

# **PUBLIC UTILITIES REGULATORY COMMISSION**



## **ANNUAL REPORT 2019**

**Mission**

***To build a credible and sustainable utility regulatory regime that protects the Stakeholders' interest.***

**Vision**

***To be a model Utility regulatory institution in Africa***

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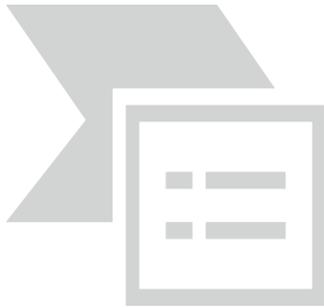
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## I The Commission/Board

The Commission is made up of nine members who are appointed by the President in consultation with the Council of State. The Commission consists of a Chairman, an Executive Secretary, 4 persons with knowledge in matters relevant to the functions of the Commission, and a representative each of the Trades Union Congress (TUC), the Association of Ghana Industries (AGI) and Domestic Consumers.



**Mr. Michael Opam (Chairman)**, B.Sc Chemical Engineering, MSc Energy Management and Policy. Mr. Opam is an energy sector expert with extensive experience in engineering, energy economics and policy analysis. He served as an acting Executive Secretary of the Energy Commission, Ghana from 2015 to 2016 and was a member of the Board of Directors of the Electricity Company of Ghana (ECG) between 2006 and 2008. Mr. Opam also worked as a Technical Director at the Ministry of Energy from 2006 to 2009, having served as coordinating secretary to the Ghana Power Sector Reform Committee which undertook the design and development of Ghana's Power Sector Reform Programme (1994-1997).



**Mrs. Mami Dufie Ofori (Member and Executive Secretary)** B.Sc. (Hons) Development Planning, MBA Project Management with professional training in Corporate Strategy, Financial Policy, Strategic Planning and Utility Regulation and Strategy from prominent institutions. Mrs. Ofori worked as a Senior Economic Planning Officer (1996 – 2001) at the Ministry of Finance, representing the Ministry on its World-Bank sponsored advisory committee on the restructuring of the Water Sector. She previously worked in key positions at the Public Utilities Regulatory Commission and was at one time also a Director of the Local Content Unit of the Ministry of Power, being one of the key developers of Local Content Regulations for the electricity sector.



**Prof. Joe Amoako-Tuffour (Member)** B.A., M.A. and Ph.D. in Economics. He is a Professor of Economics with Public Policy experience and interest in Natural Resource Economics, Monetary Economics and Public Finance. Professor Amoako-Tuffour was the Director of Research at the African Center for Economic Transformation (2015-2017). He worked as a Tax Policy Advisor at the Ministry of Finance and Economic Planning, and was significantly involved with the Revenue Management Technical Team, Oil and Gas Fiscal Regime and Fund Types Technical Team from 2009 to 2011. Professor Amoako-Tuffour at one time served as a visiting scholar to the Ministry of Finance and Economic Planning and worked on the tax exemptions regime and taxation of the mining sector in Ghana.



**Mr. Emmanuel Sekor** (Member) BL, LL.M. Natural Resources and Environmental Law and Policy. Mr. Sekor is an energy sector, legal, regulatory and policy expert specializing in electricity, renewables and petroleum. He has been active in the energy sector in Ghana and internationally and is also an expert in the design and operation of regulatory frameworks, institutional building and stakeholder dialogue, advising extensively on creating enabling environments for energy sector investments in Africa. Mr. Sekor is currently a Principal Consultant and the energy practice lead at REM Law Consultancy. He once worked in the Ministry of Mines and Energy and the Public Utilities Regulatory Commission of Ghana.



**Mr. Ishmael Edjekumhene** (Member) BA, Land Economy MSc, Economics (Public Policy) is the Executive Director of the Kumasi Institute of Technology and Environment (KITE), a policy research and advocacy non-governmental organization working in the energy, environment and technology sectors. He has over 17 years of research and working experience in the energy, environment and technology sectors. He was a member of the Electricity and Natural Gas Technical Committees of the Energy Commission and a pioneering member of the Public Interest and Accountability Committee (PIAC) from 2011-2014. He chairs the Steering Committee of the Sustainable Energy Network of Ghana, which is the first country affiliate of the Energy Access Practitioner Network.



**Dr. Yaw Adu-Gyamfi (Member)** BSc, Chemistry and Mathematics. He also holds a Doctorate Degree in Pharmacy from Mercer University in Atlanta Georgia, USA and an Executive MBA from the Ghana Institute of Management and Public Administration (GIMPA), Ghana. He is the CEO of Danpong Group of Companies and Danadams Pharmaceutical Industry Ltd and is currently the president of the Association of Ghana Industries (AGI).



**Mr. Ebo Quagraine (Member)**, BSc Electrical Engineering, is an expert in software engineering. He worked as a systems engineer at British Telecom, New York and was also Head of IT at the Continental Acceptances Merchant Bank (now CAL Bank) where he designed the first network of computers and built the first indigenous banking software for CAL Bank. As a principal engineer at the New York Power Authority, Mr. Quagraine has experience in undertaking corrective and preventive maintenance on power plants. He was at one time a member of the board of Ghana Civil Aviation Authority.

He is currently Director for Technical Services at Savvytech Ghana Limited, an engineering consultancy company providing services to the mining, power and petroleum industries.



**Mrs. Dora Oppong (Member)**, MBA (Finance) and Chartered Accountant. Mrs. Oppong has undertaken professional courses in finance, audit and accounting from renowned institutions including the Harvard School Business (USA). Mrs. Oppong worked as the Accounts Manager and Deputy Head of Internal Audit of the Social Security and National Insurance Trust (SSNIT). Mrs. Oppong has served on the advisory board of JOSPON Group of Companies and the Audit Reports Implementation Committees (ARIC) of several state institutions. She was one of the pioneer Commissioners of the Postal and Courier Services Regulatory Commission and is currently serving on the Board of Coconut Grove Hotels.



**Mr. Daniel Owusu-Koranteng (Member)**, BSc Agriculture and M.A. in Human Resource Development. Mr. Owusu-Koranteng has professional qualifications in General Agriculture, Project Analysis and Workers' Education. He is a member of the Board of Directors of the Ghana Dock Labour Company at the Tema Port. He was a member of the Environmental Committee of the UN Global Compact in Ghana and served as a member of the ECOWAS Committee of Experts that prepared the Draft ECOWAS Directive on harmonisation of policies and guidelines in the mining sector for ECOWAS member states. He is currently the General Secretary of the Maritime and Dockworkers' Union and Executive Director of WACAM.

By virtue of section 10 of the Public Utilities Regulatory Commission Act, 1997 (Act 538), the Commission works through committees which conduct in-depth analysis of policy and operational issues relating to the work of the Commission. The Committees, which comprise a blend of Commissioners, external experts and Secretariat staff, are:

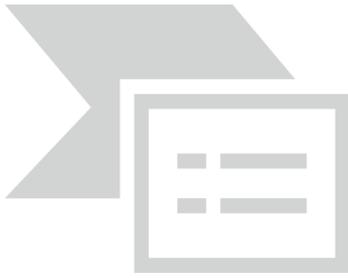
**Table 1: Committees of the Commission**

COMMITTEE	FUNCTIONS
<b>Finance and Administration Committee</b>	<ul style="list-style-type: none"> <li>▪ Review of personnel policies, financial procedures and reports.</li> </ul>
<b>Technical Committee</b>	<ul style="list-style-type: none"> <li>▪ Consideration of utility tariff applications, tariff methodology, structure and benchmarking and reports of technical and operational audits of utility companies.</li> </ul>
<b>Legal, Complaints and Dispute Resolution Committee</b>	<ul style="list-style-type: none"> <li>▪ Review of enactments affecting the Commission, consumer complaints management and PURC dispute settlement mechanisms and oversight of Regional offices.</li> </ul>

Additionally, in accordance with statutory requirements, the Commission has an Entity Tender Committee and an Audit Committee which were established in accordance with the Public Procurement Act, 2003 (Act

663) as amended by the Public Procurement (Amendment) Act, 2016 (Act 914) and the Public Financial Management Act, 2016 (Act 921) respectively.

## Chairman's Statement



In 2019 the Commission, as mandated by the Public Utilities Regulatory Commission Act, 1997 (Act 538), continued to examine utility rates which would assist in financial sustainability of services, effectively collaborating with stakeholders to protect the interest of consumers and providers of utility services as well as monitoring standards of performance.

### Performance of the Commission

By the nature of its work the Commission manages sensitive national issues relating to electricity, natural gas and water availability, provision and pricing. PURC therefore remains keenly aware of the delicate balance between economic imperatives and social constraints. For the period under review, the Commission's focus was on enhancing its internal efficiency with respect to strategies for monitoring utility performance, to ensure that PURC fulfils its mandate of protecting value for money. The strategies developed continue to be examined to strengthen the Commission's performance and increase stakeholder confidence in utility regulation in Ghana.

The Commission also undertook important working visits to some utility facilities around the country to appreciate issues of concern to the service providers. Critical issues identified included the growing menace of illegal mining which has a significant negative impact on the production of potable water. This issue has been brought to the attention of Government and will be kept on the forefront of the Commission's agenda in 2019 until it is finally resolved. PURC is mindful of its strategic role in economic development and preservation of the country's natural resources.

### Improving PURC's Ability to Deliver on its Key Functions

To further improve upon its regulatory tools, the Commission in 2019 engaged the services of Fichtner Management Consulting AG in collaboration with the Kwame Nkrumah University of Science and Technology to undertake a tariff study and tariff implementation plan. This was done within the framework of the Millennium Challenge Compact II with the overarching aim of identifying an acceptable tariff transition path, which will enable PURC maintain cost reflective tariffs over the regulatory period 2019 through to 2023.

In the year under review PURC also extensively engaged its stakeholders in the consideration of draft quality of service regulations. The regulations are to address challenges encountered by the Commission's staff in field and investigative works, improve utility responsiveness to regulatory directives and facilitate the enforcement measures of the Commission. The Commission's overall objective is to secure improved quality of service whilst enhancing PURC's visibility.

As part of its social policy, the Commission developed new guidelines for PURC pro-poor water projects. This will assist PURC and its project partner the Ghana Water Company Ltd. to respond to the needs of various communities without pipe-borne water. In respect of electricity, the Commission continued to engage stakeholders on the Ghana Solar Support Project (GSSP), which was aimed at deploying 200,000 stand-alone

roof top solar systems to residential households and small-to-medium-scale enterprises to relieve the power network.

**Appreciation**

The Commission is grateful for the cooperation it has received from all its stakeholders including the Government of Ghana, external committee members, utility service providers, multilateral institutions and contractors, consumers and management and staff of PURC. The Commission counts on the continued support of key players in the regulated industries in its quest to provide a credible and sustainable utility regulatory regime in Ghana, which protects the interests of all stakeholders.

***Mr. Michael Opam***  
***Board Chairman***

## **Executive Secretary's Statement**

In 2018 the Commission concentrated its efforts on effective monitoring of the regulated utility companies. This was done as part of the Commission's mandate to ensure that consumers of these utility services received value for money as well as improved service quality. To this end, the following approaches were adopted:

### **Pricing for Electricity Tariffs**

The Commission in its review of tariffs was careful to accept only prudent and efficient costs. In this regard, the March 2018 tariff decision gave consideration only to power generating plants and ancillary facilities which were in operation and which had a direct impact on service provision.

### **Stakeholder Consultation in Tariff Setting Processes**

The Commission in line with its policy of dialoguing with its stakeholders, undertook extensive consultations across the country in arriving at its tariff decisions. These stakeholders include the Association of Ghana Industries (AGI), Trades Union Congress (TUC), Ghana Chamber of Mines, Consumer Protection Agency (CPA), the Media, Think Tanks including IMANI Ghana and special consumer groups. These consultations discussed selected economic, technical and service quality parameters of utility tariff applications. In the interest of transparency, the tariff proposals were published on both the Commission's and utility company websites with summaries widely published in national newspapers. This was done to encourage public engagement and scrutiny of the proposals and to also educate the public on utility issues.

### **Tariff Determination**

The Commission approved and published electricity and water tariffs effective March 15, 2018 and July 15, 2018 respectively. Subsequently, two quarterly reviews were undertaken by the Commission for June - September, 2018 and October - December, 2018. In applying the quarterly reviews, the Commission considered movements in four basic variables namely:

- Hydro-Thermal Generation Mix
- Fuel price changes
- Consumer Price Index (CPI)
- Ghana Cedi-US Dollar Exchange Rate.

The Commission, however, took a decision not to make any adjustments in electricity and water tariffs. This was because the net effect of movements in the above variables did not warrant changes in the approved tariffs.

### **Monitoring of Facilities and Operations of Regulated Utilities**

In 2018 the Commission committed a sizable proportion of its human, financial and material resources to monitoring the operations and infrastructure of the regulated utilities, using regulatory benchmarks which are periodically revised for relevance.

The Commission also undertook community monitoring to enable it measure quality of service delivery by the regulated utilities. Subsequent to this, a number of public awareness programs were organised by the Commission to educate consumers with respect to their rights and responsibilities.

As part of the monitoring exercises, the Commission audited investments undertaken in line with tariff proposals submitted by the utilities and capital investment allowances granted by the Commission.

These monitoring exercises revealed that the utilities were short on infrastructure such as network configurations to sync different types of meters, working tools and equipment, which negatively impacts their operations and service quality delivery. These shortfalls have been discussed with the affected utility companies and their proposed strategies continue to be monitored by the Commission.

### **Performance of the Regulated Utility Companies**

Performance of the regulated utilities was generally satisfactory. This was indicated by overall grid stability in electricity supply, adequate supply of water by the Ghana Water Company Limited (GWCL) as well as a reduction in customer complaints.

### **Decentralization of the Commission's Operations**

The year 2018 witnessed the establishment of a new PURC regional office in Sunyani in the Brong-Ahafo region, bringing to 7 the number of PURC regional offices. This decentralisation effort is to enable the Commission bring its services closer to consumers and by extension make PURC's presence felt across the country.

### **Finance and Administration**

The Commission's total revenue for the period under review was GHS53, 009,683.00. Total expenses was GHS24, 445,097.00, thus creating a revenue surplus of GHS28, 564,586. Actual cash collection received during the period was GHS25,650,108, this compared to the total revenue was only 48% as the collection rate. Despite the collection rate being an improvement over the previous year's financial position of 46%, the continued non-payment of levies due the Commission by the Ghana Grid Company Ltd. (GRIDCo) and the Ghana National Gas Company Limited poses a serious threat to the Commission. PURC continues to pursue this issue to ensure that the utility companies honour their statutory obligations to the Commission. Management on its part deployed severe cost cutting measures to help the Commission function and deliver on its mandate at a minimum level and ensure the effective and judicious utilisation of available funds for efficient administration of the Commission.

The Commission for the period under review recruited 19 staff spread across its Head Office and Regional Offices. Total staff strength as at the end of 2018 stood at 91. The Commission encourages continuous learning and professional development to maintain a highly skilled workforce in a competitive utility service environment.

**Mami Dufie Ofori (Mrs)**  
**Executive Secretary**

## II Management of the Secretariat

The Commission is supported by a Secretariat staff with engineering/technical, economics, financial, legal, customer service and other expertise. The directorates of the Secretariat are: Regulatory Economics, Energy Services and Performance Monitoring, Water Services and Performance Monitoring, Regional Operations, Legal Services and Finance and Administration. The Secretariat is headed by the Executive Secretary.



**Mrs. Mami Dufie Ofori – (Executive Secretary and Commissioner) B.Sc. Development Planning, MBA Project Management.** Mrs. Ofori was at one time the Director for Consumer Services and the Director, Special Duties of PURC where she coordinated the Commission’s Strategic Plan, monitored regulatory standards, established and managed the Commission’s regional offices, among others.



**Ing. Emmanuel Fiati (Director – Water Services and Performance Monitoring) BSc Mechanical Engineering, Executive MBA, Chartered Banker (ACIB).** He previously worked in various engineering capacities in AngloGold Ashanti. He is a member of the Ghana Institution of Engineering, Chartered Institute of Bankers (Ghana), Chartered Management Institute (UK), and American Society of Mechanical Engineers.



**Ing. (Rev) Oscar Amonoo-Neizer (Director – Energy Services and Performance Monitoring) BSc. Electrical Engineering, Executive MBA.** Prior to his appointment at PURC, Rev. Amonoo-Neizer worked as the Head of Power Division and Chief, Office of Technical Regulations at the Energy Commission of Ghana from February 2010 to February 2013.



**Dr. Simons Yao Akorli (Director, Regulatory Economics).** PhD Energy Economics and Policy, MSc Energy Economics, BCom & Diploma Education. Prior to joining PURC, Dr Akorli worked with Worldwide Investments as consulting Energy Economist and Nielsen Corporation, Ghana (formerly AC Nielsen Ghana), as Operations Manager.



**Mrs. Nancy Atiemo (Director - Legal Services) LLB 1995, LLM Energy Law and Policy.** Mrs. Atiemo previously worked as a Senior Associate at the Gharthey & Gharthey Law Firm and as a Solicitor at Lynnes, Quarshie-Idun and Co. She is a member of the Ghana Bar Association and the International Bar Association.



**Alhaji Jabaru Abukari (Director, Regional Operations).**

B.A (Hons) Psychology, M.A Public Affairs. Before being appointed to his current position Alhaji Abukari worked as the Greater Accra Regional Manager as well as the Tamale Regional Manager of PURC.



**Mr. Wallace Duodu (Director, Finance and Administration)** BSc. Administration, MBA, Chartered Accountant. He once worked with Pricewaterhouse (PwC) Ghana Limited, African Mining Services and Her Majesty's Revenue and Customs Edinburgh, UK. Mr. Duodu is a member of the Association of Chartered Certified Accountants (UK), the Institute of Chartered Accountants (ICA) Ghana, the Institute of Internal Auditors (IIA) and the Association of International Petroleum Negotiators (AIPN).

### III List of Abbreviations

<b>AAF</b>	-	Automatic Adjustment Formula
<b>BGT</b>	-	Bulk Generation Tariff
<b>CSCs</b>	-	Consumer Service Committees
<b>ECG</b>	-	Electricity Company of Ghana
<b>GRIDCo</b>	-	Ghana Grid Company Limited
<b>GWCL</b>	-	Ghana Water Company Limited
<b>KWh</b>	-	Kilowatt – Hour
<b>KVA</b>	-	Kilovolt – Ampere
<b>M<sup>3</sup></b>	-	Cubic Meter
<b>MW</b>	-	Megawatts
<b>NEDCO</b>	-	Northern Electricity Distribution Company
<b>TICO</b>	-	Takoradi International Company Ltd.
<b>VRA</b>	-	Volta River Authority

## **IV Executive Summary**

### **1.0 Introduction**

The Commission's focus for 2019 was to continue promoting its corporate image and ensure enhanced quality of service through effective monitoring and strong enforcement measures. The Commission was able to commit greater resources to monitoring major water and electricity systems around the country. This was to enable PURC ascertain the status of utility investment projects, which is a key component in tariff determination. It was also to monitor operational efficiency. Through its monitoring activities, PURC was able to highlight some operational challenges faced by the utilities and proposed measures to address such challenges.

Effectiveness of the Commission's enforcement measures was enhanced with drafting of a Consumer Service Regulations. These Regulations are intended to help address challenges encountered by the Commission in its field and investigative works. The proposed regulations will also address a critical gap in the regulation of water utilities. The draft regulations, incorporate a schedule of charges to be used as administrative penalties against defaulting utility companies. The draft Regulations is under review by the Legislative Drafting Division of the Office of the Attorney General.

### **1.1 Special Projects**

During the year under review, the Commission developed a position paper on Urban Water Sector Reforms. The paper centred on the state of urban water supply and made proposals on possible institutional and operational reforms for the optimal development of the sector.

