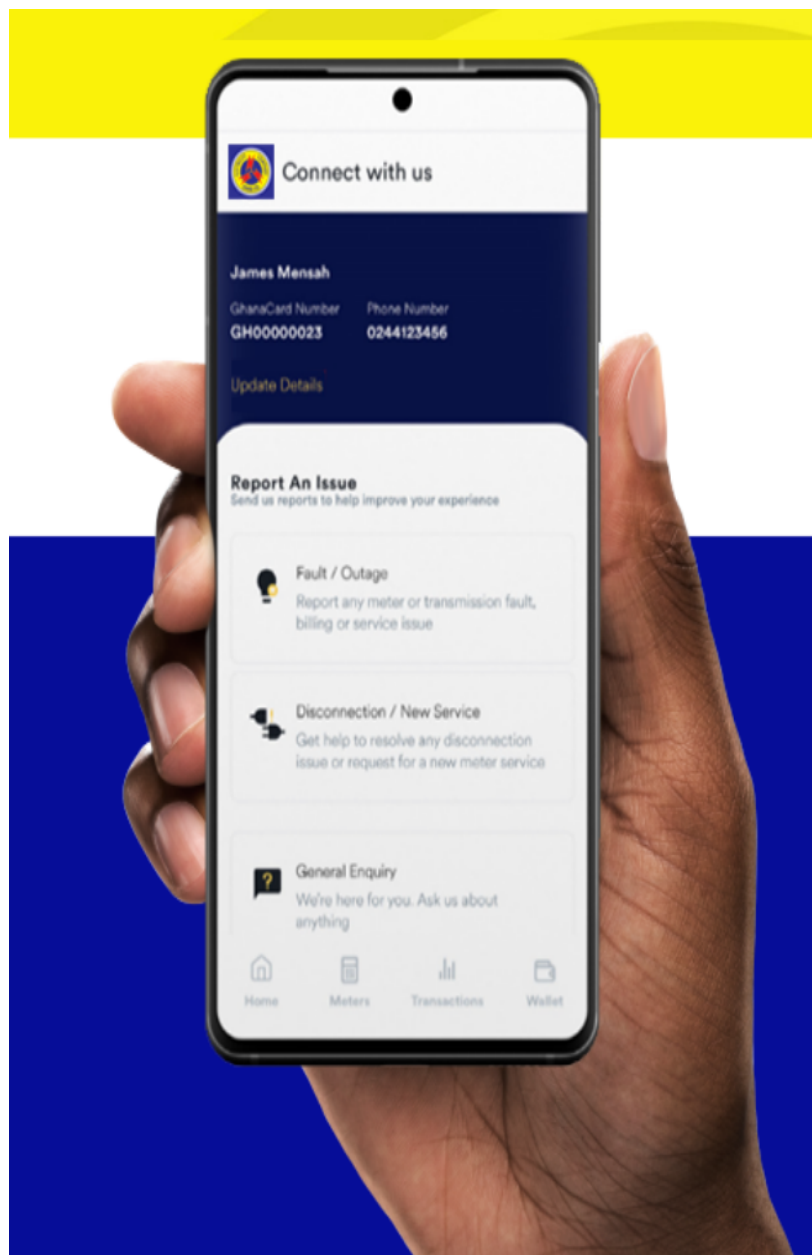


ELECTRICITY COMPANY OF GHANA LTD



PROPOSAL FOR THE REVIEW OF ELECTRICITY DISTRIBUTION AND SUPPLY AGGREGATE REVENUE REQUIREMENT AND TARIFF 2025-2029

APRIL 2025

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Executive Summary

1.1 Introduction

The Electricity Company of Ghana Limited (ECG) is a limited liability company wholly owned by the Government of Ghana and is regulated by the Public Utility Regulatory Commission (Commission) and the Energy Commission (EC). The Company serves approximately 73% of Ghana's population across eight political administrative regions, with an active customer population of about 4.8 million as at December 2024. This tariff proposal addresses the financial viability and sustainability of ECG's 2025-2029 operations based on the Commission's Rate-Setting Guidelines for Electricity Distribution and Supply. Over the years, the company has played a crucial role in the economic development of Ghana but has encountered financial difficulties partly due to inadequate levels of Distribution Service Charge (DSC1), which negatively impacts its operations.

It is important to note that the last tariff review conducted in September 2022, resulted in a 5.79% increase in the Distribution Service Charge (DSC1), raising it from GHp16.1094 per kWh to GHp17.0429 per kWh. This increase fell significantly short of the ECG's proposed charge of GHp39.9513 per kWh. Between September 2022 and December 2024, the DSC1 increased by only 11.71%, bringing it to GHp19.0384 per kWh through the Automatic Adjustment Formula (AAF). This was against a substantial 87% increase in the foreign exchange rate, which is one of the factors used in the determination of AAF.

The overall impact of low tariffs is evident in the declining trends in profitability and liquidity. This situation necessitates a cost-reflective tariff to improve current assets and reduce short-term liabilities. Throughout the current regulatory review period, the company reported a negative Return on Equity (ROE), reflecting financial difficulties.

1.2 Tariff Proposal

On average, ECG proposes an increase in the Distribution Service Charge (DSC1) from **GHp19.0875/kWh to GHp61.8028/kWh**, equivalent to **224%** during the tariff period of 2025-2029. This is based on the projected electrical energy volumes, costs & revenues, and the legacy assets as at December 2024.

The tariff increase is necessary to restore financial viability and sustainability of ECG's operations in 2025 and align changes in inflation, foreign exchange, interest rates, and ensure full recovery of investment costs in the distribution network in the future.

ECG'S ANNUAL REVENUE REQUIREMENT						
Composition of Annual Revenue Requirement	5-YEAR MULTI-YEAR TARIFF PROPOSAL (GHS'M)					
	2025	2026	2027	2028	2029	Average
Operations Cost	2,581.30	2,754.24	2,939.33	3,136.26	3,346.39	2,951.51
Human Resources Cost	1,464.23	1,562.33	1,667.32	1,762.19	1,880.26	1,667.27
Depreciation	1,518.81	1,518.81	1,518.81	1,518.81	1,518.81	1,518.81
Return on RAB	2,123.48	2,123.48	2,123.48	2,123.48	2,123.48	2,123.48
Capital Recovery Payments on Approved Capex-2026	659.83	659.83	659.83	659.83	659.83	659.83
Cost on Working Capital Allowance	31.02	33.51	37.97	41.04	37.09	36.12
Corporate Tax	124.86	158.23	123.82	158.41	115.91	136.25
Annual Revenue Requirement	8,503.53	8,810.44	9,070.56	9,400.03	9,681.78	9,093.27
DSC 1 (GHp/kWh)	64.6410	62.8204	60.6931	59.0567	57.1456	61.8028
Projected Sales (GWh)	13,155.00	14,024.79	14,944.96	15,916.98	16,942.31	14,996.81
Projected Sales (GHS'M)	22,367.47	24,156.87	26,089.42	28,176.57	30,430.70	26,244.20
Uncollectable-2% of Sales (GHS'M)	44.73	48.31	52.18	56.35	60.86	52.49
Current DSC1	19.0875	19.0875	19.0875	19.0875	19.0875	19.0875
Percentage Increase	239%	229%	218%	209%	199%	224%

Other areas of proposed tariff review are:

