Monitoring Frequency	Responsibility	Remarks
	Review Retreat organised							submitted to Management and OHCS
22	Annual Financial Statement prepared	Output	1	1	Finance Directorate	Annually	D/Finance	Target Achieved
23	Number of bank reconciliation statements prepared	Output	12	12	Finance Directorate	Monthly	D/Finance	All entries are made in the Cash Book and Bank Reconciliation Statements prepared to the end of the year
24	Levies Reconciliation Statement Report	Output	4	4	Finance Directorate	Quarterly	D/Finance	Report on levies prepared and Reconciliation done with all the collecting agencies.
25	Procurement Audit Report for 2017	Output	1	1	Internal Audit Unit	Annually	Chief Internal Auditor	Procurement Audit Report for the Financial year 2017 prepared
26	Number of payment vouchers pre-audited	Output	-	1658	Internal Audit Unit Quarterly Report	Quarterly	Chief Internal Auditor	

No	Indicator	Type of Indicator	Target for 2018	Actual for 2018	Data Sources	Monitoring Frequency	Responsibility	Remarks
27	First Licensing Bid Rounds completed	Output	Conduct maiden bid rounds	Launch of maiden bid round	Petroleum Upstream Quarterly Reports	Yearly	D/Petroleum Upstream	Maiden bid round conducted Letters sent out to prequalified companies
28	Awareness programs of the industry and opportunities to Secondary Schools	Output	20	65	Local Content Unit	Quarterly Report	Head/Local Content	2018 Gender Report prepared and submitted
29	Cylinders and stoves distributed under the Rural LPG Promotion Policy (SDG Targets 7.)	Output	40,000 (cylinders and cook stoves)	21,540 (cookstoves-19,500, cylinders – 2,040)	Petroleum Downstream Quarterly Report	Quarterly	D/Downstream	Ongoing transmission to the Cylinder Recirculation Model
30	Solar Lantern Distribution	Output	-	36,389	Renewable Directorate	Quarterly	D/Renewable	85% distributed at subsidized rate

Table 4.3: Sector Output indicators and Targets