The Commission continued to pursue an enhanced water service provision through its Pro-Poor Water Projects. Over the period 2018-19, the Pro Poor Water Management Team (PPWMT) received a total of 26 proposals from various communities, educational and health institutions. The PPWMT subsequently selected and approved eleven (11) of the proposals for implementation for the 2018/2019 project year. For equity in allocation of resources, the PPWMT agreed to provide each applicant, four (4) boreholes and four inches (4") PVC pipeline extensions not exceeding 2km in length.

PURC continued with the Ghana Solar Support Project (GSSP) during the year under review. This project, is aimed at meeting the energy needs of households and Small-to-Medium-Scale Enterprises (SMEs) through the deployment of 200,000 stand-alone roof top solar systems, which will help shave off approximately 200MW of additional generation through conventional systems.

### **1.2 Performance of Regulated Utility Companies**

The performance of regulated utility companies under PURC's jurisdiction was monitored with the objective of ensuring systematic improvements in quality of service.

### **1.2.1 Electricity**

The Commission carried out its scheduled Reliability and Regulatory Monitoring of Generation, Transmission and Distribution utilities across the country. Total installed generation capacity for the year under review totalled approximately 4,632MW with a dependable capacity of 3,976MW. Hydro generation constituted 34.09% while thermal generation constituted 65.42% with renewables constituting 0.49%. Akosombo Generating Station (AGS) contributed the highest capacity (installed and dependable) while Safisana Biogas contributed the least capacity in Ghana's Power System. Data available to the Commission indicates that total dependable capacity at the end of 2019, was 85.85% of total installed capacity. The Ghana power system over the period recorded a peak demand of 2,803.7 MW representing an increase of 278.7 MW (11.04%) over the 2018 peak demand of 2,525 MW.

The Commission also undertook Reliability and Regulatory Compliance Monitoring and Evaluation in the Bono, Bono East, and Ahafo Regions to assess the efficiency and reliability of power supply as well as general operations of the distribution companies. Key issues identified during the evaluation exercise include among others, inadequate network protection systems leading to nuisance operation of protective devices, lack of Root Cause Analyses (RCA) report after equipment failures were sighted, Poor record keeping at outstations. These identified issues were attributed to the lack of requisite number of staff, lack of energy meter audits, unrestricted access, tampering of protective devices at NEDCo substations and the lack of logistics including vehicles at outstations. Electricity Company of Ghana (ECG) and Northern Electricity Distribution Company (NEDCo) have since been informed of these findings.

### **1.2.2 Urban Water**

In 2019, the Commission carried out inspections and audits of GWCL treatment plants in Greater Accra, Western, Western-North, and Brong Ahafo regions. The Commission conducted validation exercises by visiting all laboratories of GWCL treatment facilities in the Brong Ahafo region. This was done with the objective of carrying out audits of laboratory systems and processes; and to ascertain the veracity of water quality data submitted by GWCL to the Commission. The audit, revealed that, none of the plants had a microbiology laboratory where tests could have been conducted. Available Information from the Region reveals that microbiology tests are carried out twice a week for all plants and not daily as reported to the Commission. Additionally, there is no uniform reporting template for all supply districts within the region. This suggests that, while some districts reported average figures for water quality parameters, others reported minimum and maximum daily values.

Major challenges faced by the water systems nationwide included, among others, raw water challenges, power challenges, obsolete laboratory equipment, and unusual variation in non-revenue water figures (NRW). Generally, all physical, chemical and bacteriological parameters inspected in the log books of water treatment plants audited, were within recommended limits, conforming to the National Drinking Water Standards (GS175-1:2013 4<sup>th</sup> Edition) prescribed by the Ghana Standards Authority.

### **1.3 Tariff Determination**

The Commission in 2019, approved and published quarterly adjustments for electricity and water tariffs based on the PURC's Automatic Adjustment Formula (AAF). Although marginal adjustments were noticed, the Commission took a decision not to pass through any increments in electricity and water tariffs. The Commission also undertook analysis of GWCL's tariff revenue, collections and payments for the period under review. The analysis indicated a marginal decrease in actual GWCL Revenue over PURC's Approved Revenue averaging 1.8% over the twelve-month period from January to December 2019.

### **1.4 Consumer Services**

The Commission received in total 9,550 consumer complaints in 2019, out of which a total of 9,251 (96.9%) were resolved. The Commission, through its complaint management processes, investigated and resolved complaints ranging from billing, metering, quality of service, damaged equipment, disconnections, and payment complaints. As part of its activities to measure the quality of service delivered by the regulated utilities, the Commission embarked on utilities and community monitoring in 39 communities within seven regions across the country namely: Greater Accra, Volta, Western, Ashanti, Eastern, Brong Ahafo and the Northern regions. This was done to gauge the level of customer satisfaction concerning service provision from consumers. In its quest to sensitise utility consumers, the Commission undertook a number of public awareness programs to educate consumers about their rights and responsibilities. The outreach, mostly in the form of community durbars included; increasing awareness about the Commission, its activities, and functions; and to receive consumer complaints.

The Public Utilities Regulatory Commission (PURC) was established under the Public Utilities Regulatory Commission Act 1997, (Act 538) to regulate and oversee the provision of utility services by public utilities to consumers. Public utilities are defined in the Act as persons engaged in the supply, transmission or distribution of electricity or water to the public for a fee, whether directly or indirectly. Under the Energy Commission Act 1997 (Act 541), the Commission has the additional mandate of regulating aspects of the natural gas industry.

By virtue of Section 4 of Act 538, the Commission is an independent body and not subject to the direction or control of any person or authority in the performance of its functions. However, PURC is statutorily required to submit annual audited statements of accounts and reports of its operations to Parliament.

The functions of the Commission include:

- Providing guidelines for rates to be charged for the provision of utility services.
- Examining and approving rates for utility services;
- Protecting the interest of consumers and providers of utility services;
- Monitoring and enforcing standards of performance for provision of utility services;
- Promoting fair competition among public utilities;
- Receiving and investigating complaints; and
- Advising any person or authority in respect of any public utility.

A key function of the Commission is to maintain a register of public utilities. The register can be found at <http://purc.com.gh/purc/node/7818>. The public utilities, which are directly regulated by the Commission for purposes of tariff filings are captured in Table 2 below.

**Table 2: List of Public Utilities Regulated by the PURC**

Utility	Business
Volta River Authority (VRA)	Power Generation (Hydro, Thermal & Thermal)
Ghana Grid Company (GRIDCo)	National Interconnected Power Transmission System
Electricity Company of Ghana Ltd (ECG)	Power Distribution, Southern Sector
Northern Electricity Distribution Company (NEDCo)	Power Distribution, Northern Sector
Enclave Power Company Limited (EPCL)	Power Distribution, Free Zones and Concession
Ghana National Gas Company (GNGC).	Natural Gas Processing and Transportation
Ghana Water Company Limited (GWCL)	Urban Water Production, Transmission and Distribution

For purposes of monitoring and consumer protection, the Commission in 2019 maintained seven regional offices serving the Northern, Brong Ahafo, Western, Ashanti, Eastern, Volta and Greater Accra Regions of the country. In addition, the Commission has established a number of voluntary Consumer Service Committees around the country, which keep issues affecting the interests of consumers under constant review and submit representations to the Commission.

Under its rule-making powers, the Commission has issued a number of Regulations to enhance consumer protection in the provision of utility services. These are the Public Utilities (Termination of Service) Regulations, 1999 (L.I. 1651), the Public Utilities (Complaints Procedure) Regulations, 1999, (LI 1665) and the Public Utilities (Consumer Service Committee) Regulations, 2002 (LI 1704A).

In line with its mandate, the Commission undertook monitoring exercises, to ascertain the performance of utility companies in the energy and water sectors, which exercise, was aimed at ensuring improvements in quality of service. Key regulatory and monitoring activities undertaken on the various utilities and infrastructure in the year 2019 are presented below.

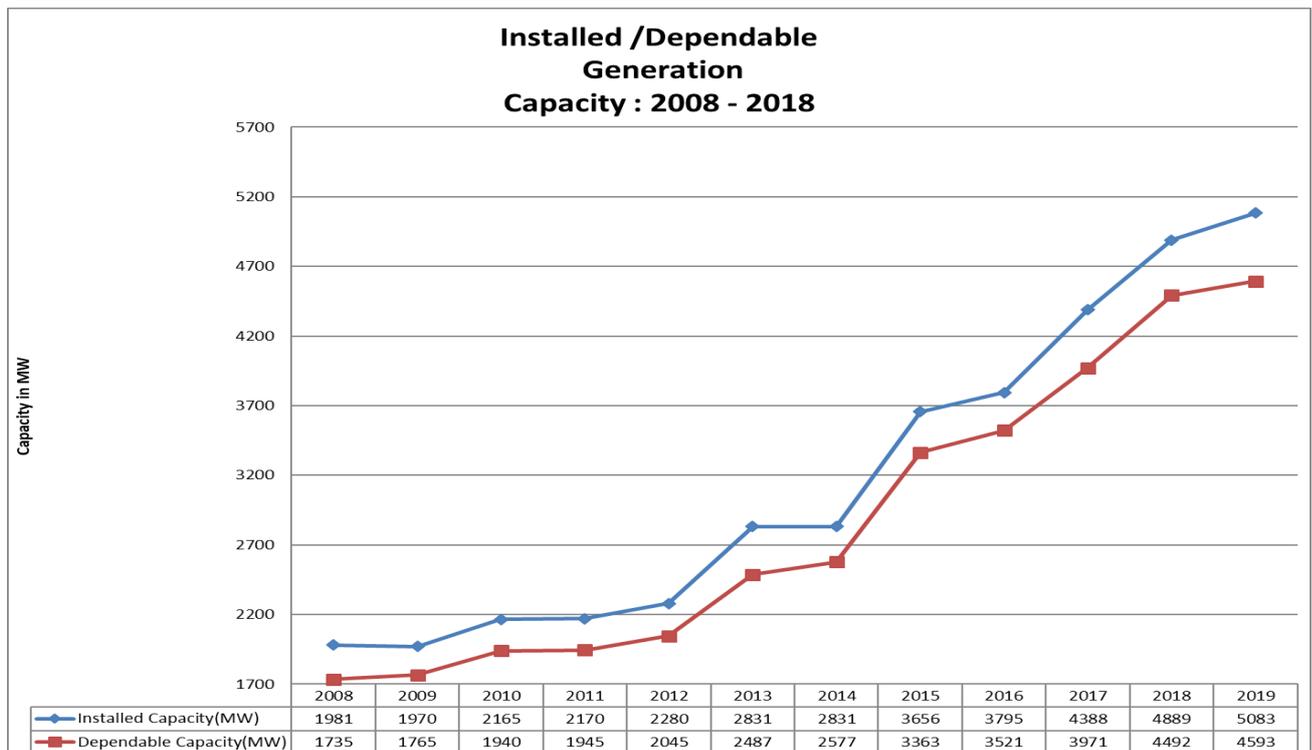
**2.1      The Energy Sector**

**2.1.1      Generation**

By the end of 2019, the total installed generation capacity was 4,631.6MW, with a dependable capacity of 3,976.10 (refer to Table 3 below). Hydro contributed a total of 34% of overall generation capacity, while thermal constituted approximately 64% with the remaining 0.09% of generation capacity supplied from biogas and solar generations.

**Table 3: List of Generation Plants in Ghana's Power Sector**

	<b>Plant Name</b>	<b>Installed Capacity</b>	<b>Dependable Capacity</b>	<b>Fuel</b>
1	Akosombo Generating Station	1020	900	Hydro
2	Kpong Generating Station	160	140	Hydro
3	Bui Generating Station	399	130	Hydro
4	T1 Takoradi Power Company (TAPCO)	330	300	LCO/NG
5	T2 – Takoradi International Company (TICO) (TAQA)	340	320	LCO/NG
6	T3 - Takoradi Thermal Plant 3	132	120	DFO/NG
7	Cenit Energy Ltd (CEL)	126	110	LCO/NG
8	TT1PP - Tema Thermal Power Plant 1	126	110	LCO/NG
9	TT2PP - Tema Thermal Power Plant 2	80	70	DFO/NG
10	Kpone Thermal Power Plant (KTPP)	220	200	DFO/NG
11	Karpowership	470	450	HFO
12	Ameri	250	230	
13	AKSA	250	220	HFO
14	TROJAN 2	44	40	DFO
15	GENSER 2	22	18	
16	MRP - Mines Reserve Plant	80	80	DFO
17	SAPP - Sunon Asogli Power Plant	560	520	LCO/NG
18	Safisana Biogas	0.1	0.1	Solar
19	VRA Solar	2.5	2	Solar
20	BXC Solar	20	16	Solar



**Figure 1: Installed Versus Dependable Generation Capacity**

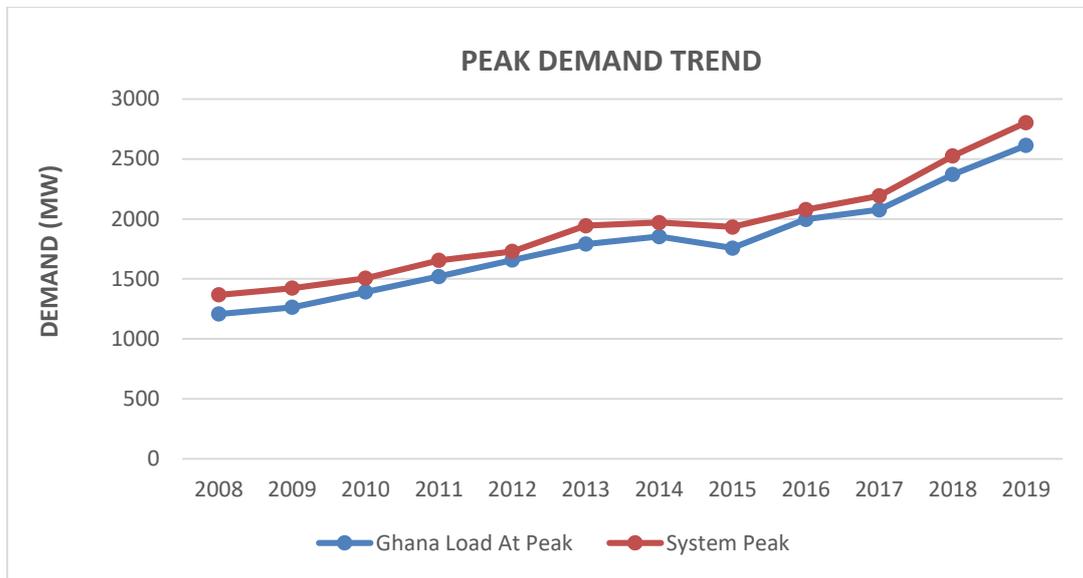
#### 2.1.1.2 Generation Exports/Imports

Table 4 below shows the trend of net import of electricity. Available data spanning 2008 to 2019, indicates that, Ghana has been a net exporter of electricity with the exception of the year 2016, which figure may largely be due to the load management program undertaken in that year.

**Table 4: Energy Imports and Exports from 2008-2019**

INDEX	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Import	275	198	106	81	128	27	51	223	511	247	140	127
Export	538	752	1036	691	667	530	522	587	187	268	740	911
Net Import	-263	-554	-930	-610	-539	-503	-471	-364	324	-21	-600	-784

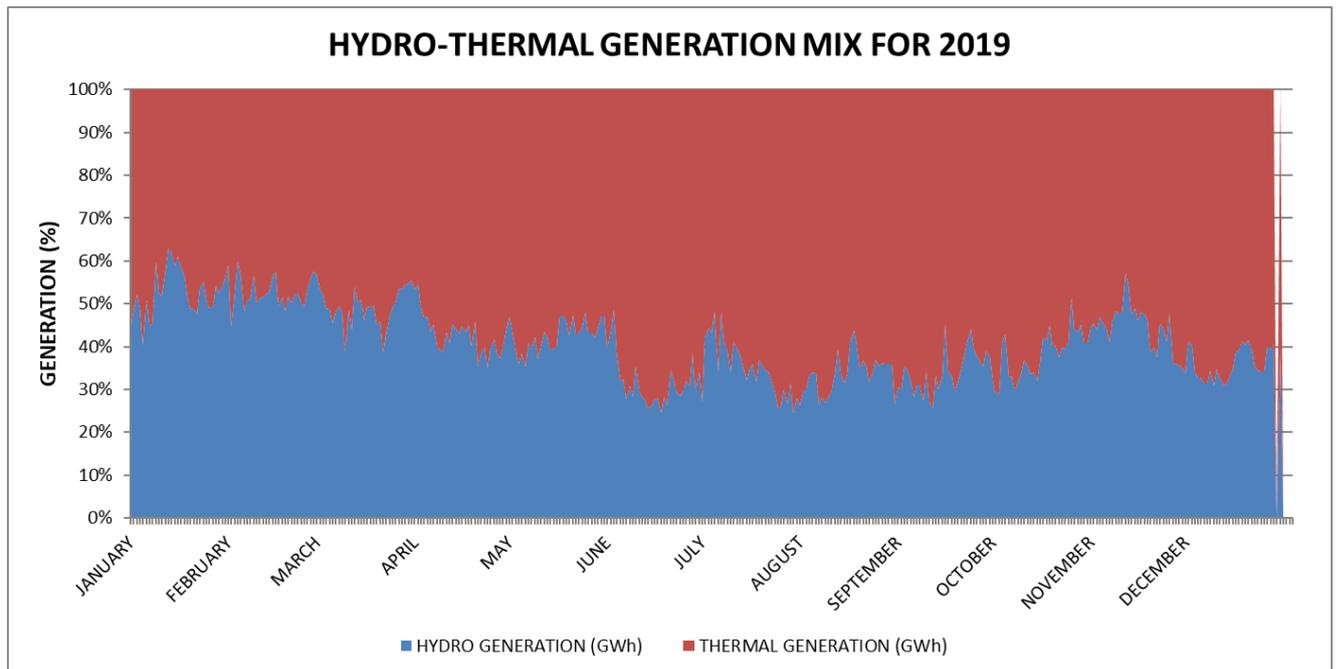
The Ghana power system recorded a peak demand of 2,803.7 MW on December 3, 2019. This represents an increase of 278.7 MW over the 2018 peak demand of 2,525 MW as shown in figure 4.1. Total energy consumed including losses was 17,887 GWh. This comprises 7,252 GWh from hydro, 10,508 GWh from thermal and 127 GWh of imports, giving an energy mix of 40% hydro, 59%, thermal and 1% import.



**Figure 2: Trend in Peak Demand from 2008 - 2019**

### 2.1.1.3 Hydro-Thermal Energy Mix

Figure 4 below shows total generation mix in 2019, which is made up of 41.0% hydropower generation and 59.0% thermal generation. As shown in Figure 3, hydropower generation was dominant in the beginning and gradually eased off towards the middle of the year. Power generated by each plant in 2019 is indicated in Table 3.