- a. **Collapse of tariff bands:** ECG recommends two tariff bands for residential customers and one for non-residential customers. This will simplify billing and improve customer understanding of bills.
- b. **Equitable allocation of cost of service:** To achieve an equitable allocation of cost of service within the tariff structure, eliminate cross-subsidization and promote non-discriminatory tariffs.
- c. **In accordance with the Government's** policy on renewable energy, ECG requests the implementation of the Net Metering Tariff Structure for customers with grid-connected renewable energy.
- d. **Adoption of Bank of Ghana exchange rate:** The proposal recommends adopting the Bank of Ghana Exchange Rate in tariff determination to minimize the impact of foreign exchange.
- e. **Service charge:** An increase in the Service Charge of the end-user tariff is proposed and allocated exclusively to ECG for meter maintenance and replacement, which is currently being done at no fee to customers.
- f. **Introduction of Public Lighting tariff:** Introduction of a tariff for public lighting will address the current underfunding of the energy consumed by public lighting through the Public Lighting Levy and eliminate ambiguities with accounting for Public Lighting.
- g. **Investment Cost Recovery:** It is recommended that the full recovery of investment cost through tariffs be achieved for projects completed, ongoing, and planned for the five-year regulatory period.
- h. **Weighted Average Cost of Fuel (WACOF):** ECG proposes including liquid fuel costs during shutdowns and emergencies in the Weighted Average Cost of Gas (WACOG) and changing its name to WACOF.
- i. To include the full cost of the Reserve Margin (18%) in the tariff as it impacts the entire energy sector.
- j. To change the automatic tariff adjustment period from quarterly to monthly.

1.3 Basis of the Tariff Proposal

The tariff proposal was developed based on the Annual Revenue Requirement outlined in Volumes 1 and 2 of the Rate Setting Guidelines for Electricity Distribution and Supply in Ghana. The primary cost components are derived from the actual Operations and Maintenance, Human Resources, and Administration and Overhead Expenses for 2024. These expenses have been projected for 2025 to 2029 using the inflation rate.

Additional allowable costs, such as the Return on Regulated Asset Base, Depreciation of Regulated Assets, Capital Recovery Payment, Cost of Working Capital Charge, and Taxation, have been calculated based on the company's current operations and anticipated investments planned for the next five years.

The total annual electrical energy projected to be procured from VRA and IPPs in 2025 is 22,784 GWh while the total energy projected to be transmitted during the same period is 21,478 GWh. System losses are projected to decline marginally by 1% per annum from the 27.68% recorded in 2024.

The cost of energy (Bulk Generation Charge) without reserve margin is estimated to range from **253.78 GHp/kWh in 2025 to 302.73 GHp/kWh in 2029**. When reserve margin is factored in the cost estimates, the cost ranges from **313.02 Ghp/kWh in 2025 to 359.09 Ghp/kWh in 2029**.

1.3.1 Completed and Ongoing Projects

During the period under review, 2022-2024, ECG completed projects (Reliability Improvements, Technical Loss and Voltage Improvements, and Commercial/Revenue improvements) worth US\$408 million and ongoing projects amounting to US\$428 million. The significant projects were the Loss Reduction Project, where over 1.16 million smart prepaid meters were deployed, and the digitalization of work processes, including cashless revenue collection.

1.3.2 Investment Plan for the next five years

In the next Tariff Control Period 2025-2029, the company planned to invest US\$1.6 billion (US\$427 million in reliability improvement projects, US\$89 million in Technical Loss/Voltage improvement projects, US\$925 million in Commercial/Revenue Improvement projects, and US\$182 million in other projects) in the distribution network. Out of this amount, Donors and the Government of Ghana (GoG) are projected to fund US\$222 million, with the remaining (US\$1.4 billion) to be funded by ECG through tariff provisions. These include constructing a National Control Centre, Primary Substation Upgrade, creation of Substation Interconnecting Networks, and implementing SCADA activities to improve system reliability. The company also planned to intensify digital operations and deploy about 3.1 million smart prepaid meters to ensure customer convenience and enhance revenue collection. For the system's availability and reliability, the company aims for higher service quality and reliability standards for CAIDI, SAIFI, and SAIDI through investments of system improvement projects.

ECG strongly recommends a tariff increase to cover these assets deployed in the past 3 years and the planned investment in the next 5 years to improve service delivery and maintain the distribution network.

1.3.3 Macroeconomic Factors

The proposal highlights key macroeconomic factors impacting ECG's tariff submission, including foreign exchange, inflation, and interest rates. For example, significant depreciation of the Ghana Cedi between 2022 to 2024 has led to a 45.43% deterioration in DSC1 in dollar terms, necessitating more cedis to meet operational expenses.

1.3.4 Unrecovered Generation Pass-Through Costs

ECG is beset with unrecovered generation pass-through costs due to foreign exchange losses, interest rate fluctuations, fuel cost under-recoveries, and unfavourable generation mix. ECG expects these costs to be incorporated into the end-user-tariff to maintain its financial viability.

1.3.5 Power Procurement and Reserve Margin

ECG's power procurement strategy includes provisions for an 18% reserve margin to ensure supply reliability. The associated costs of the reserve margin is significant, necessitating recovery through the tariff.

1.4 Policy Issues Impacting the Tariff Proposal

1.4.1 Energy Sector Recovery Program and Cash Waterfall Mechanism

The proposed tariff structure considered policy issues such as the Energy Sector Recovery Programme (ESRP) and the Cash Waterfall Mechanism (CWM). These initiatives aim to improve financial health and equitable allocation of ECG's revenue to stakeholders in the electricity value chain.

1.4.2 Introduction of Wholesale Electricity Market

The transition to a Wholesale Electricity Market (WEM) is progressing, with improved competition and efficiency in electricity procurement. ECG emphasizes the need for transparency and information flow among market participants to facilitate effective settlement processes.

1.6 Challenges Impacting Service Delivery

ECG is confronted with several challenges that impact service delivery, including illegal connections, substandard meters emanating from unknown sources, communication issues with telecom networks, vegetation interference, and equipment theft.

Strategies to mitigate these challenges include extensive metering projects, energy audits, and revenue protection activities.

1.7 Conclusion

The proposal recommends increasing the first distribution service charge (DSC 1) from **GHp19.0875/kWh to GHp61.8028/kWh**. This proposed increase is equivalent to 224% in only the DSC1, and not in the end-user tariff. It is also recommended that the Commission consider and approve proposed structural changes, such as collapsing all tiered pricing within customer classes and changing the automatic tariff adjustment period from quarterly to monthly.

This proposal is essential for ensuring the efficient and smooth operation of the Electricity Distribution and Supply business, ultimately supporting the economic growth and the development of Ghana.

1 Introduction

The Electricity Company of Ghana Limited (ECG) is the primary Electricity Distribution and Retail Sales Company in southern Ghana. The Company serves an estimated 73 percent of Ghana's population across eight (8) political administrative regions with an active customer population of about 4.87 million as at December 2024.

The company's operations are regulated by the Public Utility Regulatory Commission (**Commission**), the economic regulator, and the Energy Commission (EC), the technical regulator. The tariff approved by the Commission for the Electricity Distribution and Supply business has four major components:

- (i) Cost of power purchases from electricity generators, including all losses in the process of high voltage transmission as well as the electricity that is not billed owing to technical and commercial losses within the utility company's distribution network (VRA and IPPs)
- (ii) Direct cost of transmission grid services or TSC1 (GRIDCo's Costs)
- (iii) Costs of the Electricity Distribution and Retail Sales operations or DSC1 (ECG's Annual Revenue Requirement- ARR)
- (iv) Provision for non-collectible revenue

This proposal principally examines the tariff related to the DSC1 or ECG's ARR in accordance with the Rate Setting Guidelines. The company also provides detailed information on power generation and transmission costs in this proposal that will assist the Commission in arriving at the CBGC and the TSC1.