**Figure 3: Daily Hydro – Thermal Generation Mix**

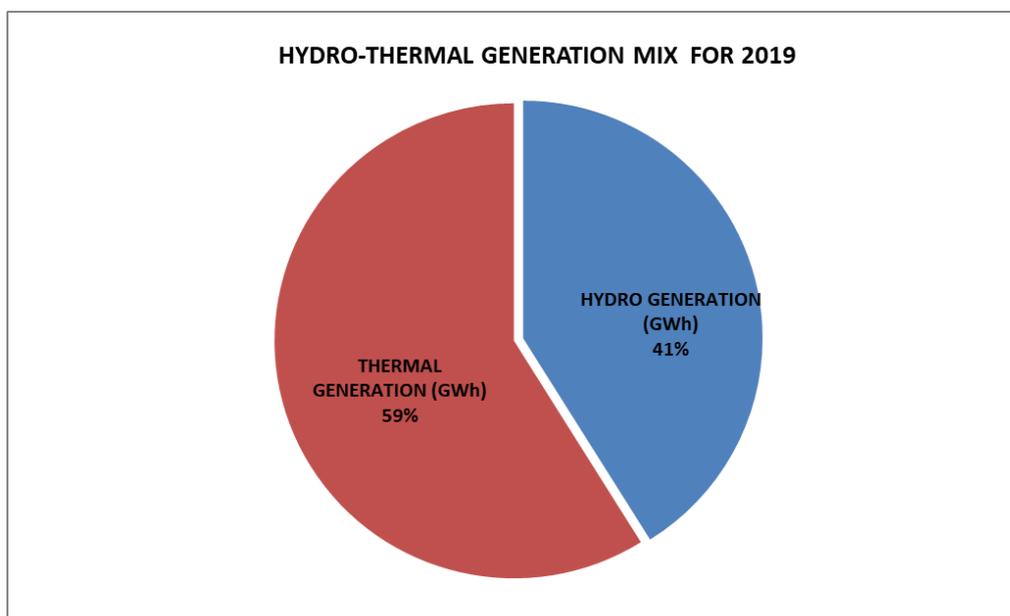


Figure 4: Daily Hydro – Thermal Generation Mix

Table 5: Power Generation by Plants

Plants		Dependable Capacity (MW)	Generated Energy (GWh)
<b>HYDROPOWER GENERATION</b>			
Akosombo Generating Station		900.00	5,365.77
Kpong GS Generating Station		105.00	841.99
Bui Generating Station		360.00	1,043.87
<b>Total</b>		<b>1,365.00</b>	<b>7,251.63</b>
<b>THERMAL POWER GENERATION</b>			
<b>VRA</b>	TAPCO (T1)	300.00	847.15
	TICO (T2)	320.00	1,271.64
	TT1PP	100.00	302.01
	TT2PP	70.00	108.84
	KTPP	200.00	322.22
<b>Total</b>		<b>990.00</b>	<b>2,851.86</b>
<b>Existing IPPs</b>	CENIT	100.00	28.75
	AMERI	230.00	1,305.24
	KARPOWER	450.00	1,294.69
	Sunon Asogli	520.00	2,137.46
	AKSA	350.00	559.83
<b>Total</b>		<b>1,650.00</b>	<b>5,325.97</b>
<b>Committed IPPs</b>	CEN Power	340.00	359.00
	Amandi	190.00	16.99
<b>Total</b>		<b>530.00</b>	<b>375.99</b>
<b>Total Supply</b>		<b>3,170.00</b>	<b>8,553.82</b>

## 2.1.2 Transmission

Power transmission is the backbone of any power system. Its resilience, reliability and availability are therefore critical to the successful evacuation of power from generation to load centres across the country. The power transmission activity in Ghana is carried out by Ghana Grid Company (GRIDCo). In this section, the performance of the transmission system is compared with the Commission's benchmark to ascertain reliability of the grid.

### 2.1.2.1 Peak Demand

The Ghana power system recorded a peak demand of 2,803.7 MW on December 3, 2019. This represents an increase of 278.7 MW over the 2018 peak demand of 2,525 MW as shown in figure 5. Total energy consumed including losses was 17,887 GWh, comprising 7,252 GWh from Hydro, 10,508 GWh from Thermal and 127 GWh from imported sources. The energy mix at the end of 2019 was, therefore, 40% hydro, 59%, thermal and 1% import.

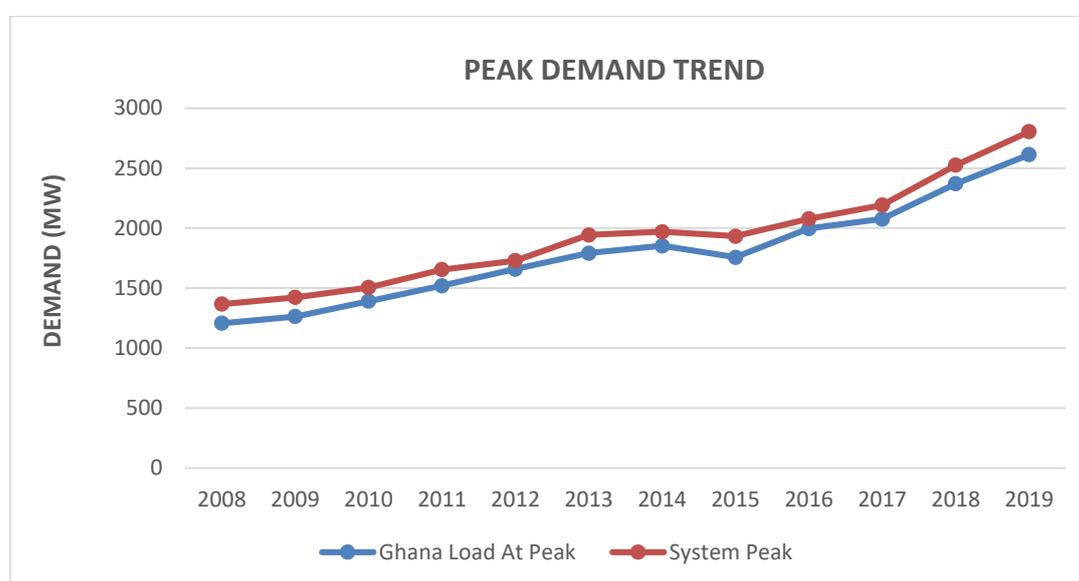


Figure 5: Trend in Ghana Peak Demand (2008 - 2019)

The total transmission system loss recorded in 2019 was 844 GWh representing 4.72% of total energy transmitted (17,887 GWh). On the other hand, the network in 2018, recorded total transmission loss of 707 GWh or 4.43%. As indicated in Table 6 and Figure 6 below, total transmission losses recorded in 2019 and 2018 were above PURC's set maximum threshold of 3.8%.

Table 6: Trend of Ghana's Transmission Losses

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Transmission Losses-GWh	303	343	380	531	522	570	565	402	607	587	707	844
Transmission Losses-%	3.6	3.8	3.7	4.8	4.3	4.4	4.3	3.4	4.4	4.22	4.43	4.72
PURC Benchmark	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	3.8	3.8

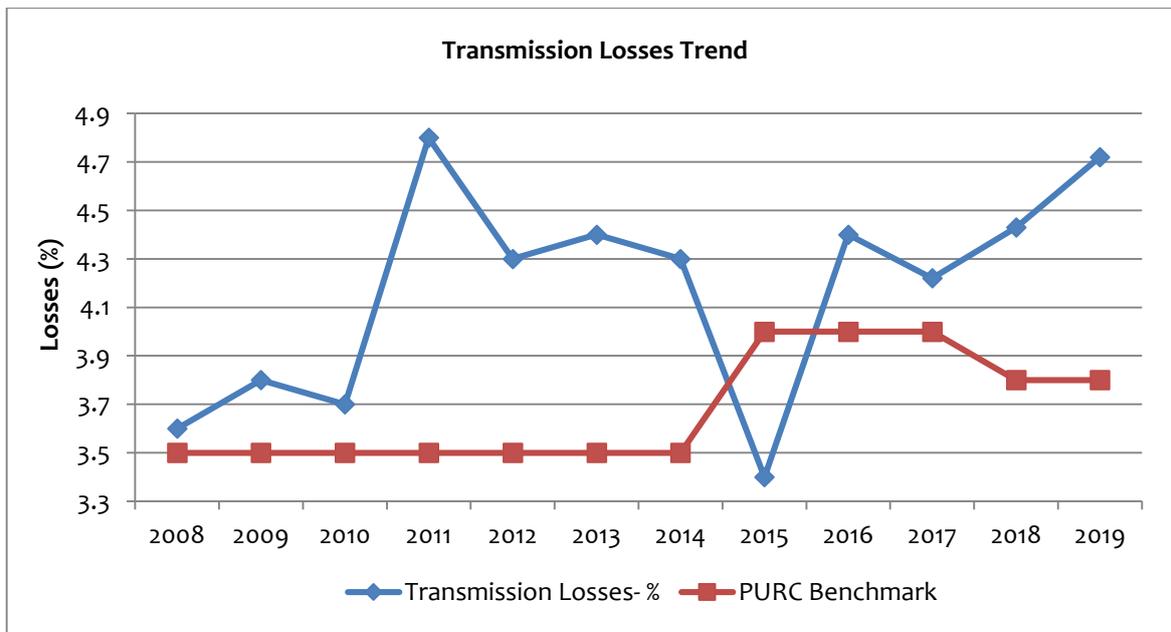


Figure 6: Chart of Trend in Transmission System Losses (2008 - 2019)

**2.1.2.2 System Average Interruption Duration Index (SAIDI)**

GRIDCo's cumulative System Average Interruption Daily Index (SAIDI) value for 2019 was eight hundred and sixty-two (862) minutes, far in excess of the PURC annual benchmark of 156 minutes.

Table 7: System Average Interruption Duration Index (SAIDI)

SAIDI (Minutes/Customer)					
FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	TOTAL	PURC BENCHMARK
223	317	168	154	862	156

**2.1.2.3 System Average Interruption Frequency Index (SAIFI)**

GRIDCo's cumulative System Average Interruption Frequency Index (SAIFI) value for 2019 was 6.41 times, which is in excess of the PURC set annual benchmark of 5.2 times.

Table 8: System Average Interruption Frequency Index (SAIFI)

SAIFI (No. of Times)					
FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	TOTAL	PURC BENCHMARK
1.01	3.37	1.16	0.87	6.41	5.2

**2.1.2.4 Transmission System Availability**

The average transmission system availability for 2019 is 99.43%. This value is marginally below the Commission's benchmark for transmission system availability of 99.70%.

Table 9: Transmission System Availability

TRANSMISSION SYSTEM AVAILABILITY (%)

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	TOTAL	PURC BENCHMARK
99.46	99.34	99.49	99.42	99.43	99.70

### 2.1.2.5 Frequency Deviation

This index is used to determine the proportion of times that frequency on the transmission network deviates from the nominal frequency of 50.0Hz. Significant frequent deviations from the nominal values can lead to dire consequences to system components, which can result in total or partial system collapse. The average frequency deviation in 2019 was 30.32% compared with the Commission's benchmark of 15.0%.

**Table 10: Frequency Deviation**

FREQUENCY DEVIATION (%)					
FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	TOTAL	PURC BENCHMARK
18.59	30.45	41.60	30.65	30.32	15.0

### 2.1.2.6 Discussion of Results

Review of the performance of GRIDCo's operations in 2019, revealed some violations of the Commission's reliability benchmarks as follows:

1. Frequent interruptions beyond acceptable limits specified by the Commission, that is, higher SAIFI values.
2. Long and sustained system outage duration beyond limits specified by the Commission, that is, higher SAIDI values.
3. Transmission system availability was below the set benchmark indicating that transmission lines were not in service as expected.
4. System frequency deviated from the nominal value and stayed outside the permissible range longer than expected.

**Table 11: Summary of Compliance Status of GRIDCo**

Description	Unit	Benchmarks	2017 Summary	2018 Summary	2019 Summary	2019 Compliance Status
Losses	%	3.8	4.1	4.42	4.72	NON-COMPLIANT
System Availability	%	99.70	99.32	99.52	99.43	NON-COMPLIANT
SAIDI (Excluding planned outages)	Mins/year	156	842	813	862	NON-COMPLIANT
SAIFI (Excluding planned outages)	#/year	5.2	6.96	8.12	6.41	NON-COMPLIANT
% of time frequency was outside limits	%	15	65.56	22.82	30.32	NON-COMPLIANT

### 2.1.3 Distribution

#### Monitoring of Distribution Systems of Power Utility Companies in Ghana

Pursuant to the functions of the Public Utilities Regulatory Commission (PURC) as outlined in Sections 3(c), 3(d) and 3(e) of the Public Utilities Regulatory Commission Act of 1997 (Act 538), the Commission carried out

a reliability and regulatory compliance monitoring and evaluation of the performance of the Northern Electricity Distribution Company (NEDCo) in the Ahafo, Bono and Bono East Regions of Ghana.

The Commission carried out its monitoring and evaluation exercise in the Volta and Oti Regions of Ghana, which fall under the jurisdiction of Electricity Company of Ghana. Reliability and Regulatory compliance, Monitoring and Evaluation were carried out to assess the efficiency and reliability of power supply of NEDCO and ECG in the above-mentioned areas. The performance of NEDCO and ECG in the aforementioned regions as per the Commission’s Reliability and Regulatory Compliance Score Card is presented in Table 12 below.

**Table 12: Reliability and Regulatory Compliance Score Card**

No.	Compliance Status	Rating	Description of Compliance
1	Compliant (High)	1	Compliant with no further action required to maintain compliance.
2	Compliant (Medium)	2	Compliant apart from minor or immaterial recommendations to improve the strength of internal controls to maintain compliance.
3	Compliant (Low)	3	Compliant with major or material recommendations to improve the strength of internal controls to maintain compliance.
4	Non-compliant	4	Does not meet minimum requirements.
5	Significantly Non-compliant	5	Significant weaknesses and/or serious action required.

### **2.1.3.1 Reliability & Performance – Volta & Oti Regions**

#### **Summary of Key Findings**

The following were the key issues identified during the compliance monitoring and evaluation exercise:

- No Root Cause Analyses (RCA) reports after equipment failure were sighted;
- Poor record keeping in the districts were noted. For example, fault sheets found with inaccurate information;
- Several linked fuses were also noted at the low tension sides of the distribution network;
- No energy meter audits were conducted at the district level;
- Unrestricted access and tampering of protective devices at ECG substations were noted.
- Several street lights were kept on during the daytime;
- ECG is having problems with some of their prepaid energy meters (especially, “Ghana Electro Meter (GEM)”). Issues like blank screen, failure to trip, reversing are some of the faults recorded on the meters.

#### **Compliance Scorecard for Volta & Oti Regions**

ECG’s operations were assessed with respect to safety, adequacy of logistics such as vehicles, work tools, spare parts, work materials and office space, availability of energy meters, compliance with quality of service benchmarks, new service connection procedures and applications, random meter test report, effectiveness of complaints handling procedures, technical data record keeping, maintenance activities and reporting, reliability including System Average Interruption Frequency Index (SAIFI), System Average Interruption Duration Index (SAIDI) and Customer Average Interruption Duration Index (CAIDI) indices among others.

Specific scores of ECG’s performance in the Volta and Oti Regions pertaining to the above mentioned performance indices are presented below in Table 13.

**Table 13: Summary of ECG’s Reliability and Regulatory Compliance Scorecard**

No.	RELIABILITY INDEX	COMPLIANCE STATUS				
		1	2	3	4	5
1	Safety			√		
2	Adequacy of Office Space		√			
3	Adequacy of Spare Parts and Work Materials			√		
4	Availability of Energy Meters				√	
5	Compliance with Quality of Service Benchmarks (Supply Voltage)		√			
6	New Service Connection Procedures and Applications			√		
7	Random Meter Test Report					√
8	Technical Data Record Keeping			√		
9	Maintenance Activities and Reporting			√		
10	SAIDI and CAIDI Data Recording				√	

**2.1.3.2 Overall Reliability and Regulatory Compliance Status**

The condition of equipment at the substations, distribution network infrastructure and installations, reliability of supply and overall performance of ECG, among others, in the Volta and Oti Regions were within acceptable limits with respect to the Reliability and Regulatory Compliance Score Card.

The Commission therefore, held the professional opinion that ECG should be rated as **COMPLIANT (LOW)** with PURC’s reliability and regulatory benchmarks, implying that ECG met the minimum requirements in the Volta and Oti Regions (please refer to Table 11 for explanatory notes to the various ratings on the scorecard and Table 12 for the compliance rating).

ECG, however, needs to take steps to improve its system to enable it attain full compliance regarding the Commission’s benchmarks by implementing the recommended measures.

**Table 14: Overall Reliability and Regulatory Compliance Table**

No.	RELIABILITY INDEX	COMPLIANCE STATUS				
		1	2	3	4	5
	OVERALL COMPLIANCE			√		

### **2.1.3.3 Recommendations**

Based on the Commission's evaluation, ECG's performance in the Volta and Oti Regions exceeded PURC's MINIMUM COMPLIANCE RATING, however, ECG needs to put in place measures to mitigate issues that were raised and discussed during the monitoring exercise. ECG is expected to assiduously work towards the attainment of full regulatory compliance in the following operational areas:

- Energy meter audit;
- Verification of installation completion certificate submitted by Energy Commission certified Electricians;
- Technical data recording and collation of reliability data;
- Provision of required sizes of low voltage fuses. This is to prevent linking of fuses by fault men.
- Availability of energy meter;
- Fencing and locking of all secondary substations, especially, those that are easily intruded;
- Use of materials that can withstand the coastal environment to reduce equipment failure rates along the coast.

It was recommended that ECG furnishes the Commission with steps it is taking together with timelines to address the following challenges mentioned in this report:

- Prevention of unauthorized access to its substations;
- Mitigating daytime street lighting;
- An audit report on the operational status of the Ghana Electro meter including all other brands of energy meters;
- Linking low voltage fuses;
- Reduction in frequent power outages due to loose contact within the low voltage distribution network, especially, in the Denu and Keta Districts.

### **2.1.3.4 Reliability & Performance – Bono, Bono East & Ahafo Regions**

#### **Summary of Key Findings**

The following were key issues identified during the compliance monitoring and evaluation exercise in Ahafo, Bono and Bono East Regions:

- Inadequate staffing in NEDCo's outstation offices (similar to ECG's District offices),
- Inadequate network protection systems leading to nuisance operation of protective devices,
- No Root Cause Analyses (RCA) report after equipment failure were sighted,
- Poor record keeping at the outstations were noted. The station supervisors attributed this to lack of the requisite number of staff,
- Several linked fuses were also noted at both the high and low tension sides.
- No energy meter audits have been conducted at the outstations this year as well as previous years,
- Unrestricted access and tampering of protective devices at NEDCo substations were noted,
- Lack of logistics at the outstations including vehicles,
- Several street lights were kept on during daytime.

- Some old prepaid energy meters (especially, “Holley meters”) fail to trip when purchased electricity credits are used up. However, no efforts are being made to withdraw them from service leading to significant revenue loss to NEDCo.
- NEDCo has run out of prepaid meters and replacing faulty ones with postpaid meters.
- NEDCo does not have many Point of Sale (POS) or mobile vending devices at the outstations. Consumers have to travel far to buy electricity units which has resulted in a number of illegal connections.

#### Compliance Scorecard for Bono & Ahafo Regions

NEDCo’s operations were assessed with respect to safety, adequacy of logistics such as vehicles, work tools, spare parts, work materials and office space, availability of energy meters, compliance with quality of service benchmarks, new service connection procedures and applications, random meter test report, effectiveness of complaints handling procedures, technical data record keeping, maintenance activities and reporting, reliability including System Average Interruption Frequency Index (SAIFI), System Average Interruption Duration Index (SAIDI) and Customer Average Interruption Duration Index (CAIDI) indices among others.

Specific scores of NEDCo’s performance in the Ahafo, Bono and Bono East Regions pertaining to the abovementioned performance indices are presented below in Table 15.

**Table 15: Summary of NEDCO’s Reliability and Regulatory Compliance Scorecard**

No.	RELIABILITY INDEX	COMPLIANCE STATUS				
		1	2	3	4	5
1	Safety			√		
2	Adequacy of Office Space			√		
3	Adequacy of Spare Parts and Work Materials			√		
4	Availability of Energy Meters			√		
5	Compliance with Quality of Service Benchmarks (Supply Voltage)			√		
6	New Service Connection Procedures and Applications			√		
7	Random Meter Test Report					√
8	Technical Data Record Keeping				√	
9	Maintenance Activities and Reporting				√	
10	SAIDI and CAIDI Data Recording					√

#### 2.1.3.5 Overall Reliability and Regulatory Compliance Status

The condition of equipment at the substations, distribution network infrastructure and installations, reliability of supply and overall performance of NEDCO among others in the Ahafo, Bono and Bono East Regions are outside acceptable limits with respect to the Reliability and Regulatory Compliance Score Card.

In the Commission’s view, NEDCO is rated **NON-COMPLIANT** as per PURC’s reliability and regulatory benchmarks shown in Table 15. This implies that NEDCO did not meet the Commission’s minimum requirements in the Ahafo, Bono and Bono East Regions (*please refer to Table 14 for explanatory notes to the various ratings on the scorecard and Table 10 for the compliance rating*).

NEDCO, therefore, needs to take steps to improve compliance with the Commission’s benchmarks by implementing recommendations outlined in this report.

**Table 16: Overall Reliability and Regulatory Compliance Table**

No.	RELIABILITY INDEX	COMPLIANCE STATUS				
		1	2	3	4	5
1	OVERALL COMPLIANCE				√	

### Recommendations

It is recommended that NEDCo furnishes the Commission with the following data about its operations in the Ahafo, Bono and Bono East Regions to enable the Commission ascertain NEDCo’s overall compliance status:

- Report on energy meter accuracy tests or audits conducted in the year, 2018,
- Status of the Network Protection System Implementation Study (NPSIS) in the Sunyani and Techiman Areas.

The Commission requested that, NEDCo furnishes it with steps it is taking together with timelines to address the following challenges mentioned in this report:

- Staffing issues in the outstations,
- Prevention of unauthorized access to its substations,
- Mitigating daytime street lighting,
- Eliminating linked fuses in its Operational Areas.

### 2.1.3.6 Reliability & Performance – Ashanti Region

#### Summary of Key Findings

ECG is undertaking a Strategic Business Unit (SBU) Concept in the Ashanti Region. The main way the business unit concept functions is that, there is an Operations Manager in charge of District Engineers in various District offices. The main issue identified was that a number of departments, work in silos and do not take instructions from other managers from other Departments. Thus, the existing structure made it quite difficult for the Commission to extract data from some departments. During the Commission’s visit, scheduled maintenance plans for the region was not available owing to internal restrictions. Efforts of the Commission to obtain a copy of the maintenance plan to enable track the progress of implementation proved futile, since none of the areas visited had the plan.

#### Compliance Scorecard for Ashanti Region

ECG’s operations were assessed with respect to safety, adequacy of logistics such as vehicles, work tools, spare parts, work materials and office space, availability of energy meters, compliance with quality of service benchmarks, new service connection procedures and applications, random meter test reports, effectiveness

of complaints handling procedures, technical data record keeping, maintenance activities and reporting, reliability including SAIFI, SAIDI and CAIDI indices among others. ECG's specific scores per each of the performance indices are presented below in Table 17.

**Table 17: Summary of ECG's Reliability and Regulatory Compliance Score**

No.	RELIABILITY INDEX	COMPLIANCE STATUS				
		1	2	3	4	5
1	Safety		√			
2	Adequacy of Office Space		√			
3	Adequacy of Spare Parts and Work Materials			√		
4	Availability of Energy Meters				√	
5	Compliance with Quality of Service Benchmarks (Supply Voltage)		√			
6	New Service Connection Procedures and Applications				√	
7	Random Meter Test Report					√
8	Technical Data Record Keeping		√			
9	Maintenance Activities and Reporting		√			
10	SAIDI and CAIDI Data Recording			√		

### Overall Reliability and Regulatory Compliance Status

The condition of equipment at the substations, distribution network infrastructure and installations, reliability of supply and overall performance of ECG among others in the Ashanti Region are within acceptable limits with respect to the Reliability and Regulatory Compliance Score Card.

The Commission is of the view that, ECG should be rated **COMPLIANT (Medium)** with the Commission's reliability and regulatory benchmarks (*please refer to Table 11 for the explanatory notes to the various ratings on the scorecard and Table 6.8 for the compliance rating*).

ECG, needs to take steps to improve compliance with the Commission's benchmarks by implementing recommendations outlined in this report to improve the strength of its internal controls.

**Table 18: Overall Reliability&Compliance**

No.	RELIABILITY INDEX	COMPLIANCE STATUS				
		1	2	3	4	5
1	OVERALL COMPLIANCE		√			

### Recommendations

The following are recommendations following the monitoring exercises in the Ashanti Region:

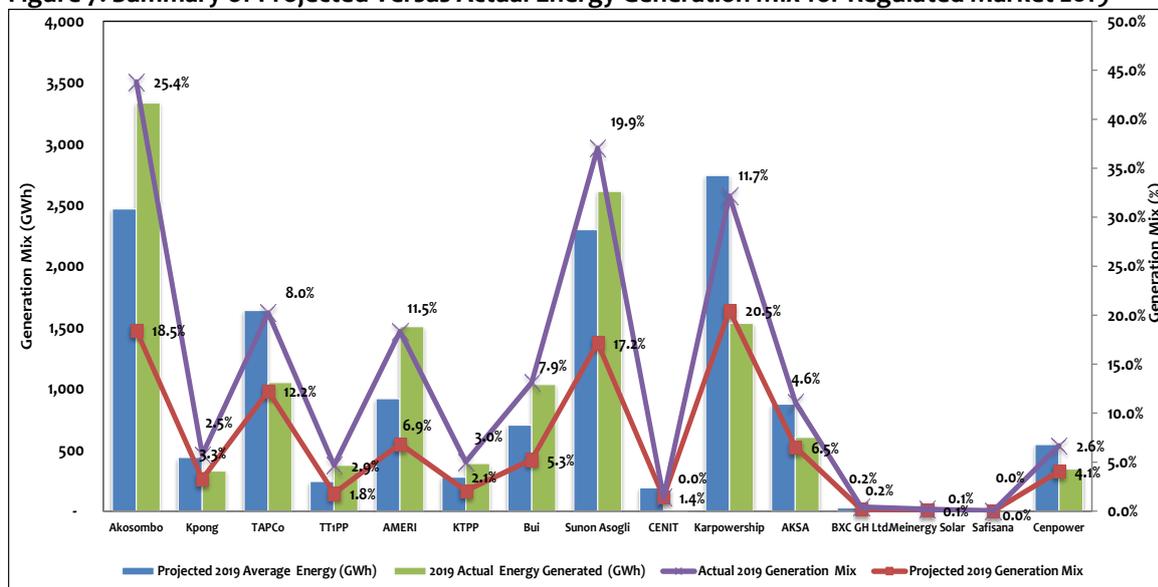
- ECG should take steps to harmonize data collection throughout its operational areas and also ensure these data is collected by the assigned officers.

- ECG should make efforts to correct rampant damage of equipment and meters and also carry out RCFA so as to secure compliance.
- ECG should use electronic means such as SCADA systems to accurately collect outage data at all voltage levels. Also, steps should be taken to capture customer outage durations due to meter faults and include these outages in the computation of the reliability indices.
- All Fire extinguishers should be serviced immediately and fire certificates displayed in the district offices.
- ECG should provide especially safety signage at its facilities.
- ECG should take immediate actions to ensure provision of relevant work materials and spares especially fuses for effective work.
- ECG should procure meters immediately in the bid to discontinue estimated billing of customers.
- Continue to improve system reliability by injections of transformers and introduce redundancy into the network.
- ECG should take immediate action to secure compliance of meter testing and maintenance requirements under the law.
- Frequent training should be organized for DTOs on the use of energy meter analyzers.

#### 2.1.4 Electricity Generation Audit

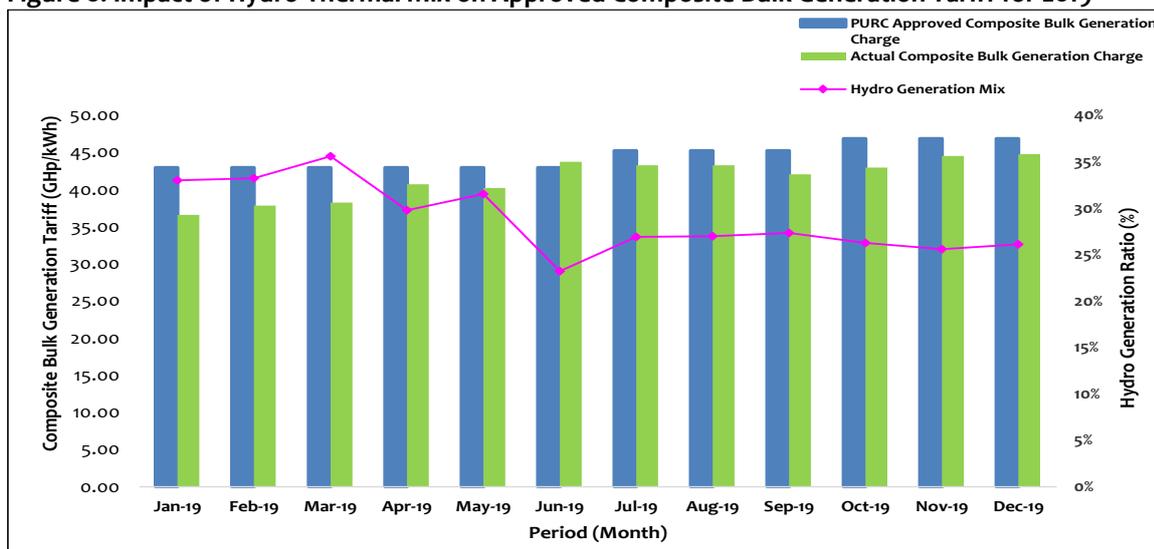
During the year, electricity generation data by power plant was compiled and analysed by the Commission. Results from analyses of both projected and actual electricity generation mix for 2019 indicate on average actual generation mix of 27.8% for Hydro and 72.2% for Thermal compared with Projected Generation Mix of 21.7% for Hydro and 78.3% for Thermal. These results are presented in Figure 7 below.

**Figure 7: Summary of Projected Versus Actual Energy Generation Mix for Regulated Market 2019**



Source: Computation from PURC Data and GRIDCo's Daily Electricity Generation Report, 2019

**Figure 8: Impact of Hydro-Thermal Mix on Approved Composite Bulk Generation Tariff for 2019**



Source: Computation from PURC Data and GRIDCo's Daily Electricity Generation Report, 2019

For the period under review, analysis was conducted on the impact of changes in actual Hydro-Thermal generation mix on PURC Approved Composite Bulk Generation Tariff (CBGT). The results indicate on average significant variations in actual CBGT compared with PURC approved CBGT as shown in Figure 8. An increase in actual Hydro Generation above projected Hydro Generation resulted in an actual CBGT lower than PURC approved CBGT. This is due to the lower cost of hydro generation relative to thermal generation.

### 2.1.5 Revenue Audit

The Commission reviewed revenues for VRA, IPPs, GRIDCo, ECG and NEDCo. Results from analysis of generation revenue data for VRA and IPPs, transmission revenue for GRIDCo, as well as distribution revenue for both ECG and NEDCo for 2018 are presented in Tables 19 and 20 respectively.

**Table 19: Summary of Projected and Actual Indicators**

Power Plant	Projected 2019 Electricity Generation (kWh)	Actual 2019 Electricity Generation (kWh)	PURC Approved Tariff (GHP/kWh)	Projected 2019 Revenue (GHS)	Actual 2019 Revenue (GHS)	Non Fuel Revenue (GHS)	Fuel Revenue (GHS)
<b>VRA Generation:</b>							
Akosombo	2,469,038,929	3,333,614,760	10.8652	242,498,910	320,918,927	297,081,867	15,881
Kpong	438,473,571	327,423,588	22.2746	88,650,841	104,642,612	100,986,080	3,656,531
TAPCo	1,638,735,000	1,049,821,000	41.4236	642,845,745	412,866,479	129,285,631	283,580,848
TT1PP	242,775,000	374,942,000	46.2275	118,113,657	174,688,108	27,170,682	147,517,426
Ameri	918,575,000	1,507,714,700	65.6039	543,144,176	875,951,429	360,782,637	515,168,792
KTPP	277,635,000	388,642,500	46.0782	122,009,445	171,458,111	36,306,731	135,151,380
<b>Total VRA</b>	<b>5,985,232,500</b>	<b>6,982,158,548</b>		<b>1,757,262,775</b>	<b>2,060,525,665</b>	<b>951,613,628</b>	<b>1,085,090,858</b>
<b>IPP Generation:</b>							
Bui	703,105,000	1,034,265,000	55.0574	345,020,815	519,353,233	519,353,233	-
Sunon Asogli	2,298,995,248	2,610,622,100	57.4331	1,385,719,829	1,584,727,538	763,571,521	821,156,017
CENIT	190,464,000	2,653,900	74.8536	142,569,161	1,986,540	517,732	1,468,807
Karpowership	2,741,700,784	1,532,871,500	59.6819	1,516,977,368	828,012,592	428,604,156	399,408,436
AKSA	874,086,551	601,867,400	74.6956	586,085,146	366,757,735	61,262,299	206,041,340
BXC GH Ltd.	26,268,000	27,122,037	108.2716	25,562,768	26,460,291	26,460,291	-
Meinergy Solar	13,500,000	11,722,218	97.4419	12,755,006	11,122,743	285,687	-
Safisana	692,500	333,591	94.0922	570,813.64	285,687.18	84,871,513	138,445,371
Cenpower	544,104,000	343,231,018	64.0086	339,632,191.94	212,194,141.76	1,884,926,431	1,566,519,972
<b>Total IPP</b>	<b>7,392,916,083</b>	<b>6,164,688,765</b>		<b>4,354,893,098</b>	<b>3,550,900,500</b>	<b>3,769,852,863</b>	<b>3,133,039,945</b>
<b>Total VRA&amp;IPP</b>	<b>13,378,148,583</b>	<b>13,146,847,313</b>		<b>6,112,155,874</b>	<b>5,611,426,165</b>	<b>4,721,466,491</b>	<b>4,218,130,802</b>

Source: Computed from PURC Data, 2019

**Table 20: Summary of Transmission and Distribution Revenues for 2019**

TSC and DSC Revenue Distribution	2019 Projected Electricity Transmission/Distribution (GWh)	2019 Actual Electricity Transmission/Distribution (GWh)	Tariff (GHP/kWh)	Weight of Cost Items in Tariff (%)	2019 Estimated Actual Revenue (GHS)
<b>GRIDCo:</b>					
Projected and Actual Energy Transmitted	10,609	11,372			
TSC Attributable to Operation, Maintenance, Return on Investment & Regulatory Levy			7.1421	78%	656,228,695.52
TSC Attributable to Losses			2.0047	22%	184,195,358
<b>Total TSC &amp; Revenue</b>			<b>9.1468</b>	<b>100%</b>	<b>840,424,053</b>
<b>ECC/NEDCo:</b>					
Projected and Actual Energy Distributed	8,794	10,008			
DSC Attributable to Operation, Maintenance & Return on Investment			16.1094	51.1%	889,231,504
DSC Attributable to Losses			15.4213	48.9%	851,248,699
<b>Total DSC</b>			<b>31.5307</b>	<b>100.0%</b>	<b>1,740,480,204</b>
<b>ECG:</b>					
Projected and Actual Energy Distributed	7,686	8,893			
DSC Attributable to Operation, Maintenance & Return on Investment			16.1094	51.1%	790,044,448
DSC Attributable to Losses			15.4213	48.9%	756,298,338
<b>Total DSC</b>			<b>31.5307</b>	<b>100.0%</b>	<b>1,546,342,786</b>
<b>NEDCo:</b>					
Projected and Actual Energy Distributed	1,108	1,114			
DSC Attributable to Operation, Maintenance & Return on Investment			16.1094	51.1%	99,187,056
DSC Attributable to Losses			15.4213	48.9%	94,950,361
<b>Total DSC</b>			<b>31.5307</b>	<b>100.0%</b>	<b>194,137,417</b>

Source: Computed from PURC Data, Operational Year 2019

## **2.2 The Urban Water Sector**

### **2.2.1 Audit of GWCL Treatment Plants**

The Commission carried out inspections and audits of GWCL facilities in Greater Accra, Western, Western-North, and Brong Ahafo regions. Based on these inspections and audits, major challenges faced by the water systems are presented below:

#### ***Compliance Monitoring in the Brong Ahafo Region***

Over the period, the Commission visited laboratories of all GWCL treatment facilities in Brong Ahafo region with the objective of carrying out audit of laboratory systems and processes; and to verify water quality data, which was submitted by GWCL. The data validation was occasioned by inconsistencies, which were detected during analysis of water quality data received from the utility. Analysis of the data revealed the inclusion of daily microbiological data in the report, which presupposes that microbiological tests were carried out on daily basis at the plants. However, findings of previous plant audits of the region revealed that none of the Treatment Plants had the capacity to perform microbiological analysis, thus, no daily microbiological tests were carried out at these Plants. Microbiological tests were rather conducted biweekly at the Regional Laboratories.

Key findings from the verification exercise have been listed as follows;

#### Discrepancies in data reporting

- a. Although the Commission receives data on daily presumptive test for *Escherichia coli* from the water treatment plants, the Commission's checks during its audit revealed that none of the Plants visited had a microbiology laboratory where the tests should have been conducted.
- b. Data on Turbidity values from Abesim Treatment Plant was submitted to the Commission on daily basis although the Plant did not have an equipment to measure the parameter.
- c. Information available in the Region reveals that microbiology tests are carried out twice a week for all the Plants and not on a daily basis as reported by GWCL.
- d. There is no uniform reporting template for all supply districts within the region. This implies that while some districts reported average figures for water quality parameters, others reported minimum and maximum daily values.

#### Other observations

- e. The chemical storage structure and equipment at Dwomoh Treatment Plant are both in a high state of disrepair.
- f. There are still complaints of industrial wastewater discharge into the river, which serves as raw water source for the Treatment Plant at Tanoso.

#### ***Compliance Monitoring in the ATMA Supply Region***

The Commission visited the Adam Clark, Bamag and Candy Treatment Plants at Weija; the Desalination Plant at Teshie; the Old and New Headworks, Tahal, and China Gezhouba Treatment Plants at Kpong. Other facilities inspected include the Accra Booster Station, the Tema Booster Station, the Sowutuom Booster Station, the Dodowa Booster Station, and the Boi Booster Station.

Key findings during the audit of GWCL facilities within ATMA are as follows:

1. All water treatment plants audited at Kpong were fully operational at time of the Commission's audit.
2. All fire extinguishers at facilities visited and audited in Kpong had expired.
3. Challenges with raw water at the intake point of Weija Headworks have minimized owing to the stationing of personnel from Operation Vanguard Task Force Teams.
4. Four of the filters at the Canadian Plant at the Weija Headworks were out of service at the time of the Commission's audit.
5. Minor rehabilitation works at Sowutuom Booster Station has made it possible for a wall to be built around the perimeter and the provision of an office together with a revenue collection point.
6. The Teshie Desalination Plant, as at the time of visit was fully operational and reported no major challenges.

### ***Compliance Monitoring in the Western North and Western Regions***

The Commission's audit of GWCL facilities in the two regions revealed that production equipment at the Treatment Plants have deteriorated. Operations of GWCL in the two regions still grappled with raw water quality challenges largely posed by persistent illegal mining activities. Structural damages to some critical facilities were also noticed during the Commission's inspections.