Over the years, the inadequacy of DSC1 has had a negative impact on ECG's financial position and the energy sector. The operational cost items of DSC1 are Operations and Maintenance, Administration and Overhead, Human Resources and Working Capital Allowance. Others are Depreciation, Return on Regulated Asset Base, Capital Recovery Payment, Cost of Working Capital Allowance, and Corporate Tax. The macroeconomic factors influencing the DSC1 are inflation, foreign exchange and interest rates.

As required by the Commission Act, 1997 (Act 538), ECG is required to present a tariff proposal for every Major Tariff Review in accordance with the Rate-Setting Guidelines developed and approved by Commission. This tariff review proposal covers the Tariff Control Period 2025 - 2029. It includes an evaluation of the status of the investment plan for 2022-2024, which the Commission approved in the 2022 Multi-Year Tariff Review. Additionally, it outlines the planned investment strategy for the 2025-2029 regulatory period.

This proposal highlights ECG's actual distribution cost for the past 3 years and its projected cost for the next 5 years. Additionally, it outlines the strategic interventions to address existing challenges in metering, system losses, infrastructure development, service delivery, operational efficiency, and the financial framework required to sustain a reliable and quality power supply. The company expects these key issues to be considered by the Commission, the Government,

and other stakeholders in approving the DSC1, which reflects the cost-of-service. This is essential for ensuring the efficient and smooth operation of Electricity Distribution and Retail Sales over the next five years.

1.1 Brief Background of ECG's Electricity Distribution and Supply Operations

ECG is a limited liability Company wholly owned by the Government of Ghana and operating under the now Ministry of Energy and Green Transition (MoEn>). The Company was incorporated under the Companies Code of 1963 (Act 179) (as amended) in February 1997.

It began as the Electricity Department on 1st April 1947 and later became the Electricity Division in 1962. It was subsequently converted into the Electricity Corporation of Ghana Limited by NLC Decree 125 in 1967. Until July 1987, the responsibility for distributing and supplying power in the country rested on ECG. The Government created the Northern Electricity Department (NED) as a subsidiary of Volta River Authority (VRA) in 1987 which took over from ECG the responsibility for the management of electric power distribution in Brong Ahafo, Northern, Upper East and Upper West Regions.

ECG is however responsible for the distribution of electricity in the Southern Electricity Distribution Zone (SEDZ) of Ghana covering Ashanti, Central, Eastern, Greater Accra, Volta, Oti, Western and Western North Regions.



ECG operates as the dominant power distributor in the southern part of Ghana. across eight political regions (Greater Accra, Eastern, Volta, Ashanti, Western, Western North, part of Oti and Central Region).

Administratively, ECG has **10** operational regions and two sub-transmission (Accra and Ashanti sub-transmission) divisions.

The operational regions are sub-divided into **92** districts with an active customer population of about 4.87 million as of December 2024

Operational Regions				
Accra East	Accra West	Tema	Central	Western
Ashanti East	Ashanti West	Ashanti South	Eastern	Volta

Figure 1: ECG’s Operational Regions

Districts						
Makola	Dansoman	Nkwanta	New Abirem	Ashaiman	Ayigya	Enchi
Legon	Kaneshie	Sogakope	Asesewa	Juapong	New Edubiase	Asankragwah
Roman Ridge	Ablekuma	Dambai	Begoro	Suame	Adum	Axim
Teshie	Amasaman	Nkawkaw	Kade	Danyame	Ahenema Kokoben	Half Assini
Korle Bu	Ho	Akim Tafo	Koforidua	Abuakwa	Manso Nkwanta	Bogoso
Achimota	Hohoe	Donkokrom	South District	Obuasi	Ahinsan	Saltpond
Nsawam	Denu	Mpraeso	North District	Bekwai	Effiduase	Twifo Praso
Bortianor	Kpando	Suhum	Nungua District	Dunkwa	Mampong	Assin Foso
Mampong	Akatsi	Kibi	Prampram District	Offinso	Kwabre	Ajumako
Kwabanya	Keta	Akwatia	Afiencya	Winneba	Ejisu	Breman Asikuma
Dodowa	Kpeve	Asamankese	Ada District	Asokwa	Konongo	Takoradi
Adenta	Jasikan	Akim Oda	Krobo District	Manhyia	Juabeso	Sekondi
Tarkwa	Agona	Bibiani	Sefwi Wiawso	Cape Coast	Kasoa North	Kasoa South
Swedru						

Figure 2: ECG Operational Districts

ECG buys bulk electric power from VRA and other Independent Power Producers (IPPs) at 161,000 and 330,000 volts and sells the power to its customers in the SEDZ at the following Voltage Standards approved by EC:

Table 1: Approved Voltage Standards by Energy Commission

Voltage Standards	Low Voltage Network	Medium Voltage Network	Sub-Transmission Network
Nominal	230/400V	11kV	33kV
Minimum	207/360V	10.26 kV	29.98kV
Maximum	253/440V	11.69 kV	35.05kV

Power Sector Value Chain: The diagram below describes the electricity value chain.

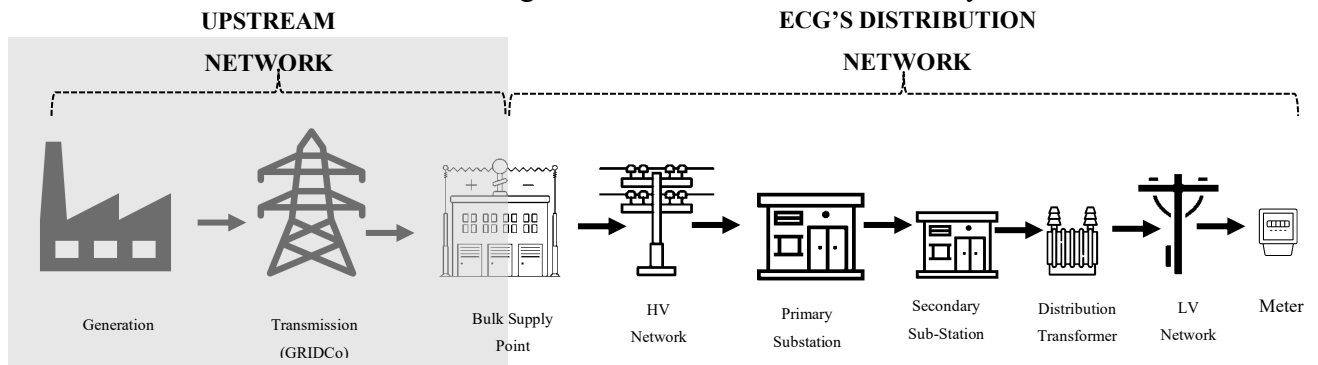


Figure 3: Electricity Value Chain

1.1.1 Corporate Strategic Direction (2022-2025)

Table 2: Corporate Strategic Direction (2025-2029)

VISION:	To be a competitive, sustainable, innovative, and customer-centric energy service provider
MISSION:	To Provide Quality, Reliable and Safe Electricity Services to Support the Economic Growth and Development of Ghana
CUSTOMER VALUE PROPOSITION:	Reliable, Quality & Safe supply of electricity, Convenience, Value-added services