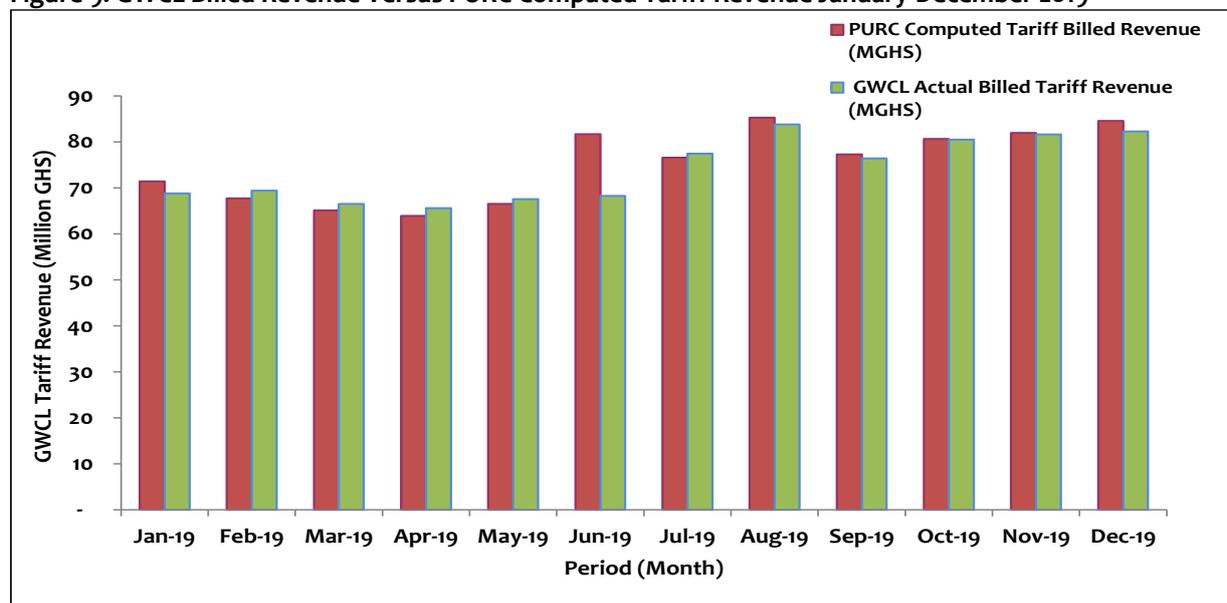
#### **Main findings:**

1. The state of chemical house at the Bonga Headworks which was captured during the Commission's audit in 2014 has seen no improvement. The structure which is still in use has further deteriorated and is on the brink of collapse.
2. Water supply to parts of Elubo has been impacted by the inability of the new systems constructed (under the Subsequent Year Investment Plans (SYIPs)) to operate. The system has been grounded since 2015 due to damaged transmission lines, which have since not been repaired hence the district's reliance on the old Borehole systems for water supply.
3. Colour and turbidity values for raw water remains significantly high due to disturbances to the water body as a result of illegal mining activities.
4. Operations of GWCL in the Western-North and the Western Region have been given a boost by some investments into improving the capacity of regional and treatment plant laboratories. These improvements have ensured the provision of essential equipment which have enabled the conduct of basic physico-chemical and microbial analysis.
5. Records of daily and monthly microbiological tests conducted at the Treatment Plants in the two regions are not included in data submitted to PURC.
6. Frequency of sampling in the two regions is constraint by a lack of dedicated sampling vans to facilitate the achievement of sampling targets through routine water quality surveillance of within the distribution networks.
7. The lack of bulk meters at some treatment plants in the region have resulted in the use of estimates based on pump ratings in reporting production volumes at these Plants.

### 2.2.3 Audit of GWCL's Tariff Revenue

The Commission undertook analysis of GWCL's tariff revenue, collections and payments for the period ending December 31, 2019. GWCL's performance with respect to tariff revenue is presented in Figure 9.

**Figure 9: GWCL Billed Revenue Versus PURC Computed Tariff Revenue January-December 2019**



Source: Prepared from PURC Data, 2019

The results presented in Figure-9 on GWCL's performance in terms of Revenue indicate a marginal decrease in Actual GWCL Billed Revenue over PURC's Computed Tariff Revenue averaging 1.4% over the period January to December, 2019.

### 11.0 GWCL Efficiency Analyses

The Commission conducted efficiency performance of GWCL comparing year 2018 with the period under review. Data parameters used in the analyses area presented in Table-21.

**Table 21: Summary of GWCL Efficiency Analysis for 2018 & 2019**

Description	Measure	2018	2019
Water Produced	Mm3	314.8	304.0
Water sold	Mm3	148.8	149.9
Revenue water	%	47.27%	49.31%
Billing (nominal)	MGCedis	923.9	905.4
Collection (nominal)	MGCedis	699.6	747.3
Average tariff	cedis per m3	6.21	6.04
Direct Operating Cost (Excluding energy) (nominal)	MGCedis	995.4	1,424.5
Energy (electricity and fuel) (nominal)	MGCedis	238.5	281.3
Depreciation (nominal)	MGCedis	758.7	790.2
Total Operating Cost (nominal)	MGCedis	1,233.9	1,705.8
Direct unit operating cost of water produced (nominal)	cedis per m3	3.16	4.69
Direct unit operating cost of water sold (nominal)	cedis per m3	6.69	9.50
Direct unit operating cost of paid for water (nominal)	cedis per m3	8.83	11.51
Direct unit energy cost of water produced (nominal)	cedis per m3	0.76	0.93
Direct unit energy cost of paid for water (nominal)	cedis per m3	2.12	2.27
Direct unit operating cost of water produced (nominal)	cedis per m3	2.40	3.76
Direct unit operating cost of water sold (nominal)	cedis per m3	5.09	7.63
Direct unit operating cost of paid for water (nominal)	cedis per m3	6.72	9.24
Unit cost of water produced (nominal)	cedis per m3	3.92	5.61
Unit cost of water sold (nominal)	cedis per m3	8.29	11.38
Unit cost of paid for water (nominal)	cedis per m3	10.95	13.79
Ratio of UfW to production	%	52.73%	50.69%
Ratio of collection to billing	%	75.7%	82.5%
Ratio of collection to production (Headline Efficiency)	%	36%	41%

Source: Prepared from PURC Data, Operational Year 2019

Results from efficiency analysis indicate the following:

- a. Volume of water produced reduced by 10.8Mm<sup>3</sup> from 314.8Mm<sup>3</sup> in 2018 to 304.0Mm<sup>3</sup> in 2019, that notwithstanding water sold increased marginally from 148.8Mm<sup>3</sup> in 2018 to 149.9Mm<sup>3</sup> in 2019. The low volumes produced can be attributed to declining levels of some water bodies, as a result of illegal mining and disruption of water supply from the Befesa Desalination Plant in the first half of the year.
- b. Non-Revenue water on the other hand decreased from 52.7% in 2018 to 50.7% in 2019, which is still above PURC Benchmark of 45%.
- c. Headline Efficiency or Revenue Creating Production which is expressed as the percentage of water produced converted into revenue collected increased in 2019, from 36% in 2018 to 41% in 2019.
- d. A decline in average tariff from 6.21GHS/m<sup>3</sup> in 2018 to 6.04GHS/m<sup>3</sup> in 2019 was achieved. This reduction shows an improvement in efficiency with regards to sales and collection. It must be noted that the policy of PURC is full recovery of efficient operation and maintenance costs by GWCL from water tariffs, hence GWCL must continue to improve its performance.

#### **2.2.4 Independent Investigations**

The Commission, contracted an independent investigation into complaints about water quality in the Central Region. The study which was carried out by the Water Research Institute (WRI) on behalf of the Commission involved sampling and analysis of drinking water from 200 designated sampling points in the Central Region for physico-chemical and bacteriological water quality. A summary of the results is presented below:

##### **Results and Findings**

Generally, results of the investigations on samples obtained at the Headworks of Ghana Water Company Limited conformed to standards of the Ghana Standards Authority in line with WHO Guidelines for drinking water. This is attributed to the efficacy of treatment processes at the Headworks. There was non-compliance in some samples obtained from other sections of the distribution network which suggested recontamination after treatment at the Headworks. The independent assessment also revealed improvements in the physico-chemical and bacteriological quality of water samples obtained during Round Two of sampling as compared to the first phase. Results of bacteriological tests from the second phase of sampling showed that 73% of the water samples were bacteriologically safe for drinking compared to an earlier 31% in the first round of sampling.

Turbidity, pH, Iron, and Residual Chlorine were the key physico-chemical parameters that were not in conformity with GS175-1 of the Ghana Standards Authority. Table 22 and Table 23 below compare the 1<sup>st</sup> and 2<sup>nd</sup> round key parameters for both physico-chemical and bacteriological assessments.

**Table 22: Compliance of physico-chemical parameters tested for during the independent investigation**

Key Parameters	GSA Standard	Percentage (%) of Results in Compliance		Remarks
		1 <sup>st</sup> Round	2 <sup>nd</sup> Round	
pH	6.5-8.5	87%	84%	In both round 1 & 2 investigations, pH values outside the standard range were below 6.5. Low pH values were mostly found in Cape Coast Zones 1,4, 5, & 6 for the 1 <sup>st</sup> round and Cape Coast Zones 1, 2 & 6 for the 2 <sup>nd</sup> round.
Turbidity	≤ 5NTU	94%	94%	The sampling points values which exceeded the standard in round 1 sampling did not coincide with sampling points in round 2 except one point.
Iron (Fe)	≤ 0.3mg/l	80%	90.5%	The iron concentration in the 2 <sup>nd</sup> round of sampling improved.
Residual Chlorine	≥ 0.2mg/l	95.8%	98.3%	The samples with residual chlorine of 0.0mg/l are very minimal. However, GWCL must monitor regularly.

**Table 23: The compliance of bacteriological parameters tested for during the independent investigation**

Key Parameters	GSA Standard	Percentage (%) of Results in Compliance		Remarks
		1 <sup>st</sup> Round	2 <sup>nd</sup> Round	
Total Coliform (TC) (cfu/100ml)	0	41%	88%	TC improved by 47% during the 2 <sup>nd</sup> round of investigation. However, it did not meet GSA standard.
Faecal Coliform (FC) (cfu/100ml)	0	93%	99%	Two (2) of the water samples of the 2 <sup>nd</sup> round investigation (Coconut Groove Hotel & Kotokraba) were contaminated with faecal coliform while the 1 <sup>st</sup> round samples had 13 contaminated.
E.coli (cfu/100ml)	0	98%	100%	E. coli counts were found in four (4) of the water points in round 1. These were Pedu Estate Arcan Plus, Regional Hospital, Wesley Girls and BH No.1. However, in the 2 <sup>nd</sup> round investigation, there was no E. coli counts. This is a major improvement.
Total Heterotrophic Bacteria (THB) (cfu/1ml)	≤500	50%	25%	THB percentage concentration in the 2 <sup>nd</sup> round sampling deteriorated compared to 1 <sup>st</sup> round investigation.

### Recommendations

The following recommendations were made following findings of the independent investigations:

- Efforts must be made to ensure that the quality of drinking water found within GWCL's distribution network at all times conform to the standards provided by GS 175.
- The incidence/occurrence of low pH values and high iron concentration in water supplied to some parts of the Cape Coast municipality should be thoroughly investigated and addressed.

- GWCL should maintain the right levels of chlorine dosing at the booster station so that the right levels of residual chlorine can be maintain in the distribution network.
- GWCL should liaise with District Assemblies to put in efforts that will ensure that garbage is not dumped on water distribution pipelines.

## 2.3 Consumer Care

### 2.3.1 Complaints Management

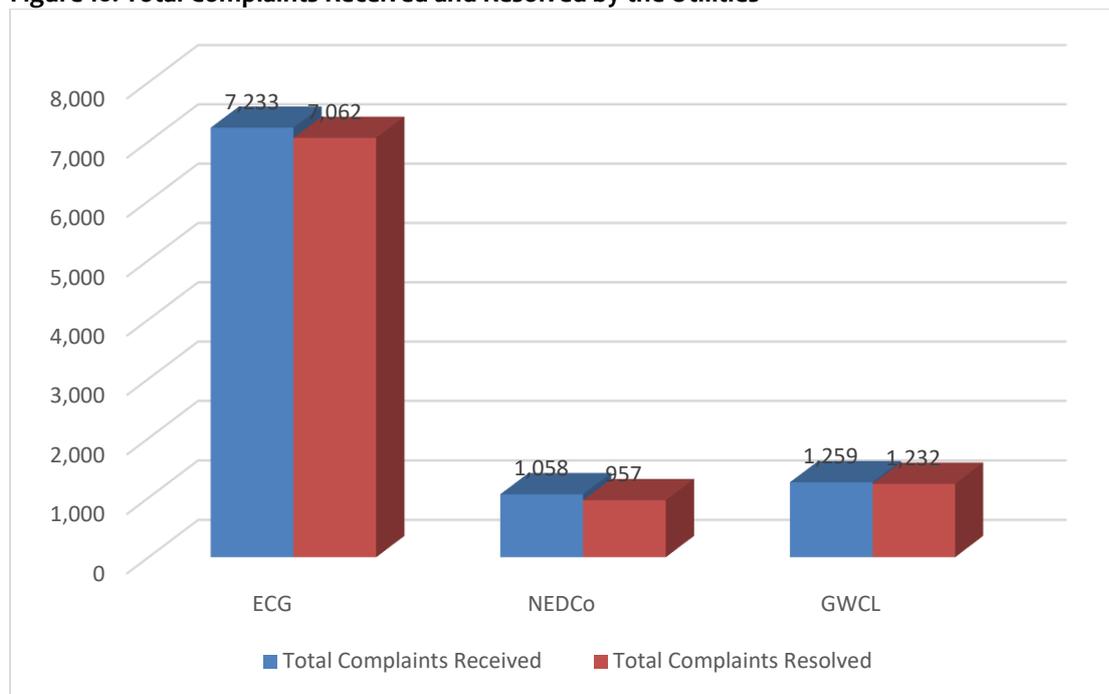
The Commission in 2019 received a total of Nine Thousand, Five Hundred and Fifty (9,550) complaints against the regulated electricity and water distribution utilities. Total consumer complaints resolved within the year was 9,251 representing 96.87% of the complaints received with the remaining 3.13% consisting of unresolved complaints, which are at various stages of investigations and resolutions by the utilities and the Commission. The details are represented in Table 24 below;

**Table 24: Total Complaints Received and Resolved by the Utilities**

<b>Complaints Statistics</b>								
<b>Regional Office</b>	<b>ECG</b>		<b>GWCL</b>		<b>NEDCo</b>		<b>Total</b>	
	<b>Against</b>	<b>Resolved</b>	<b>Against</b>	<b>Resolved</b>	<b>Against</b>	<b>Resolved</b>	<b>Lodged</b>	<b>Resolved</b>
Ashanti	744	674	40	36	-	-	<b>784</b>	<b>710</b>
Eastern	1,874	1,838	402	402	-	-	<b>2,276</b>	<b>2,240</b>
Western	1,054	1,023	31	28	-	-	<b>1,085</b>	<b>1,051</b>
Volta	384	381	70	70	-	-	<b>454</b>	<b>451</b>
Northern	-	-	169	151	490	391	<b>659</b>	<b>542</b>
Gt. Accra	3,177	3,146	455	455	-	-	<b>3,632</b>	<b>3,601</b>
Bono	-	-	92	90	568	566	<b>660</b>	<b>656</b>
<b>Total</b>	<b>7,233</b>	<b>7,062</b>	<b>1,259</b>	<b>1,232</b>	<b>1,058</b>	<b>957</b>	<b>9,550</b>	<b>9,251</b>

ECG received the highest number of complaints with 7,233 accounting for 75.74% of total complaints lodged. GWCL with one thousand, two hundred and fifty-nine (1,259) complaints representing 13.18% were lodged against GWCL while 1,058 complaints representing 11.08% of the total complaints received, were lodged against NEDCo.

**Figure 10: Total Complaints Received and Resolved by the Utilities**



With regards to resolution, ECG resolved seven thousand and sixty-two (7,062) of its complaints representing 97.64%, NEDCo, resolved nine hundred and fifty-seven (957) of its complaints representing 90.45% and GWCL resolved one thousand, two hundred and thirty-two (1,232) of complaints representing 97.86% of complaints lodged against GWCL.

**2.3.1.1 Trend of Complaints Resolution**

Figure 11 below, depicts the trend of complaints resolved at the Commission over a four-year period (2016 to 2019). The statistics suggests the total complaints lodged against the utilities in 2016 declined from 3,202 to 2,713 in 2017, which represents a decrease of 15.27%. The number, however, increased to 5,226 in 2018, representing an increase of 92.63% and further to 9,550 in 2019 which representing a 96.97% rise on the previous year’s figure of 2018. The rising trend in number of complaints received by the Commission over the period is attributable to aggressive engagement with consumers through outreach programmes, field complaints mobilization and the introduction of social media (e.g. whatsapp) interactions for complaint lodging.

**Figure 11: Complaints Management (2016 - 2019)**

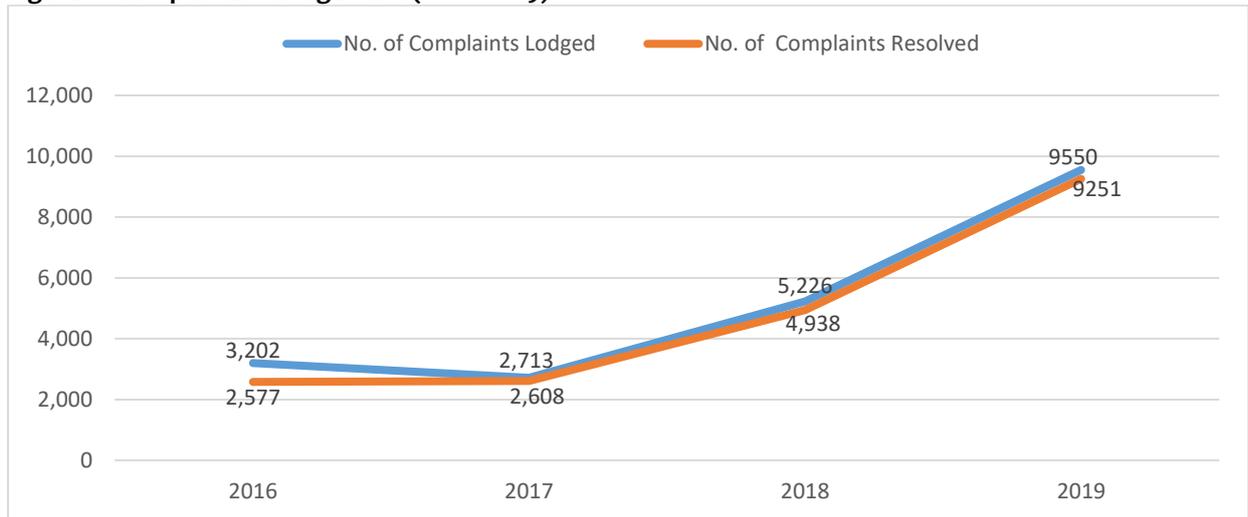


Figure 11 above indicates that complaints resolution increased by 15.6% from 80.5% in 2016 to 96.1% in 2017. It however decreased marginally by 1.6% in 2018 and again increased by 2.37% in 2019.

### **2.3.1.2 Categories of Complaints Lodged by Utility Consumers**

For the period under review, various categories of complaints were lodged by consumers against the regulated utility distribution companies. This have been broadly classified under Billing, Metering, Payment, Quality of Service, Unlawful Disconnection and Damaged Property as indicated in Table 25 below;

**Table 25: Categories of Complaints**

Utility	Regions	Damaged Equipment	Unlawful Disconnection	Payment	Quality of Service	Meters	Billing
ECG	Ashanti	0	22	26	223	74	399
	Eastern	0	24	40	984	114	712
	Western	7	71	19	171	144	565
	Central	0	10	4	5	4	54
	Volta	2	13	7	268	22	72
	Gt. Accra	7	16	26	536	161	2431
	<b>Sub Total</b>	<b>16</b>	<b>156</b>	<b>122</b>	<b>2187</b>	<b>519</b>	<b>4233</b>
NEDCo	Northern	1	29	18	289	49	104
	Bono	0	8	4	321	29	206
	<b>Sub Total</b>	<b>1</b>	<b>37</b>	<b>22</b>	<b>610</b>	<b>78</b>	<b>310</b>
GWCL	Ashanti	0	1	0	26	3	10
	Eastern	0	0	1	383	0	18
	Western	0	0	1	2	4	9
	Central	0	0	1	14	0	0
	Volta	0	1	1	57	1	10
	Gt. Accra	0	9	7	174	21	244
	Northern	0	2	9	89	28	41
	Bono	0	2	4	55	7	24
<b>Sub Total</b>	<b>0</b>	<b>15</b>	<b>24</b>	<b>800</b>	<b>64</b>	<b>356</b>	

**Categories of Complaints lodged against ECG**

Table 25 above shows that the nature of complaints lodged against ECG over the review period. Issues on billing (mostly centring on wrong reading and over-billing) constituted the highest number of complaints lodged against the utility, accounting for 58.52% of the total complaints lodged. Issues on the Quality of Service provided by ECG, representing 30.24%, was the second highest complaint lodged. In this category, most of the complainants were not satisfied with the stability of power supplied by ECG as well as delays in new service connections. The third highest issue complained about against ECG was on Metering constituting 7.18%. The rest of the complaints were on Unlawful Disconnection, Payments and Damaged Property complaints constituting 2.15%, 1.69% and 0.22% respectively.

### **Categories of Complaints lodged against NEDCo**

A total of one thousand and fifty-eight (1,058) complaints was received by the Commission in the NEDCo operational areas. Amongst the complaints received, issues pertaining to quality of service representing 57.66% were the most dominant. Frequent power outages were more rampant. This is as a result of customer connections, which are placed on long distribution service lines covering large areas. Thus, an outage in an area affects a lot of customers on that particular distribution network. Delays in New Service Connection to consumers was also another contribution for the high numbers of complaints on Quality of Service in the NEDCo jurisdiction. The wide network coverage coupled with low staff strength of the service provider was noted as the main reason for delays in customer connections. This situation means that staff would have to travel for long distances to rectify faults, causing delays in restoration of power outages. Billing issues bordering mainly on over-billing emerged as the second highest complaint from the NEDCo jurisdiction. This accounted for 29.30%, of the total number of complaints, whilst issues on metering, unlawful disconnection, payment reconciliations, and complaints on damaged equipment accounted for 7.37%, 3.49%, 2.08% and 0.09% respectively.

### **Categories of Complaints lodged against GWCL**

Quality of Service issues represented 63.54%, of complaints lodged by consumers against GWCL in the year 2019. These complaints bordered largely on no flow of water to customers and leakages in the distribution mains. Issues on billing which constituted the second highest complaints against GWCL accounted for 28.28% of total complaints received, whilst issues on Metering, Payment Reconciliations and Unlawful Disconnections accounted for 5.08%, 1.91% and 1.19% of total complaints respectively.

#### **2.3.1.3 Impact of Complaints Management**

As part of the Commission's complaints resolution process, it was realised during investigations that some customers merited credit sale adjustments mostly due to discrepancies in bulk billing and in some instances overbilling by the regulated utilities. As a result, defaulting utilities were instructed to pass adjustments to correct those anomalies. In total, a sum of GHS1,664,034.48 was awarded to accounts of customers, which sum comprised credit adjustment of GHS1,579,034.38 and GHS85,000.00 as compensation. Compensation amounts were awarded after investigations revealed that some activities of ECG directly resulted in damage to equipment of some customers for, which affected parties had demanded payment of compensations. Table 26 below shows the regional distribution of the various sums awarded.

**Table 26: Adjustment and Compensations in Favour of Complainants**

Region	Credit Sales Adjustments	Compensation	Total
Ashanti	281,591.00	0	281,591.00
Eastern	31,191.19	0	31,191.19
Western	108,952.29	0	108,952.29
Volta	10,000.00	85,000.00	95,000.00
Bono	41,375.31	0	41,375.31
Greater Accra	1,105,924.59	0	1,105,924.59
<b>Total</b>	<b>1,579,034.38</b>	<b>85,000.00</b>	<b>1,664,034.38</b>

### 2.3.2 Community Monitoring

Community monitoring was undertaken by the Commission in thirty-nine (39) communities to ascertain actual quality of service delivery from consumers, community leaders and the public within those communities. Communities visited during the monitoring exercises are listed in Table 27 below:

**Table 27: Communities monitored**

REGION	COMMUNITIES
Western	Apemanin, Ajumako, Abura, Asasetre, Krisan and Eikwe.
Ashanti	Oduro community.
Eastern	Abetifi, Akwasihho, Kwahu Praso, Mpraeso, Obomeng, Akwatia, Kade and Akim Oda.
Volta	Kpeve, Dzemeni, Kpando, Nkonya Tayi, Jasikan, Nkwanta, Dambai, Mafe-Kumase, Adidome, Sogakope, Dzodze, and Ave Dakpa.
Bono Ahafo	Techiman, Wenchi, Jema, Kintampo, Nkoranza, Atebubu and Yeji.
Northern	Bolga, Bawku, Navrongo and Paga.

The community monitoring exercise focused on the following:

- The general challenges consumers face in their communities with regards to service provision,
- Individual issues with regards to billing, metering, disconnections, etc.
- Community wide issues like over loaded transformers, damaged transformers, no flow of water, prolonged outages, etc.
- Issue of new service connections and how long it takes them to acquire the service,
- Investigate how community members are treated when they visit the offices of the various utilities,
- Assess the community members' attitudes towards the use of utilities,
- Educate community members on the need for conservation and,
- Receive consumer complaints on utility service provision in the various communities.

The outcome of monitoring revealed the following:

1. Service Providers' inability to capture Self Help Electrification Programme (SHEP) customers for billing, resulting in bulk billing which normally leads to agitation. An example was the issue in Somanya which resulted in the death of a member of the community,

2. Installation date and set up date for these SHEP customers were also identified to be a challenge which also results in over billing,
3. The use of substandard electricity poles for connection to homes was identified in most of the communities visited,
4. Low voltages and frequent outages was observed in most of the communities.
5. Overgrown weeds on high tension lines and,
6. Burnt poles.

In the aftermath of the Commission's monitoring activity, critical findings were discussed with the District and Regional Managers of the utilities for remedial actions on emerging issues. The resultant actions are as follows:

- Delivery of bills to SHEP customers who had never been billed and given enough time to pay the outstanding
- The passing of adjustments passed in favour of bulk billed customers,
- Reconciliation of meter installation dates and set-up dates of meters as was done in Somanya in the Eastern region,
- Replacement of burnt poles in some communities,
- Clearing of the undergrowth of high tension poles to prevent outages, and
- The injection of new transformers in areas requiring same.

**Figure 12: Complaint Clinic being undertaken after interaction with some community members in Accra**



**Figure 13: Supervision of replacement of burnt poles and clearing of undergrowth during Community Monitoring**



### **2.3.3 Appraisal of Customer Service Centres and District Offices**

To enforce standards of performance at the Customer Service Centres (CSC) and District Offices (DO) of the regulated utilities, the Commission undertook monitoring of a total of One Hundred (100) CSC and District Offices of the regulated utility companies in the ten (10) administrative regions. The Centres and District Offices monitored comprised of forty-nine (49) ECG centres, twenty-eight (28) NEDCo centres and forty-eight (48) GWCL centres as shown in Table 28 below:

**Table 28: Monitored Customer Service Centres and District Offices**

REGION	ECG CENTRES (32)	No.	GWCL CENTRES (26)	No.
<b>GREATER ACCRA</b>	Prampram, Ada, Kwabenya, Dodowa, Roman Ridge, Teshie, Legon, Dansoman, Korle-Bu, Bortianor, Nsawam, Achimota, Kaneshie, Tema North, Tema South and Afienuya.	<b>16</b>	Dome, Kwabenya, Accra East, Adenta, Dodowa, Nungua, Kasoa, North West, Amasaman, Nyanyano, Bortianor, Sakumono, Gbetsele, Batsoona, Ada and Ashaiman East/West.	<b>17</b>
<b>ASHANTI</b>	Bekwai, New Edubiase, Obuasi, Dunkwa, Konongo and Mampong.	<b>6</b>	Obuasi, Mampong, Kumawu and Konongo.	<b>4</b>
<b>EASTERN</b>	Koforidua, Akwatia, Kade, Akim Oda and Akim Tafo.	<b>5</b>	Akim Oda, Kade, New Juaben West, Akim Tafo and Akwatia.	<b>5</b>
<b>CENTRAL</b>	Ajumako, Breman Asikuma, Swedru, Winneba and Kasoa North/South.	<b>6</b>	Ajumako Besease, Swedru, Winneba and Budumbuam.	<b>4</b>
	<b>VRA/NED CENTRES (31)</b>		-	
<b>BRONG AHAFO</b>	Sunyani, Berekum, Dormaa, Tapa, Wamfie, Sampa, Drobo, Kenyase, Mim/Goaso, Dua Yaw Nkwanta, Bechem, Techiman, Hwidiem, Kokuom, Wenchi, Kintampo, Jema, Yeji, Atebubu, Nsawkaw and Akomadan.	<b>21</b>	Sunyani, Berekum, Dormaa and Techiman.	<b>4</b>
<b>NORTHERN</b>	Salaga, Bimbila, Zabzugu Tatale, Saboba, Chereponi, Yendi, Gushiegu, Tolon Savelugu and Karaga.	<b>10</b>	Yendi and Salaga.	<b>2</b>
<b>Total</b>		<b>64</b>		<b>36</b>

**Observation at the Electricity Company of Ghana Centres****Outlook**

On the whole, outlook of the Customer Service Centres and District Offices visited during the year under review was satisfactory. The location of the service centres made them accessible and convenient to identify with adequate directional signs. A chunk of these centres are located near Central Business Districts of their respective areas, with the exception of the Dodowa District Office (Accra-East Region of ECG), where operations are undertaken in metal containers. The Nsawam and Bekwai centres at the time of the Commission's visit did not have adequate space. This constraint compelled some staff to operate under trees, a situation likely to impact on productivity, health and safety.

**Figure 14: Staff of ECG, Bekwai Office working under trees**



### **Customer Care**

Most CSCs and offices visited during the Commission’s monitoring exercise had in place items that made the conduct of their operations customer-centered. A good number of offices had padded leather seats (benches and chairs) to provide comfort to visitors with the exception of the New Edubiase Centre where the cushions in some of the furniture were exposed. The Commission noticed improvements in efforts to educate consumers mainly through the bold displays of written instructions and processes including displays of PURC Tariff Reckoner and other consumer educational materials and utility brochures at the various Centres and District Offices. Some education was also carried out on local FM radio stations in some selected areas, which normally bothers on illegal connection, new service acquisition as well as energy conservation.

**Figure 15: Obsolete furniture at the reception of New Edubiase Office**



## **Resource**

There were enough facilities and equipment at Service Centres and District Offices to ensure efficient delivery of service provision. These included some utility vehicles, computers, cash machines and dedicated telephone lines. The Commission also noticed some improvements in the Complaint Management procedures in the centres visited. The Centres kept consumer complaint management records, which indicated timely resolutions as well as fault management. Audit of records at the centres visited revealed that most customers served by these centres had meters. However, there are currently challenges with the allocation of meters to new service connections and these have caused delays in the connection of new customers to service supply. Checks revealed increasing revenue mobilization and collection ratio at the Centres visited in the reporting period. A key constraint however was with the low staff strength at the faults and maintenance sections in almost all Centres visited hence the need to augment staff strength to ensure prompt attendance to faults and overall service delivery.

## **Observations at the Northern Electricity Distribution Company Centres**

### **Outlook**

Similar to what pertained with ECG centres, most of the District Offices or CSCs of NEDCo monitored were accessible with adequate directional signs appropriately positioned to aid customers in locating the offices. There were however congestions at the offices of NEDCo where small office spaces were crowded with materials and personnel during working hours. Offices were also in dire need of refurbishments to create ambience and project a good image of the service provider in their various operational areas.

## **Customer Care**

Checks with Management of NEDCo District Offices or Centres indicates that, the utility has been unable to conduct planned consumer education with operations during the year. Nonetheless, one-on-one education with consumers is carried out anytime clients visited NEDCo offices and CSCs. Some of the notable complaints and faults at all District Offices or Centres included power outage, meter theft, billing related concerns, fallen conductors, phase-offs, broken poles, burnt poles, faulty meter related issues and delays in new service connections.

The utilities visited during the Commission's exercise within the period under review were found to suffer delays in responding to application for new service connections. These delays were mainly due to human resource constraints and inadequacy of logistical support. The situation has been persistent regardless of the company's effort to decentralize metering processes to the District Offices or Centres for timely connections. It was also noted that, non-availability of materials for job execution is a key reason for delays in new service connection. Given the circumstances under which the utilities operated, some customers were unmetered, instead, they have been placed on estimated rates based on contracted energy.

Figure 16: A facelift of the frontage of Dormaa Office following the Commission's Monitoring Visit



### Resources

Generally, the District Offices or Centres within the NEDCo jurisdiction require adequate staffing for their operations. Inadequate staffing was observed in all Centres visited, which invariably contributes to delays in responding to faults and rendering other vital services. Additionally, logistics such as computers, motorbikes and vehicles to improve overall operational efficiency are limited. The logistical challenges coupled with overcrowded work spaces greatly affects the delivery of service provision to customers. Revenue mobilization is also a key challenge for the centres visited during the Commission's exercise. At the time of audit, revenue mobilization stood approximately at 65% of the collection targets, which has cash flow implications for the Company. The shortfall in revenue mobilization has been attributed to delays in issuing out monthly bills – a situation the Company should make efforts to improve.

### Observations at Ghana Water Company Limited (GWCL) Centres

#### Outlook

The general ambience in most of GWCL's District Offices or Customer Service Centres visited projected an impressive outlook, suitably located with adequate directional signs. A number of District Offices or Centres were housed in neatly painted GWCL colours, reflecting the brand and corporate image of the Company.

**Figure 17: A newly constructed office complex of GWCL**



### **Customer Care**

All Centres monitored over the period under review, did not undertake any form of mass consumer education. These centres only engaged in one-on-one education with consumers who visited their offices to transact business. New Service applications were recorded in books in all Offices visited, with a range of 14 to 30 days, over which, paid up customers are connected. According to the CSCs, there has been a decline in the numbers of applications for new service connection and separate metering. The decline was driven mainly by the rising cost of connection materials and prices of newly introduced smart meters. The net effect of this development has been the inability of a section of the populace to get access to the provision of water services into their facilities.

### **Resources**

Major constraints faced by GWCL Customer Service Centres (CSCs) and District Offices hinge on inadequate facilities and equipment to aid the Company's operations. These constraints have affected the achievement of company targets on metering ratios. Same challenges have bedevilled the attainment of ratio of revenue collection which currently stands in the region of 70% to 80%, leading to a decline in cash flows. During the Commission's visit, various District Offices and Centres complained about the nonavailability of robust operational vehicles to facilitate effective and efficient operations. Staff believe that the availability of such essential logistics will go a long way to improve the response time to customer issues which will in turn promote customer satisfaction.

### **Impact of monitoring activities on service provision**

As a follow-up to monitoring activities undertaken by the Commission, the findings were discussed with the District and Regional Managers of the relevant utilities to find remedial actions to key observations made by

the Regulator. Discussions on the various visits paid to the CSCs in 2019 yielded the following interventions and or measures:

- Improvements in the general working environment of CSCs and District Offices (Dos) of the regulated utility companies. Most CSCs and DOs have made efforts to provide enough seating capacity for their customers who visit the premises. General ambience and ventilation have been improved in some regard, with the provision of air conditioning units in some waiting areas for customer comforts.
- Deepening of relationships between Service Providers and their customers, the regulated utilities have made efforts to improve on consumer education in their respective jurisdictions. These efforts have culminated in the decentralization of consumer education programmes to District Offices. Prior to the Commission's visit, such educational programmes were carried out only at the Regional Offices.
- There have been improvements in response time to complaints lodged by customers. This was evident from checks through fault management records conducted by the Commission in follow-up visits to CSCs and Dos, which were lagging behind in providing prompt responses to customer complaints. The deployment of the Customer Management System (CMS) software in some ECG operational areas has also given the logging and tracking of consumer complaints a huge boost. This has helped in the speedy resolution of complaints.
- Increased number of pay points and the introduction of Third-Party Vending Stations has alleviated the plight of customers having to walk long distances to vend power or pay their bills. The presence of customer service desks in most district offices and Customer Service Centres has also helped with operations of these utilities. Hitherto, this was lacking in the conduct of business within NEDCo operational areas.

### 3.1 Tariff Review

#### **2019 Review of Electricity and Water Tariffs**

The Commission conducted a Major Tariff Review, having received tariff proposals from Volta River Authority (VRA), Ghana Grid Company Limited (GRIDCo), Power Distribution Services Limited (PDS), Electricity Company of Ghana Limited (ECG), Northern Electricity Distribution Company (NEDCo), Enclave Power Company Limited (EPC), Ghana National Gas Company Limited (GNGC) and Ghana Water Company Limited (GWCL) with the regulated Utilities requesting upward adjustments in their respective tariffs. In arriving at a decision, the Commission conducted preliminary review of data contained in the various proposals with a view to ascertaining accuracy and sufficiency of data submitted. Additionally, validation sessions were conducted with Utility Service Providers, during which discrepancies and additional information required was addressed.

The Commission, in determining prudent bulk electricity and water production or electricity generation tariffs, took into consideration, technical benchmarks established by PURC. These benchmarks include heat rates, fuel characteristics such as calorific value and specific gravity of the various fuel types (Light Crude Oil, Heavy Fuel Oil and Natural Gas) for power generation together with plant availability and efficiency. In addition to the technical benchmarks noted above, financial and economic benchmarks, market-driven (fuel prices) and macroeconomic variables (Ghana Cedi-US Dollar Exchange rate and Inflation rate) were also considered.

With regards to electricity and water transmission and distribution, similar technical, economic and financial benchmarks established by PURC were used to determine prudent administrative and general expenses, operation and maintenance expenses as well as human resource expenses. In the case of water production, costs including chemical cost, cost of electricity as well as technical benchmarks and macro-economic variables noted above were considered.

As a major policy shift aimed at enhancing the competitiveness of Ghanaian industries, the Commission revised the electricity tariff structure by eliminating Maximum Demand Charges in the Special Load Tariff (SLT) Category.

### 3.2 Quarterly Automatic Adjustment Formula (AAF)

With respect to tariff adjustments based on the Automatic Adjustment Formula (AAF), the Commission reviewed, analysed and determined tariffs for the Fourth Quarter 2019. This covered the period October 2019 – December 2019.

Using available macroeconomic variables, generation mix and fuel prices, the Commission's analysis, indicated a marginal upward adjustment in tariffs, with the Commission approving a 5.94% increase in electricity tariffs and 2.22% increase in water tariffs across all customer categories effective October 01, 2019.

### **3.3 Natural Gas Tariffs**

The Commission approved a new Weighted Average Cost of Gas (WACOG) effective July 01, 2019. WACOG is the price used by the Commission to determine the Fuel Recovery Charge component of the total applicable tariff, which is approved by the Commission for each of the generation plants supplying electricity to the regulated electricity market. Components of the WACOG include the Weighted Average Gas Commodity Charge (WAGCC), Weighted Average Gas Transmission Service Charge (WAGTSC) and Weighted Average Gas Service Charge (WAGSC)

### **3.4 Public Education**

The Commission in 2019 took its public education programme to its stakeholders at schools, churches, Municipal and District Assemblies, Churches and Artisan Groups in order to educate consumers on their rights and responsibilities. These were rolled out in the form of outreach programmes, mostly in the form of community durbars and meetings during which the Commission's brochures and leaflets were distributed as educational materials. The Commission resorted to the use of social media platforms and other internet portals to augment its public educational campaigns.