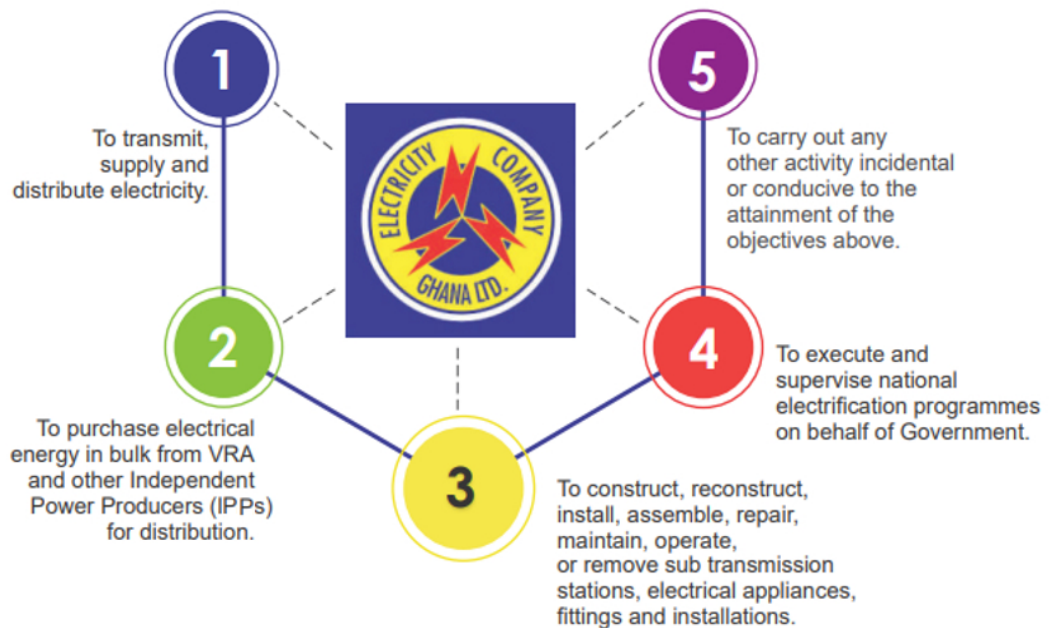


Figure 4: ECG Core Values

It is important to note that in March 2019, the Government of Ghana introduced a Private Sector Participation (PSP) in the Electricity Distribution and Retail Business. The PSP took the form of a Concession Arrangement between ECG and Power Distribution Services Limited (PDS) for a term of twenty (20) years, while ECG became the Asset Owner and a Brokerage Company known

as Re-Structured ECG. This ECG-PSP was later terminated eight (8) months into its implementation.

The current regulatory period took effect in September 2022 with an approved DSC1 of GHp17.0429/kWh, an increase of 5.79% from the previous DSC1 of GHp16.1094/kWh. From September 2022 to December 2024, the DSC1 was increased by only 11.71% within the AAF regime, even though inflation and foreign exchange rates significantly impacted the DSC1 by 32% and 87%, respectively.

The deterioration of the DSC1 also stemmed from the PSP arrangement, where the Commission, acting on advice from the Government, approved a tariff effective July 1, 2019, for the Concessionaire showing an average reduction of 14% on the previous DSC1. This 2019-2020 tariff decision by Commission was based on the separate tariff proposals by PDS and the restructured ECG. ECG assumed the responsibility of the Electricity Distribution and Sale Business in the SEDZ and continued the implementation of the existing DSC1, effective October 1, 2019. The graph below illustrates the trend in the DSC1 over the past 6 years.

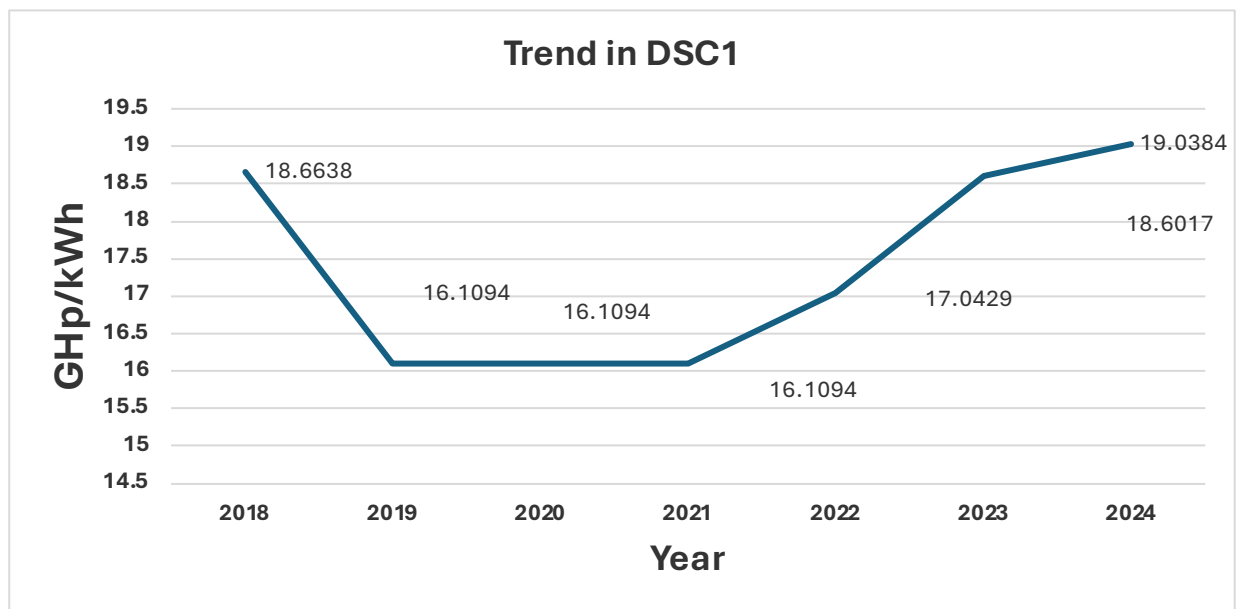


Figure 5: Trend in the DSC1 over the past 6 years

The current regulatory period saw major government policy directives that impacted on ECG's operations and would continue to be significant interventions in the energy sector. Key among them are the Energy Sector Recovery Programme (ESRP) aimed at improving the financial viability of the Energy Sector and reducing the sector's revenue gap, Cash Waterfall Mechanism (CWM) and the Natural Gas Clearing House (NGCH) aimed at equitable and fair allocation of revenue collected by ECG to all stakeholders in the electricity value chain.

During the regulatory period, ECG also experienced considerable outages from planned and unplanned maintenance. Other outages stemmed from Transmission Operations by the Ghana Grid Company Limited (GRIDCo) and the pigging exercise on the West African Gas Pipeline and were beyond ECG's control. These outages and other technical challenges were encountered in ECG's distribution network.

In 2022, ECG embarked on a major digital transformation drive in key areas to leverage technology to improve service delivery, eliminate waste, and inefficiency and enhance customer value. These include ECG PowerApp Enhancement, Customer and Asset Information Management (CAIMS), Zenith Enterprise Utility Suite (ZEUS) and Adora Billing System. Other interventions aimed at improving energy accounting, loss reduction and an increase in revenue included the Loss Reduction Programme (LRP), Distribution Transformer Metering and District Boundary Metering Projects. The deployment of prepayment meters remained essential in managing customer debt, improving energy accounting and revenue collection. As at December 2024, the percentage of credit customers to prepayment customers is approximately 44% to 56% which requires financial support through a cost recovery tariff. The cost of replacing postpaid meters with smart prepayment meters is important in improving revenue collection.