#### **Schools/Consumer Education**

The campaign to educate the youth in schools was extended to thirty-two (32) schools in six regions including Greater Accra, Ashanti, Western, Eastern, Brong Ahafo and Northern regions where over 30,000 students, teaching and non-teaching staff participated. The educational programmed dealt with topics such as: 1. *The role and functions of the Commission*; 2. *Regulation on Termination of service*; 3. *Complaint Procedure* and 4. *Conservation towards efficient and effective use of power and water*. Subsequent to the Commission's presentations, quizzes were organized to assess the level of the students understanding of the subject matter presented to them. Some awards in the form of exercise books and other educational materials were mostly given to deserving participants.

Table 29: List of Participating Schools

Regions	No. of Schools	Schools
Gt. Accra	4	Atomic Senior High School, St. John Grammar Senior High School, Salem Senior High School and Christian Methodist Senior High School
Ashanti	2	Asare Bediako Senior High School and New Edubiase Senior High School
Eastern	2	Asamankese Senior High School and Kade Senior High Technical School
Western	8	Fijai Senior High School, Nsein SHS, Eguafoman SHS, Aburaman SHS, Cape Coast Technical University, Effia Nkwanta Nursing and Midwifery Training, Holy Child College of Education and Shama SHS
Brong Ahafo	7	Sunyani Senior High School (SUSEC), Twene Amanfo Sec/Tec, SDA Senior High School, Sunyani Nursing and Midwifery Training College, Ntotroso Nursing and Midwifery Training College, Tanoso Nursing and Midwifery Training College and Yamfo College of Health
Northern	9	Pagnaa SHS, Pong-Tamale SHS, Nobisco SHS, Savelugu SHS, Bagabaga College of Education, Tamale Technical University, Tumu SHS, Jirapa SHS and Lawra SHS,

Other form of consumer engagements includes but not limited to the following:

- Meeting with Metropolitan, Municipal, District Assemblies (MMDAs)
- Other groups and Associations.
- Radio programmes
- Bumper to Bumper, where staff goes to lorry stations to meet and interact with transport operators and passengers and take their concerns. The Commission's posters with information on the need to use the Commission's services to resolve complaints are pasted on vehicles.

#### **Impact of the Consumer Engagement**

- An increase in the number of people using the services of the Commission to resolve their complaints as seen in the complaint statistics.
- The general regulatory image of the Commission has been given a boost by increased consumer confidence and awareness.

**Figure 18: A gallery of activities undertaken as part of PURC's consumer engagement programmes**



**Community Engagements in the Western Region**



**Community Engagements in the Brong Ahafo Region**



**PURC's Education at some MMDCEs**

**Figure 19: PURC Activities on Consumers' Day Out**



### 3.5 Compliance and Legal Processes

#### Enforcement

- *In the Matter of an Application to Enforce a Decision of the Public Utilities Regulatory Commission: Public Utilities Regulatory Commission vrs Ghana Water Company Ltd. Suit No GJ 431/19*

The above suit was initiated by the Commission under the enforcement provisions in Act 528. Due to the ability of GWCL to collaborate with the Commission leading to an out-of-court settlement of the issues, the Commission withdrew its above suit from the High Court in May 2019. The outcome was that the Commission protected consumers' interest by ensuring that unfair earnings retained by GWCL from the Befesa Desalination Plant project were repaid to consumers.

- *Mohammed Bashiru, Seth Tagoe vrs Ghana Water Company Limited, Public Utilities Regulatory Commission. Suit No. GJ 849/2019*

In the above suit filed in the High Court by Mohammed Bashiru and Seth Tagoe against GWCL and PURC, the Plaintiffs sought a declaration that the operations and impact of GWCL's contract with Befesa Ghana Ltd. for the desalination of sea water for consumption was not in the best interest of the Ghanaian taxpayer and must therefore be annulled. Secondly, they sought an order for GWCL to discontinue all contact with the project. In the view of the Commission, the pleadings disclosed no reasonable cause of action against PURC. The High Court granted the Commission's application for PURC to be struck out as a party to the suit. PURC is not a party to supply agreements entered into by utility companies but is rather a regulator that ensures

that the public interest is protected. As demonstrated by the Commission's own enforcement action in Suit No GJ 431/19, PURC continues to monitor the project to ensure fairness to both GWCL and consumers.

### **Notifications**

During the period under review, the Commission had cause to issue a Notification to GWCL in respect of their breach of section 24 of Act 538 in failing to submit periodic regulatory data required by the Commission.

A Notification was also issued to Power Distribution Services and Electricity Company of Ghana for their failure to submit details of the negotiated rates for customers in the SLT-MV category to the Commission for approval.

The utility companies complied with the Notifications.

### **Regulatory Orders**

The Commission issued a number of Regulatory Orders in the year under review. These were as follows:

A. Petition of Power Distribution Services Limited (PDS) - Order No. PURCPDS0022019 dated 21<sup>st</sup> August 2019.

PDS, upon the Commission's approval of electricity tariffs effective 1 July 2019, sought to suspend the implementation of the tariffs on the assertion that the tariff decision was not made in full compliance with the PURC Rate Setting Guidelines. The Commission established a Panel under its Formal Hearing Rules which included external experts. The Panel investigated the Petition and found that PDS was not entitled to the reliefs sought. The reasons included (a) PDS filed the petition within days of the tariff announcement without giving the Commission an opportunity to issue its detailed Tariff Decision Paper which would have addressed the issues raised in the petition and (b) based on PDS' admission that its proposed rates were estimates which would be improved following its operation of the distribution system, the Commission duly put PDS on notice that the 2019 tariff decision would be based on the 2018 tariff approved by the Commission for ECG.

B. Order No. PURCECG0012019 dated 10<sup>th</sup> July 2019 in Seth Owusu vrs Electricity Company of Ghana (ECG), Formal Complaint Ref: PURC/FHS/COMP/003/17.

The Complainant, Seth Owusu submitted a complaint to the Commission against ECG for issuing him a bill with arrears of GHS5,800.00 after ECG failed to furnish him with a bill between January 2016 and September 2016. Mediation failed and the complaint was forwarded for hearing before the Formal Hearing Panel. The Commission upheld the commendations of the Panel and issued an Order to that effect. The decision of the Commission as captured in the Order to both parties was as follows:

- ECG was entitled but not obliged to recover the difference between estimated bills paid by the Complainant and the value of 600 units per month, in accordance with the tariff prevailing at the time.

- In accordance with Section 13 (2) of Act 538 and Regulation 41 of LI 1816, ECG shall compensate the Complainant by way of a waiver of 50% of the amount to be recovered.
- The outstanding arrears upon application of the waiver shall be paid by the Complainant in instalments over a period not less than nine months without interest.
- In the event that the Respondent exercises its discretion to forego recovery of the shortfall, Complainant shall not be entitled to any compensation.

C. Order No. PURCECG0022019 dated 1<sup>st</sup> November 2019 in respect of Clement Akapame (Complainant) and Electricity Company of Ghana (Respondent), Formal Complaint Ref: PURC/FHS/COMP/001/18.

The Complainant submitted a complaint to the Commission claiming compensation of Four Million and Sixty-Eight Thousand Two Hundred and Seventeen Ghana Cedis (GHS4,468,217.00) for damage suffered as a result of a fire outbreak which occurred on the first floor of the Complainant's house. The Complainant alleged the fire outbreak was as a result of a fault from the Respondent. The Respondent denied being solely liable claiming that the liability must be shared between the Complainant and Respondent. During the course of the hearing, the Complainant amended his claim from GHS4,468,217.00 to One Million Eight Hundred and Forty-Three Thousand Two Hundred and Seventeen Ghana Cedis GHS1,843,217.00 by withdrawing his claim for loss of furniture, furnishing and personal belongings. The complaint was heard through Mediation followed by Formal Hearing. The Commission upheld the recommendations of the Panel and issued an Order to that effect. The decision of the Commission as captured in the Order to both parties was that the Complainant was entitled to recover from the Respondent the sum of Eight Hundred and Thirty-Eight Thousand, Three Hundred and Twenty-Two Ghana Cedis and Forty-Two Pesewas (GHS838,322.42) being the actual cost of restoration of the Complainant's damaged property.

### **Gazetting- Tariffs**

The Commission approved 2019 Water Tariffs published in Gazette No. 97 of Friday 21st June 2019. The Commission's decision on 2019 Electricity Tariffs was published in Gazette No. 121 of Wednesday, 7th August 2019. Natural Gas tariffs approved by the Commission were published in Gazette No. 151 of Friday 14<sup>th</sup> October 2019.

The 2019 last quarter tariff review for the year under the Commission's Automatic Adjustment Formula (AAF) published in Gazette No. 156 of Wednesday, 16<sup>th</sup> October, 2019. Based on the tariff analysis, end-user tariffs for electricity and water were adjusted upwards by 5.94% and 2.22% respectively in the last quarter review.

### **Regulations**

The Commission continued with its work on the development of the proposed Public Utilities Regulatory Commission (Quality of Service) Regulations. These regulations are intended, among others, to enhance regulation of the water sector and enforceability of the Commission's decisions. The regulations have been drafted through consultation with the Attorney General's Department, utility companies, the Energy Commission, Ghana Standards Authority, consumer representatives and civil society organizations such as

the African Women Lawyers Association. To widen the scope of consultation, a stakeholder workshop was held in August, 2019. Participants at the workshop included representatives from the Ministry of Energy, Ministry of Sanitation and Water Resources, the Attorney General's Department, Utility companies, Independent Power Producers, the National Commission on Civic Education, the Trades Union Congress, Association of Ghana Industries and Consumer Protection Agency amongst others. The revised draft regulations were formally re-submitted to the Attorney General's department on 31 October 2019 for review and commencement of the enactment processes.

### **3.6 Special Projects**

#### **3.6.1 Pro-Poor Water Projects**

##### **Proposals**

For the 2018 and 2019 project year, the Commission through its Pro Poor Water Management Team (PPWMT) received a total of 26 proposals from various communities, educational institutions and health institutions. The request included request for mechanized boreholes as well as pipe extensions. The number of boreholes requested ranged from 1 to 34. The PPWMT selected and approved eleven (11) of the proposals for implementation for the 2018/2019 project year. For equity in allocation of resources, the Commission agreed to provide each applicant four (4) boreholes and for pipe extension not exceed 2km of pipelines.

##### **Validation of selected proposals**

Between March 25, 2019 and April 13, 2019 the Commission undertook validation exercise in two (2) phases to determine the validity of the proposals received and assess the appropriate intervention for the community. In total, the validation team visited 37 communities, 6 Educational Institutions, and 5 Health facilities that had requested for borehole facilities. Validation team also visited some communities that have made some request for pipe extensions. In all six (6) communities requested for pipe extensions. All communities for pipe extensions were within one (1) km of GWCL distribution lines.

##### **Procurement process**

The Commission decided to adopt National Competitive Tendering (NCT) and Price Quotation for the award of contracts for the Pro Poor Projects. This was an improvement over the previous Pro Poor Projects where all contracts were awarded using sole source procurement process. Projects with contract sums less than Two Hundred Thousand Ghana Cedis (GHS200, 000.00) were awarded through Price quotation, while projects exceeding Two Hundred Thousand Ghana Cedis (GHS200, 000.00) were awarded through National Competitive Tendering. National Construction firms who had the capacity in terms of workforce, technical expertise and the necessary equipment were invited to tender for lots allocated to the projects as advertised in the Ghanaian Times edition of Friday, 13<sup>th</sup> of September 2019. Tenders were opened on Tuesday October 1, 2019. Evaluation of tenders was done between October 17 and October 19, 2019.

Tenders for Price quotations were evaluated on November 25, 2019.

##### **Award of Contracts**

Presently, all National Competitive Tendering Contracts have been awarded. Price Quotation Contracts are yet to be awarded.

### **3.7 Finance and Administration**

#### **3.7.1 Human Resources and Administration**

The Commission is committed to encouraging a high level of productivity. To further this objective, continuous learning and professional development opportunities in 2019 included the following:

##### ***Staff Strength***

The total staff complement as at 31<sup>st</sup> December, 2019 stood at 89. The number represents permanent staff, with 50 employed at the Head Office in Accra and 39 stationed across PURC Regional Offices in the Greater Accra, Ashanti, Brong Ahafo, Western/Central, Northern, Volta, Upper West and Eastern Regional offices. In 2019, 5 National Service personnel and 10 contract staff were engaged by the Commission to help facilitate the Commission's activities. PURC upholds and applies an equal opportunity employment policy.

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### COMMISSIONERS AND OFFICIALS WHO HELD OFFICE IN THE YEAR

<b>COMMISSIONERS:</b>	MR. MICHAEL OPAM	-	Chairman
	PROF. JOE AMOAKO-TUFFOUR	-	Member
	MRS. DORA OPPONG	-	Member
	MR. ISHMAEL EDJEKUMHENE	-	Member
	MR. EBO B. QUAGRAINIE	-	Member
	DR. YAW ADU-GYAMFI	-	Member
	MR. EMMANUEL SEKOR	-	Member
	MR. DANIEL O. KORANTENG	-	Member
	MRS. MAMI DUFIE OFORI	-	Member

**EXECUTIVE SECRETARY:** MRS. MAMI DUFIE OFORI

**REGISTERED OFFICE:** NO. 51 LIBERATION ROAD  
AFRICAN LIBERATION CIRCLE  
ACCRA.

**POSTAL ADDRESS:** P. O. BOX CT. 3095  
CANTONMENTS-ACCRA.

**AUDITORS:** ASAFU-ADJAYE & PARTNERS  
(CHARTERED ACCOUNTANTS)  
88 KWAME NKURUMAH AVENUE  
NEAR ROXY CINEMA  
ADABRAKA-ACCRA  
P. O. BOX AN 15110  
ACCRA-NORTH.  
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email: aapghana1@gmail.com

**BANKERS:** BANK OF GHANA  
GHANA COMMERCIAL BANK

**COMMISSIONERS' REPORT**  
**ON THE**  
**FINANCIAL STATEMENTS FOR THE YEAR ENDED 31<sup>ST</sup> DECEMBER 2018**

The Commissioners present their Audited Financial Statements for the year ended 31<sup>st</sup>December, 2018 as follows:

**Activities**

The principal activities of the Commission continue to be, to regulate and oversee the provision of utility services by public utilities to consumers and to provide for related matters.

**Results of Operations**

The results of the operations for the year ended 31<sup>st</sup> December 2018 are set out in the Income Statement, Statement of Financial Position, Statement of Cash flows and the notes to the Financial Statements as set out on pages 7-18.

The operations for the year resulted in an excess of income over expenditure of GH¢28,564,586 as against the excess of income over expenditure of GH¢35,076,718 in 2017. The total Assets as at 31<sup>st</sup> December 2018 was GH¢429,389,993 as against GH¢324,503,403 of 2017.

**Statement of Commissioners' Responsibilities**

The PURC Act, Act 538 of 1997 requires the Commissioners to maintain proper books of accounts and submit Audited Financial Statements at the end of the financial year to Parliament. In preparing the Financial Statements, the Commission applied appropriate accounting policies and has complied with all appropriate Accounting Standards and with the relevant Statutes of Ghana.

The Commissioners are also responsible for taking such steps that are reasonable to safe guard the assets of the Commission, to prevent and detect fraud and other irregularities.

**Commissioners in Office**

The under-listed are the Commissioners in office at the time of signing the financial statements of the Commission.

<b>COMMISSIONERS:</b>	MR. MICHAEL OPAM	Chairman
	PROF. JOE AMOAKO-TUFFOUR	Member
	MRS. DORA OPPONG	Member
	MR. ISHMAEL EDJEKUMHENE	Member
	MR. EBO B. QUAGRAINIE	Member
	DR. YAW ADU-GYAMFI	Member
	MR. EMMANUEL SEKOR	Member
	MR. DANIEL O. KORANTENG	Member
	MRS. MAMI DUFIE OFORI	Member
<b>EXECUTIVE SECRETARY:</b>	MRS. MAMI DUFIE OFORI	

On behalf of the Commissioners

.....  
COMMISSIONER

.....  
COMMISSIONER

Date: .....

Date: .....

**INDEPENDENT AUDITOR'S REPORT**  
**TO THE COMMISSIONERS OF**  
**PUBLIC UTILITIES REGULATORY COMMISSION**

**Opinion**

In our opinion, the financial statements give a true and fair view of the financial position of Public Utilities Regulatory Commission as at 31<sup>st</sup> December 2018, and of its financial performance and cash flows for the year then ended in accordance with the International Public Sector Accounting Standards (IPSA) and in the manner required by the Companies Act, 1963 (Act 179).

What we have audited

We have audited the financial statements of Public Utilities Regulatory Commission (the “Commission”) for the year ended 31<sup>st</sup> December 2018.

The financial statement on pages 8 to 19 comprise;

The statement of financial position as at 31<sup>st</sup> December 2018;

The statement of comprehensive income for the year then ended;

The statement of cash flows for the year then ended; and

The notes to the financial statements, which include a summary of significant accounting policies.

**Basis for Opinion**

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the Auditor’s responsibilities for the audit of the financial statements section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

**Independence**

We are independent of the Commission in accordance with the International Ethics Standards Board for Accountants’ Code of Ethics for Professional Accountants (IESBA Code). We have fulfilled our other ethical responsibilities in accordance with the IESBA Code.

## **Other Information**

The Commissioners are responsible for the other information. The other information comprises the Report of the Commissioners, shareholders' information but does not include the financial statements and our auditor's report thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

If, based on the work we have performed on the other information, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

## **Responsibilities of the Commissioners for the Financial Statements**

The Commissioners are responsible for the preparation of financial statements that give a true and fair view in accordance with International Public Sector Accounting Standards (IPSA) and in the manner required by the Companies Act, 1963 (Act 179), and for such internal control as the Commissioners determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Commissioners are responsible for assessing the Commission's ability to continue as a going concern basis of accounting unless the Commissioners either intend to liquidate the Commission or to cease operations, or have no realistic alternative but to do so.

The Commissioners are responsible for overseeing the Commission's financial reporting process.

## **Auditor's Responsibilities for the Audit of the Financial Statements**

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgement and maintain professional skepticism throughout the audit. We also:

- ☞ Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- ☞ Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal control.
- ☞ Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Commissioners.

☞ Conclude on the appropriateness of the Commissioners’ use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Commission’s ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor’s report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion.

Our conclusions are based on the audit evidence obtained up to the date of our auditor’s report. However, future events or conditions may cause the Commission to cease to continue as a going concern; and

☞ Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

☞ We also provide the Commissioners with a statement that we have complied with relevant ethical requirements regarding independence, and have communicated with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Commissioners, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor’s report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonable be expected to outweigh the public interest benefits of such communication.

**Report on Other Legal and Regulatory Requirements**

We report on other regulatory requirement that the Financial Statements give a true and fair view and fairly comply with;

- Financial Administration Regulations, 2004, L.I. 1802
- The Internal Revenue Act, 2000 (Act 592)
- Value Added Tax Act, 1998 (Act 546)
- Public Procurement Act, 2003 (Act 663)
- Public Procurement (Amendment) Act 2016
- Public Financial Management Act, 2016 (Act 921)

The engagement partner on the audit resulting in this independent auditor’s report is **Edmund Asafu-Adjaye (ICAG/P/1519)**

.....  
**ASAFU-ADJAYE & PARTNERS–ICAG/F/2019/140**  
(CHARTERED ACCOUNTANTS)  
88, KWAME NKURUMAH AVENUE, ADABRAKA  
P. O. BOX AN 15110  
ACCRA-NORTH

..... 2019

**STATEMENT OF COMPREHENSIVE INCOME**  
**FOR THE YEAR ENDED 31<sup>ST</sup> DECEMBER 2018**

	<b>NOTES</b>	<b>2018</b> <b>GH¢</b>	<b>2017</b> <b>GH¢</b>
<b>REVENUE</b>			
Regulatory Levies	3	52,679,677	54,231,281
Donor and Others	4	330,006	125,022
		-----	-----
<b>Total Revenue</b>		<b>53,009,683</b>	<b>54,356,303</b>
		=====	=====
<b>Expenditure</b>			
Personnel Cost	5	14,381,050	12,848,324
Commissioners' Allowances	6	355,375	432,188
Administrative Expenses	7	4,155,923	3,585,810
Operational Expenses	8	5,552,749	2,413,263
		-----	-----
<b>Total Expenditure</b>		<b>24,445,097</b>	<b>19,279,585</b>
		=====	=====
<b>Net Surplus for the year</b>		<b>28,564,586</b>	<b>35,076,718</b>
		=====	=====

**ACCUMULATED FUND FOR THE YEAR ENDED 31<sup>ST</sup> DECEMBER 2018**

Balance at 1 <sup>st</sup> January		81,145,329	46,068,611
Net Surplus for the year		28,564,586	35,076,718
		-----	-----
<b>Balance at 31<sup>st</sup> December</b>		<b>109,709,915</b>	<b>81,145,329</b>
		=====	=====

Notes from pages 11-19 form an integral part of these financial statements and should therefore be read in conjunction therewith.

STATEMENT OF FINANCIAL POSITION AS AT 31<sup>ST</sup> DECEMBER 2018

**ASSETS**

**Non-Current Assets**

	<b>NOTES</b>	<b>2018 GH¢</b>	<b>2017 GH¢</b>
Property, Plant And Equipment	9	6,964,822	5,370,467
Capital Work-In-Progress	10	3,997,321	3,986,321
Deferred Expenditure	11	198	438
Intangible Asset	12	9,584	58,319

-----	-----
10,971,925	9,415,545
=====	=====

**Current Assets**

Accounts Receivables and Prepayments	13	417,072,657	314,269,558
Cash and Bank Balances	14	1,345,411	818,300
		-----	-----
		418,418,068	315,087,858
		=====	=====

**TOTAL ASSETS**

429,389,993	324,503,403
=====	=====

**EQUITY & LIABILITIES**

**Equity Attributable to Equity Holders**

Accumulated Fund		109,709,915	81,145,329
Capital Surplus	15	4,495,651	4,495,651
		-----	-----

**Total Equity**

114,205,566	85,640,980
=====	=====

**Current Liabilities**

Accounts Payables & Accruals	16	315,184,427	238,862,423
		-----	-----

**Total Current Liabilities**

315,184,427	238,862,423
=====	=====

**TOTAL EQUITY AND LIABILITIES**

429,389,993	324,503,403
=====	=====

Approved by the Commissioners on ..... and Signed by:

.....  
COMMISSIONER

.....  
COMMISSIONER

Notes from pages 11-19 form an integral part of these financial statements and should therefore be read in conjunction therewith.

CASHFLOW STATEMENT FOR THE YEAR ENDED  
31<sup>ST</sup> DECEMBER 2018

<b><u>OPERATING ACTIVITIES</u></b>	<b><u>NOTES</u></b>	<b><u>2018</u></b> <b><u>GH¢</u></b>	<b><u>2017</u></b> <b><u>GH¢</u></b>
Net Surplus for the year		28,564,586	34,501,754
<i>Adjustments for:</i>			
Depreciation	9a	777,935	693,357
Gain on Disposal	9b	(128,948)	8,291
Amortization of Deferred Expenditure	11	240	240
Computer Software Amortization	12	48,735	68,342
		-----	-----
<b>Operating Profit before Working Capital Changes</b>		<b>29,262,548</b>	<b>35,271,984</b>
<b><u>Changes In Working Capital</u></b>			
Changes in Trade Receivables& Prepayments	13	(102,803,099)	(113,022,97)
Changes in Trade Payables	16	76,322,004	77,602,329
		-----	-----
<b>Net Cash Inflow/(Outflow) from Operating Activities</b>		<b>2,781,453</b>	<b>(148,657)</b>
		=====	=====
<b><u>INVESTING ACTIVITIES</u></b>			
Purchase of Property, Plant and Equipment	9	(2,372,352)	(265,796)
Intangible Assets		(-)	(15,000)
Capital Work-In-Progress	10	(11,000)	-
Proceeds from the Sales of Asset	9b	129,010	3,430
		-----	-----
<b>Net Cash (used in) Investing Activities</b>		<b>(2,254,342)</b>	<b>(277,366)</b>
		=====	=====
<b>Net Change in Cash &amp; Cash Equivalents</b>		<b>527,111</b>	<b>(426,023)</b>
		=====	=====

**ANALYSIS OF CASH AND CASH EQUIVALENTS**

Balance at 1 <sup>st</sup> January		818,300	1,244,323
<b>Net Change in Cash &amp; Cash Equivalents</b>		<b>527,111</b>	<b>(426,023)</b>
		-----	-----
Balance at 31 <sup>st</sup> December	14	1,345,411	818,300
		=====	=====

Notes from pages 11-19 form an integral part of these financial statements and should therefore be read in conjunction therewith.

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31<sup>ST</sup> DECEMBER 2018

1) **REPORTING ENTITY**

The Public Utilities Regulatory Commission is the economic regulator of Electricity, Natural Gas and Water in Ghana. The Commission is an independent body set up to provide guidelines on rates chargeable for provision of utility services; among others as spelt out in Section 3 of PURC Act 538. The Commission was set up by an Act of Parliament under the Public Utilities Regulatory Commission Act, 1997 Act 538.

2) **SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

The significant accounting policies which have been adopted by the Public Utilities Regulatory Commission in the preparation of these Financial Statements are disclosed under the appropriate headings in the notes below;

2.1) **Basis of Accounting**

These accounts have been prepared under the historical cost convention. The reporting framework for the purpose of this year's account is the International Public Sector Accounting Standards.

2.2) **Comparative Figures**

The comparative figures covered the year ended 31<sup>st</sup> December 2017. However, where considered necessary, comparative figures have been reclassified to achieve consistency with presentation of current year figures.

2.3) **Property, Plant & Equipment**

These are stated at cost or fair value less aggregate depreciation as per the Property, Plant and Equipment schedule.

Depreciation has been provided on the straight-line basis in order to write off the values of the assets over their estimated useful lives as follows:

<i>Motor Vehicles</i>	<i>5 Years</i>
<i>Computer and Accessories</i>	<i>3 Years</i>
<i>Furniture &amp; Fittings</i>	<i>5 Years</i>
<i>Office Equipment</i>	<i>5 Years</i>
<i>Leasehold Land</i>	<i>50 Years</i>

2.3.1) **Revaluation of Property, Plant & Equipment**

It is the policy of the Commission to revalue its Properties, Plant and Equipment every 5 years based on a professionally Qualified Valuer's Certificate. The carrying value is determined by the fair value at the date of revaluation less any Accumulated Depreciation and subsequent Accumulated Impairment. The revaluation shall be made to ensure that the carrying amount does not differ materially from that which would be determined using Fair Value at the end of the reporting year.

#### 2.4) **Foreign Exchange Conversion**

All transactions denominated in foreign currencies are recorded in Ghana Cedis (GH¢) at the rate of exchange ruling on the date of the transaction. Monetary balances denominated in foreign currencies are expressed in Ghana Cedis (GH¢) at the rate of exchange ruling as at the Statement of Financial Position date.

#### 2.5) **Intangible Assets**

##### **Initial Measurement**

Intangible assets are measured at cost less accumulated amortization and any accumulated impairment losses. Amortization is charged so as to allocate the cost of intangibles less their residual values over their estimated useful lives, using the straight-line method.

A useful life of 3 years is used to amortize software.

##### **Subsequent Measurement**

If there is an indication that there has been a significant change in amortization rate or residual value of an asset, the amortization of that asset is revised prospectively to reflect the new expectations.

#### 2.6) **Cash and Cash Equivalents**

Cash and Cash Equivalents are defined as cash in hand, demand deposits and short term investments in marketable securities that are readily convertible to known amounts of cash and subject to insignificant risk of changes in value. For the purpose of cash flow statement, cash and cash equivalents consist of cash on hand and bank deposits net of any outstanding bank overdrafts.

#### 2.7) **Employee Benefits**

##### **Defined Contribution Plans**

A defined contribution plan is a post-employment benefit plan under which an entity pays fixed contributions to a separate entity and will have no legal or constructive obligation to pay future amounts. Obligations for contributions to defined contribution schemes are recognized as an expense in profit or loss when they are due.

The Commission is required to contribute 13.5% of employees' basic salary to the Social Security and National Insurance Trust and 5% to a Fund Manager under the terms of the Pension Act 2008 (Act 766).

#### 2.8) **Going Concern**

The Commission's Commissioners have made an assessment of its ability to continue as a going concern and is satisfied that it has the resources to continue in business for the foreseeable future. Furthermore, Commissioners are not aware of any material uncertainties that may cast significant doubt upon the Commission's ability to continue as a going concern. Therefore, the Financial Statements continue to be prepared on the going concern basis.

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31<sup>ST</sup> DECEMBER 2018

		<b>2018</b>	<b>2017</b>
		<b>GH¢</b>	<b>GH¢</b>
3)	<b>Regulatory Levy</b>	<b>52,679,677</b>	<b>54,231,281</b>
		=====	=====
	<i>This consists of the following inflows:</i>		
	Electricity Levy	26,308,284	16,949,252
	Natural Gas Levy	26,371,393	37,282,029
4)	<b>Donor &amp; Others</b>	<b>330,006</b>	<b>125,022</b>
		=====	=====
	<i>This consists of the following inflows:</i>		
	Other Non-Regulatory Income <b>SCH.I</b>	330,006	125,022
5)	<b>Personnel Cost</b> <b>SCH.II</b>	<b>14,381,050</b>	<b>12,848,324</b>
		=====	=====
	<i>This consists of the Salaries and other benefits to Staff</i>		
6)	<b>Commissioners' Allowances</b> <b>SCH.III</b>	<b>355,375</b>	<b>432,188</b>
		=====	=====
	<i>This consists of Allowances paid to Commissioners as ratified by the Office of the President.</i>		
7)	<b>Administrative Expenses</b> <b>SCH.IV</b>	<b>4,155,923</b>	<b>3,585,810</b>
		=====	=====
	<i>These include:</i>		
	Audit Fees	54,000	52,650
	Depreciation and Amortization	826,910	761,939
8)	<b>Operational Expenses</b> <b>SCH.V</b>	<b>5,552,749</b>	<b>2,413,263</b>
		=====	=====
	<i>This consists of Expenses on Operational Activities of the Commission as per Section 3 of Act 538, 1997.</i>		

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31<sup>ST</sup> DECEMBER 2018**

**9a) PROPERTY, PLANT AND EQUIPMENT**

<b>2018</b>		<b>Leasehold</b>	<b>Motor</b>	<b>Computer &amp;</b>	<b>Office</b>	<b>Furniture &amp;</b>	
<b><u>COSTS</u></b>		<b><u>Land</u></b>	<b><u>Vehicle</u></b>	<b><u>Accessories</u></b>	<b><u>Equipment</u></b>	<b><u>Fittings</u></b>	<b><u>Total</u></b>
		<b><u>GH¢</u></b>	<b><u>GH¢</u></b>	<b><u>GH¢</u></b>	<b><u>GH¢</u></b>	<b><u>GH¢</u></b>	<b><u>GH¢</u></b>
	Balance at 1 <sup>st</sup> January	4,884,629	2,064,386	444,824	1,419,320	275,523	9,088,682
82	Additions during the year	-	1,961,677	109,890	180,020	120,765	2,372,352
	Disposal	-	(336,267)	(24,272)	(112,432)	(3,553)	(476,524)
	Balance at 31 <sup>st</sup> December	4,884,629	3,689,796	530,441	1,486,907	392,737	10,984,510
		=====	=====	=====	=====	=====	=====
<b>b) <u>ACCUMULATED DEPRECIATION</u></b>							
	Balance at 1 <sup>st</sup> January	597,598	1,613,705	310,629	974,209	222,074	3,718,215
	Charge for the year	99,204	327,451	86,971	219,189	45,120	777,935
	Disposal	-	(336,267)	(24,272)	(112,370)	(3,553)	(476,462)
	Balance at 31 <sup>st</sup> December	696,802	1,604,889	373,328	1,081,026	263,643	4,019,688
		=====	=====	=====	=====	=====	=====
<b>c) <u>NET BOOK VALUES</u></b>							
	31 <sup>st</sup> December, 2018	4,187,827	2,084,907	157,113	405,881	129,094	<b>6,964,822</b>
		=====	=====	=====	=====	=====	=====

<b>2017</b>		<b>Leasehold</b>	<b>Motor</b>	<b>Computer &amp;</b>	<b>Office</b>	<b>Furniture &amp;</b>	
<b><u>COSTS</u></b>		<b><u>Land</u></b>	<b><u>Vehicle</u></b>	<b><u>Accessories</u></b>	<b><u>Equipment</u></b>	<b><u>Fittings</u></b>	<b><u>Total</u></b>
		<b><u>GH¢</u></b>	<b><u>GH¢</u></b>	<b><u>GH¢</u></b>	<b><u>GH¢</u></b>	<b><u>GH¢</u></b>	<b><u>GH¢</u></b>
	Balance at 1 <sup>st</sup> January	4,865,894	2,200,045	432,653	1,308,507	281,027	9,088,126
	Additions during the year	18,735	-	102,670	143,071	1,320	265,796
	Disposal	-	(135,659)	(90,499)	(32,258)	(6,824)	(265,240)
	Balance at 31 <sup>st</sup> December	4,884,629	2,064,386	444,824	1,419,320	275,523	9,088,682
		=====	=====	=====	=====	=====	=====
<b>b) <u>ACCUMULATED DEPRECIATION</u></b>							
	Balance at 1 <sup>st</sup> January	498,051	1,468,953	329,127	801,192	181,054	3,278,377
	Charge for the year	99,547	269,106	72,001	204,859	47,844	693,357
	Disposal	-	(124,354)	(90,499)	(31,842)	(6,824)	(253,519)
	Balance at 31 <sup>st</sup> December	597,598	1,613,705	310,629	974,209	222,074	3,718,215
		=====	=====	=====	=====	=====	=====
<b>c) <u>NET BOOK VALUES</u></b>							
	31 <sup>st</sup> December, 2017	4,287,031	450,681	134,195	445,111	53,449	<b>5,370,467</b>
		=====	=====	=====	=====	=====	=====

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31<sup>ST</sup> DECEMBER 2018

	<b>2018</b>	<b>2017</b>
	<b>GH¢</b>	<b>GH¢</b>
9b) <b><u>Disposal of Property and Equipment</u></b>		
Cost	476,524	265,240
Accumulated Depreciation	(476,462)	(253,519)
	-----	-----
Carrying Amount	(62)	11,721
Sales Proceeds	129,010	3,430
	-----	-----
Gain/(Loss) on Disposal	128,948	(8,291)
	=====	=====
10) <b><u>Building Work-In-Progress</u></b>		
Balance as at 1 <sup>st</sup> January	3,986,321	3,986,321
Additions for the year	11,000	-
	-----	-----
Balance as at 31 <sup>st</sup> December	3,997,321	3,986,321
	=====	=====

This represents expenditure to date on the Commission's proposed 15 Storey Office Complex at African Liberation Circle, Accra.

11) <b><u>Rehabilitation Expenditure</u></b>		
Balance as at 1 <sup>st</sup> January	438	678
Additions	-	-
Amount Written Off	(240)	(240)
	-----	-----
Balance as at 31 <sup>st</sup> December	198	438
	===	===

This represents Rehabilitation works on the Commission's Rented Office Building which is being written off over 5 years.



**NOTES TO THE FINANCIAL STATEMENTS**  
**FOR THE YEAR ENDED 31<sup>ST</sup> DECEMBER 2018**

**SCHEDULES TO THE FINANCIAL STATEMENTS**

**2018**  
**GH¢**

**2017**  
**GH¢**

**Schedule I**

**Non-Regulatory Income**

Ghana Water Company Limited	36,000	90,000
Sales of Tender Document	2,400	-
Sundry Income	228,948	-
Interest on Call Account	62,658	35,022
	-----	-----
	330,006	125,022
	=====	=====

**Schedule II**

**Personnel Cost**

Salaries & Allowances	11,532,607	10,432,434
Medicals	522,292	441,914
Overtime Allowances	47,088	38,778
Temporal Staff Allowances & National Serv. Allowances	78,150	26,659
Staff Transfer Expenses	149,438	14,599
Employer's contributions to Pension Funds	2,051,475	1,893,940
	-----	-----
	14,381,050	12,848,324
	=====	=====

**Schedule III**

**Commissioners' Allowances**

Commissioners' Allowances	200,875	192,938
Commissioners' Sitting Allowances	154,500	239,250
	-----	-----
	355,375	432,188
	=====	=====

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31<sup>ST</sup> DECEMBER 2018

<u>Schedule IV</u>	<u>2018</u>	<u>2017</u>
<u>General Administrative Expenses</u>	<u>GHC</u>	<u>GHC</u>
Insurance	76,424	62,198
Rent	249,464	277,783
Electricity and Water	226,985	280,900
Post and Telecommunications	226,776	225,075
Motor Vehicle Running Cost	695,207	539,722
Audit Fees	54,000	52,650
Forensic Audit Fee	262,172	87,391
Bank Charges	20,626	22,585
Security	137,403	107,400
Adhoc Sub Committees	25,125	12,500
Printing and Stationery	325,126	292,531
Office Consumables	215,963	145,664
Travelling and Transport	47,328	34,363
Welfare Expenses/Honorarium	158,326	160,537
General Repairs and Maintenance	208,669	119,458
Corporate Social Responsibility	63,100	30,000
Office Cleaning and Sanitation	139,516	100,411
Computer Software Amortization	48,735	68,342
Amortization of Rehabilitation Expenses	240	240
Depreciation	777,935	693,357
Exchange Loss/Interest Charge	-	5,757
Professional Fees	129,092	158,222
Loose Tools	67,714	103,907
Loss on Disposals	-	8,291
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	4,155,923	3,585,810
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**Schedule V**

**Operational Expenses**

Travelling and Transport	770,815	181,852
Training and Conferences	1,608,214	433,106
Printing and Publication	100,805	15,114
Materials and Consumables	67,976	41,156
Commissioners Technical Sub-Committees	309,875	193,075
Public Relations and Related Expenses	46,764	10,700
Operational Program Expenses	2,471,263	1,380,375
Legal Expenses	177,037	157,885
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	5,552,749	2,413,263
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NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31<sup>ST</sup> DECEMBER 2018

<b><u>Schedule VI</u></b>	<b><u>2018</u></b>	<b><u>2017</u></b>
<b><u>Accounts Receivables and Prepayments</u></b>	<b><u>GH¢</u></b>	<b><u>GH¢</u></b>
GRIDCO Limited	122,151,388	83,247,178
Ghana National Gas Company Limited	294,408,553	230,338,601
Staff Debtors	290,907	283,005
Sundry Debtors	360	102,400
Rent Prepaid	104,538	224,695
Insurance Prepaid	111,411	73,679
Others	5,500	-
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	417,072,657	314,269,558
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 <b><u>Schedule VII</u></b>		
<b><u>Accounts Payables and Accruals</u></b>		
Energy Commission	78,551,088	59,757,286
Rural Electrification	134,482,208	102,429,771
Due to Pro Poor	100,555,101	75,456,747
Sundry Creditors	1,596,030	1,218,619
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	315,184,427	238,862,423
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