1.2 Rationale/Objectives Underpinning Tariff Submission

The tariff submission for the 2025-2029 regulatory period aims to restore financial viability and sustainability. The key objectives of the proposal are:

- a. To increase ECG's ARR or DSC1 from GHp19.0384 to an average of GHp 61.8028 per kWh during the 2025-2029 tariff regulatory period.
- b. To achieve a cost-of-service allocation within the tariff structure to avert distortions in pricing signals to some customers and the dissatisfaction of other customers who may seek cheaper electricity supply options.
- c. To attain a cost-of-service tariff allocation that eliminates cross-subsidization and promotes a non-discriminatory tariff.
- d. In accordance with the Government's policy on renewable energy, ECG requests the implementation of the Net Metering Tariff Structure for customers with grid-connected renewable energy.
- e. To adopt the Bank of Ghana Exchange Rate in determining the tariff instead of the Commission's Exchange Rate.
- f. To increase the service charge and allocate it exclusively to ECG for meter maintenance and replacement, which is currently being done at no cost to customers.
- g. To adopt a two-tariff band for residential customers: (i) lifeline (0-30 kWh exclusively) and (ii) all other consumption above 30 kWh, and one tariff band for all non-residential customers.
- k. To introduce public lighting tariffs in the tariff structure to cover the actual cost of public lighting consumption. This is essential to address the current underfunding of the energy consumed by public lighting through the Public Lighting Levy and eliminate ambiguities with accounting for Public Lighting.

- h. To include the full recovery of investment costs in the tariff for projects completed, ongoing and planned for the five-year regulatory period.

Furthermore, we propose that the following issues affecting Generation Cost (CBGC) should be reflected in the tariff.

- a. To include the cost of liquid fuel expected to be utilized during shutdowns and emergencies in the Weighted Average Cost of Gas (WACOG). In that regard, ECG proposes a change in name from WACOG to Weighted Average Cost of Fuel (WACOF)
- b. To include the full cost of the Reserve Margin (18%) in the tariff as it impacts the entire energy sector. The non-inclusion of Reserve Margin (Operating Reserve) in the tariff structure imposes cost on ECG operations, which is not recoverable through the tariff even though that capacity is useful to the Ghana system and the export market.

1.3 Highlights of Major Issues Which Describe the Structure of Tariff Submission

The key macroeconomic factors impacting ECG's tariff submission are foreign exchange, inflation and interest rates.

- a. **Foreign Exchange:** To illustrate, in September 2022, the approved DSC1 was set at GHp17.0429 per kWh, which was equivalent to 2.2674 US cents per kWh. In the last three years, the DSC1 has only increased to GHp19.0384 per kWh, translating to 1.2374 US cents per kWh through the AAF. This signifies that the Annual Revenue Requirement, represented by the DSC1 in dollar terms, has deteriorated by 45.43% due to the cedi's depreciation. This means that the implementation of the AAF did not consider the full impact of the depreciation of the cedi on DSC1. As a result, the company now requires significantly more Ghanaian cedis to purchase materials and equipment for its operations and maintenance than in 2022.

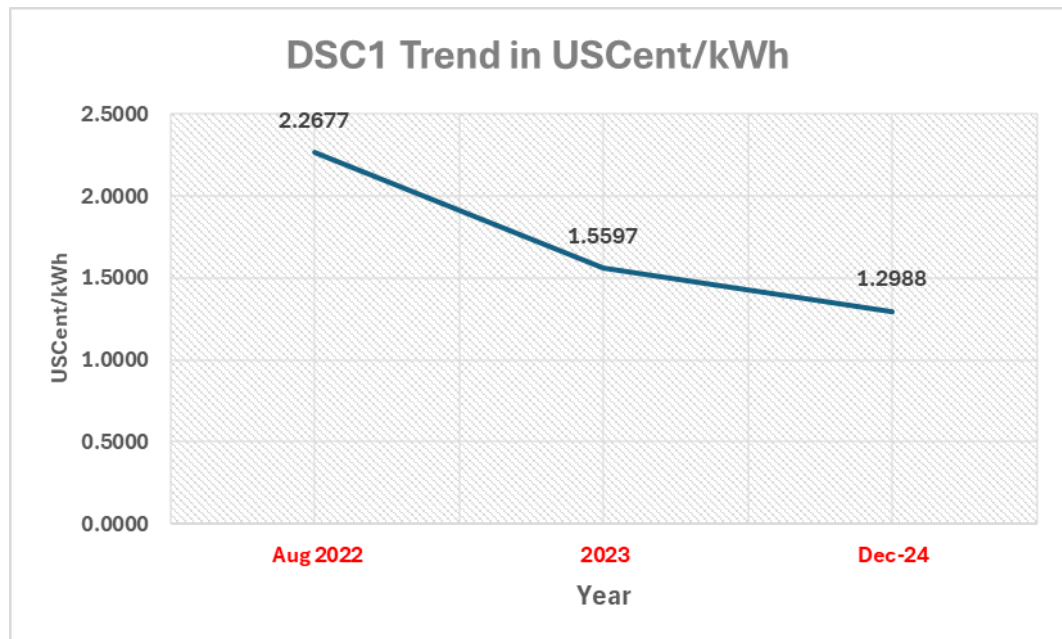


Figure 6: The DSC1 trend in USCent per kWh

To determine the US\$:GHs exchange rate for the next five years, ECG considered the expected rate projected by the Ghana Statistical Service. The average exchange rate during this period is GHs 18.66 to US\$1.

- b. Inflation:** The inflation rate at the beginning of the last regulatory period (2022) was 31.26%, and it was 23.80% by 2024. The high inflation rate has led to increased costs of both imported and local materials required by ECG to serve customers. As prescribed by the Commission, the Weighted Average Inflation Rate used in the proposal averaged 7.25% based on a ratio of 20% and 80% for the United States of America and Ghana, respectively. The graph below shows the trend of inflation over the last three years.

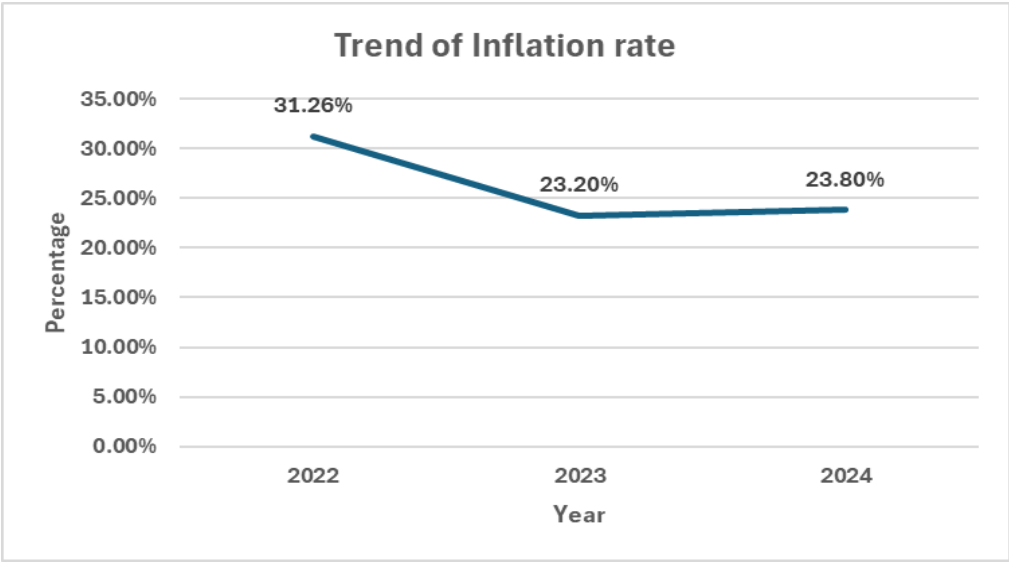


Figure 7: Trend of inflation over the last three years

- c. **Interest Rate:** During the regulatory period, ECG contracted commercial loans totalling GHS 614.5million to procure meters and other critical materials for its operations. The finance cost of these loans, which stood at 31.27% as of 2024, compared to 27% at the beginning of the regulatory period, increased the cost of financing for ECG. The graph below illustrates the trend in Interest Rate.

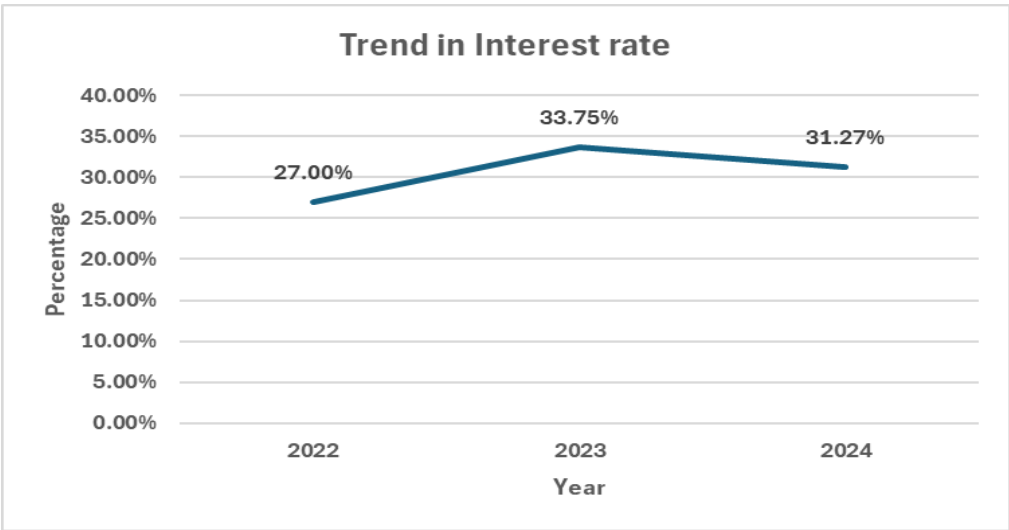


Figure 8: Trend of Interest Rate over the last three years

To finance the projects in the Investment Plan, ECG projected an average interest rate of **19%** during the five (5) year period based on the current trend.

- d. Investment:** During the period under review, ECG completed projects (reliability Improvements, Technical Loss & Voltage Improvements, and Commercial/Revenue improvements) worth US\$330.98million. Projects which are ongoing also amounts to US\$15.87million. The major projects were the Loss Reduction Project, where over 1.16 million smart prepaid meters were deployed, and the digitalisation of work processes, including cashless revenue collection.

The proposed investment plan for the period 2025-2029, amounts to US\$1.6 billion (US\$427 million in reliability improvement projects, US\$89 million in Technical Loss/Voltage improvement projects, US\$925 million in Commercial/Revenue Improvement projects and US\$182 million in other projects) in the distribution network and metering. Out of this amount, funds from Donors and GoG are estimated to be US\$222, with the remaining to be funded by ECG through tariff provisions. We strongly recommend a tariff to cover these assets deployed in the past 3 years and the planned investment in the next 5 years.

- e. Unrecovered Generation Pass-Through Costs:** During the period under review, the Composite Bulk Generation Cost (CBGC) approved by the Commission was lower than the actual CBGC achieved, indicating an under-recovery of generation cost in the tariff. In 2022, the unrecovered pass-through cost stood at GHS4.6 billion. This reduced to GHS3.6 billion by 2024 due to the regular application of the AAF by the Commission. While this is commendable, costs not covered through the tariff remain in the books of ECG. Table 3 below shows the actual unrecovered pass-through costs from 2022 to 2024.

Table 3: Unrecovered pass-through generation costs from 2022 to 2024

Unrecovered Generation Pass-Through Costs				
Description	Unit	2022	2023	2024
Power Purchase (value)	GHS Million	13,971.51	19,577.90	25,780.00
Power Purchase (unit)	GWh	14,811.65	15,505.29	16,757.49
CBGC Achieved	GHp/kWh	94.3278	126.2300	153.8462
CBGC approved by the Commission	GHp/kWh	63.1997	103.01	131.8548
Unrecovered Pass-Through	GHp/kWh	31.1281	23.2200	21.9914
Unrecovered Pass-Through cost	GHS Million	4,610.59	3,600.33	3,685.09

The key drivers of unrecovered generation pass-through costs are:

- Foreign exchange losses
- Interest rate fluctuations
- Fuel cost under-recoveries
- Non-provision of 18% reserve margin
- Unfavourable generation mix

Addressing these cost elements explicitly within the tariff structure is essential to attaining full cost recovery to ensure the financial viability of stakeholders within the electricity value chain.

It is important to note that, according to the provisions of the Power Purchase Agreement (PPA), Independent Power Producers (IPPs) invoice in US dollars and are expected to receive payments in the same currency. In contrast, ECG bills customers and receives payments in Ghana Cedis. Consequently, a foreign exchange loss occurs when the market rate for converting Ghana cedis to US dollars is higher than the rate approved by the Commission.

The implementation of the AAF under the current regulatory period reduced the forex loss by 75% during the period as shown in the chart below.

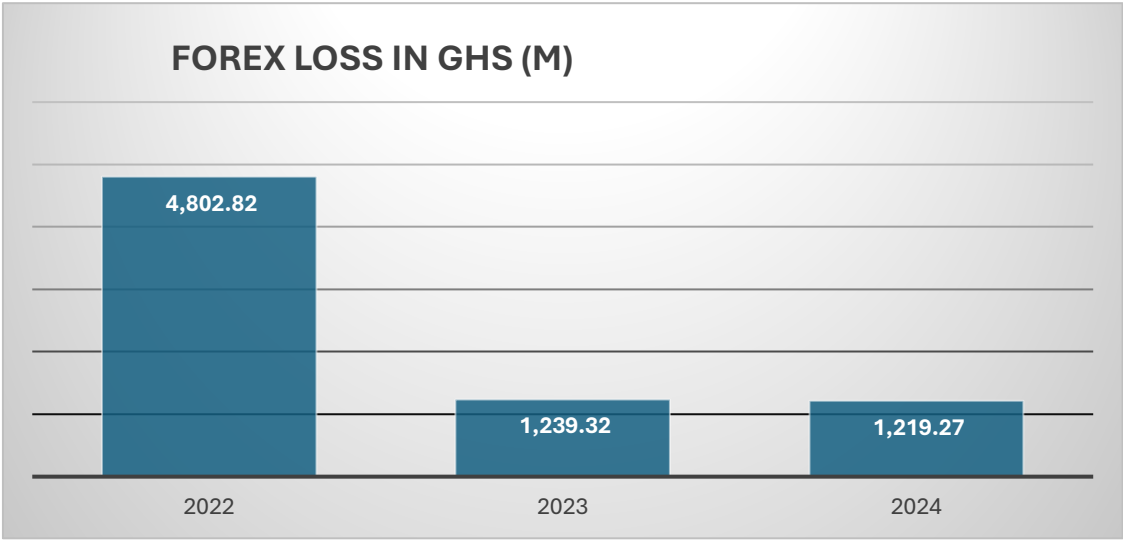


Figure 9: Forex loss in GHS million

While the AAF has been effective in addressing past forex losses, it is important to note that the current methodology is retrospective, primarily correcting for losses incurred in the previous quarter. As such, it does not offer a forward-looking solution to mitigate future foreign exchange risks.

To effectively bridge the gap and adopt a more proactive approach, ECG recommends adopting the Bank of Ghana (BoG) foreign exchange rate in all tariff methodologies, including CWM. This will provide a cost-reflective basis for determining tariffs and minimize the impact of the GHS fluctuations on ECG’s operations and obligations.

- f. Introduction of Cost of Liquid Fuels used for Emergencies into WACOG: ECG requests that the WACOG include liquid fuel anticipated for use during gas infrastructure shutdowns and emergencies. This request is because the liquid fuel component currently considered for the approved WACOG is the minimum allocation of Heavy Fuel Oil (HFO) designated for AKSA generation.

The enormous liquid fuels (Light Crude Oil and Distillate Fuel Oil) utilized during emergencies and gas infrastructure shutdowns are not captured in WACOG. This means the delta between the price per MMBtu of liquid fuel purchased and that of WACOG only increases the cost of generation not covered in the tariff.

To reverse this trend, ECG proposes including all liquid fuel purchases and changing the name from WACOG to WACOF (i.e., Weighted Average Cost of Fuel) to give gravitas to this paradigm shift.

Table 4 below captures the projected use of liquid fuel in 2025 for generation to meet ECG's demand. The projected fuels will be used during the published maintenance schedules of power plants and gas infrastructure shutdowns, as well as fuel used during peaking to meet required demand. This is an excellent proxy for projecting for the period 2026 to 2029.

Table 4: Provision of Liquid Fuels for Gas Infrastructure and Power Plant Shutdown Maintenance Activities (2025)

Power Plants	Sunon Asogli Phase II		Cenpower		AKSA		Total
	LCO		LCO		HFO		Amount (USD)
	Qty (Bbl)	Amount (USD)	Qty (Bbl)	Amount (USD)	Qty (Bbl)	Amount (USD)	
WAPCo Pigging Shutdown	177,120	17,712,000	344,390	34,439,040	200,285	25,476,267	77,627,307
30-Day GPP Shutdown	-	-	368,990	36,898,971	-	-	36,898,971
Bui Unit 2 Annual Mtce	189,771	18,977,143	368,990	36,898,971	-	-	55,876,114
Bui Unit 3 Annual Mtce	-	-	368,990	36,898,971	-	-	36,898,971
ENI Shutdown 1 (Loss of 247MMSCFd Gas)	94,886	9,488,571	184,495	18,449,486	40,236	5,118,000	33,056,057
ENI Shutdown 2 (Loss of 100MMSCFd Gas)	-	-	184,495	18,449,486	-	-	18,449,486

38-Day Shutdown of Unit 2 Akosombo	240,377	24,037,714	467,387	46,738,697	-	-	70,776,411
61-Day Shutdown of Unit 1 Akosombo	-	-	375,140	37,513,954	-	-	37,513,954
15-Day GPP Expansion Works	47,443	4,744,286	92,247	9,224,743	-	-	13,969,029
100 Days of Peaking by 2nd Unit of Cenpower and 200MW Peaking contribution of AKSA	-	-	307,491	30,749,143	178,826	22,746,667	53,495,810
SUB-TOTAL	749,597	74,959,714	3,062,615	306,261,462	419,347	53,340,934	434,562,110
Total Projected Liquid Fuel Cost for 2025							434,562,110

2 Initiatives Undertaken Since September 2022 Tariff Review

ECG embarked on some key transformational projects to improve reliability, reduce system losses, improve voltage, increase revenue collection, and achieve operational efficiency.

Two of the projects that had a great impact on ECG's operations are the LRP and Enhanced ECG PowerApp. The LRP project was designed to replace all overaged Non-MMS with advanced MMS Compliant ones with features to minimize revenue leakages and improve ECG's revenue mobilization. New service connections were also provided with MMS compliant meters under the LRP. The MMS compliant meters have cutting-edge technology to detect tampering and cut off power automatically.

The ECG PowerApp provides customer convenience, safety, and security, as well as regular notifications and alerts from ECG, fault reporting, and a reduction in transaction costs. The App was enhanced for better customer experience.

The Distribution Transformer (DT) and Boundary Metering projects began in December 2022 and are ongoing across all ECG operational areas. The objective of these projects is to reduce system losses by ensuring efficient energy accounting. A total of 30,000 DT meters is expected to be installed at the end of the project. As of December 2024, 3,142 DT meters had been installed.

In addition, significant progress has been made on the Regional and District boundary metering project. Metering has been completed for four regional boundaries; Western, Central, Eastern, and Volta as well as nine districts within these regions. The goal is to accurately measure energy purchases and sales within the designated boundaries, and determine Aggregate Technical, Commercial, and Collection losses (ATC&C). This project is ongoing and is expected to be completed by 2026.

ECG has developed a forward-looking business model to support Ghana's transition to clean energy. As part of this initiative, ECG has commenced procuring and operating Electric Vehicle (EV) charging stations in its operational areas. Through this model, ECG intends to generate revenue not only from the supply of electricity to these stations but also by offering consultancy and technical support services related to EV infrastructure development.

ECG has successfully procured and installed its first EV charging station at Mataheko (Accra) to demonstrate its commitment to Ghana's green energy agenda. This facility is strategically positioned to support the growing demand for clean transportation options and to encourage the widespread adoption of electric vehicles.

Recently, several private operators have begun establishing EV charging stations and have initiated discussions around the need for a dedicated tariff structure for EV charging. However, these operators have not yet attained Bulk Customer status, a requirement that would allow ECG to engage in direct tariff negotiations with them.

2.1 Projects Undertaken and Impact

Over the period under review, ECG has invested heavily in maintaining, upgrading and expanding the distribution network for power supply to customers within its distribution system. Significant investments were also made to improve commercial activities to transition into a Cashless system. This intervention facilitated customer convenience and boosted service delivery.

These investments, totalling approximately US\$834 million, are aimed at addressing not only the high demand for power supply but also ensuring a high level of system reliability, operational efficiency, customer convenience, loss reduction, and improved quality of supply (including enhanced voltage for end users) for our valued customers.

Specifically, ECG has invested a total of USD101 million in various reliability projects. This includes the construction and upgrade of Bulk Supply Points (BSPs), primary substations, and switching stations; the development of sub-transmission networks; the installation of network interconnecting circuits; and regional system improvement projects (RSIPs) within the distribution network we operate. Furthermore, the company spent USD291 million towards projects focused on reducing technical losses and improving voltage levels. Additionally, USD 442 million was spent on projects aimed at commercial, operational, and revenue enhancement, which includes the installation of meters and accessories, commercial systems and tools, and operational vehicles.

These strategic investments have ensured mainly the availability of a reliable and quality supply of power to customers and significantly transitioned ECG into a Cashless System to improve customer experience with our business operations.

2.2 Compliance with Directives of the Commission

During the period under review, the Commission sanctioned ECG and its Board Members in March 2024 for failing to comply with CWM payments and cooperate fully with PwC, the

Auditors appointed by MoEn & GT to validate the operations of the CWM under the IMF program. Additionally, the Commission issued directives for non-compliance with statutory obligations with respect to opening hours of customer service centres and prepayment points and damage to customers' electrical appliances. These requests and directives from the Commission were complied with accordingly.

All commercial complaints from aggrieved customers were duly addressed in collaboration with the Commission. The monthly, quarterly, and annual reports and data were submitted on time as requested by the Commission.

ECG would continue to comply with all directives of the Commission during the forthcoming regulatory period.

3 Key Policy Issues for Tariff Consideration

The Government is currently participating in an IMF program that requires improvements in the financial health of the energy sector. This includes implementing the CWM system as the sole medium for disbursing ECG's collections to stakeholders through a Single Collection Bank Account, which will be independently audited quarterly. The programme also requires the completion of the Energy Sector Validation Audit and the Adoption of a payment plan to settle intra-sectoral debt through the Ministry of Finance.

Under this policy, the CWM has become the main framework for paying stakeholders in the electricity value chain, including Fuel Suppliers and Regulators. Initially, it was difficult for ECG to comply fully with the CWM due to the insufficiency of funds to pay approved amounts under the CWM and amounts owed to other internal Suppliers and Contractors. However, from February 2025, the company has fully complied with the CWM allocations.

The CWM is expected to continue to guide revenue allocation in the electricity distribution sector in the next five (5) years. One of the threats of the CWM, is the use of the Commission's foreign exchange rate instead of the Bank of Ghana/market exchange rate in allocating funds to

stakeholders. This is mainly because IPPs often do not receive their fixed payments in US dollars, even though ECG fully pays the Ghana cedi equivalent. This results in allegations of non-compliance with the CWM and additional liability on ECG.

Since 2022, ECG embarked on a digitalization drive which led to the enhancement of the ECG PowerApp for cashless revenue collection across the company. This transformation process improves customer convenience and revenue collection. The commission charged for processing payments on the Enhanced ECG PowerApp averaged GHS450 million per annum, and ECG requests that the full cost be allowed in the tariff.

In line with the Government objective on green energy transition (increase the share of renewable energy- solar, wind, hydro, and biomass, promote energy efficiency, expand access to clean energy, support E-mobility and attract green investment), ECG projected renewable energy of 25.51% of its energy forecast in the next five (5) years. As mentioned earlier, ECG has installed an EV charging station at Mataheko (Accra) to support the Government policy of E-mobility.

The Government is also encouraging Net Metering for grid-connected renewable energy customers, to promote renewable energy resources. Further to this, the PURC, in consultation with the EC, has developed Rate-Setting Guidelines for distribution utilities that offer Net Metering Scheme to their customers. The Net Metering Scheme shall comprise the net metering rate, net metering quantity and eligible customers to encourage electricity customers to supplement their purchase of electricity with grid-connected renewable energy. ECG has been working with the Regulators to implement the Net Metering Tariff structure for customers who will sign on to this arrangement.

In line with the Government's policy on renewable energy, ECG requests the implementation of the Net Metering Tariff structure for customers with grid-connected renewable energy.

4 Proposed Service Delivery and Efficiency Improvements During the Tariff Period

Interventions undertaken to improve the operation of ECG's commercial systems during the regulatory period brought about some improvements in customer service delivery. Table 5 below shows major commercial initiatives.

Table 5: Major Commercial Activities Initiated

SYSTEMS IMPLEMENTED	EXPECTED IMPACT ON COMMERCIAL OPERATION
Enhanced PowerApp	To promote a smooth digital payment system to facilitate revenue mobilisation.
	To enhance operational efficiency with integrated staff support tools (Staff Portal), tracking real-time transactions and others.
	To improve customer convenience through paperless billing, access to an easy service application, and complaint lodging.
ZEUS System	To improve customer service delivery through timely meter installation and meter reading processes.
	To improve operational efficiency by implementing a paperless system for service application.
	Facilitates revenue collection through automated workflows.
Adora billing system	To increase revenue collection through accurate and timely billing including customer notifications.
Customer Asset and Information Management	To improve accounting of asset by tagging and coding all ECG assets, including meters installed on customer's premises.

On the technical side, the planned projects, including the construction of a National Control Centre for SCADA activities, implementation of a substation naming code, upgrade of transformer test bench to conduct destination acceptance tests for transformers, and others, are envisaged to improve system stability, reliability, and operational efficiency. These improvements are expected to result in an overall improvement in service delivery.

4.1 Service Delivery and Efficiency Targets

The company's service delivery and efficiency targets for the five (5)-year regulatory period is derived from its strategic plan for 2025-2029. Based on the company's mission, vision, customer value proposition, the focus for the next five (5) years will be on six (6) main areas namely Corporate Strategy Execution and Governance, Customer Engagement and Experience, Human Capital and Organisational Development, Risk, Security and Compliance, Operational Efficiency and Infrastructure Optimisation, Revenue Maximization and Diversification.

Table 6: Service Delivery and Efficiency Targets (2025-2029)

Corporate strategy Execution and Governance	Customer Engagement and Experience	Human Capital and Organisational Development	Risk, Security and Compliance	Operational Efficiency and Infrastructure Optimisation	Revenue Maximization and Diversification
Achieve at least 70% of strategic goals set for the fiscal year.	Achieve a CSAT score of 70% or higher in annual customer satisfaction surveys by 2029.	Achieve a role clarity score of 90% or higher in employee surveys within the first year.	Achieve 100% compliance with procurement plans and reduce procurement cycle time.	Achieve a 15% improvement in operational efficiency.	Increase revenue by 15% from reduced energy losses.
Complete 100% of scheduled performance reviews for strategic initiatives by the end of each quarter	Achieve an NPS(Net Promoter Score) of 7 or higher by the end of the fiscal year.	Ensure 80% of employees complete their prioritised annual training programs.	Maintain a 100% compliance rate with governance policies and regulatory requirements annually.	Achieve a 20% improvement in network reliability.	Achieve a 20% increase in revenue collection and reduce operational disruption by 50%.
Achieve a stakeholder satisfaction score of 80% or higher in annual surveys.	Reduce days taken to serve customers to 5 days.	Achieve a 75% participation rate in mentoring programs within the first two years.	Achieve 100% risk management implementation rate and reduce the impact of the risks identified by 75%.	Achieve a project completion rate of 50%.	Achieve a billing accuracy rate of 98% or higher and collect 95% of billed revenue.

Achieve 100% staff awareness on Corporate Strategy.	Achieve a first contact resolution rate of 50% or higher by the end of the fiscal year.	Reduce workplace safety incidents to fewer than 1 incident per 1000 employees annually.	Achieve 100% compliance with all relevant laws and regulations.	Integrate 20% renewable energy into the energy mix.	Establish at least 5 new non-tariff revenue streams and achieve a 10% growth in non-tariff revenue.
	Achieve a satisfaction and engagement score of 90% or higher, based on feedback collected through annual surveys and strategic consultations with key accounts.(SLT/Bulk Customers).	Achieve an employee engagement score of 75% or higher in annual surveys.	Catalogue 100% of enterprise assets, achieve a 90% reduction in security incidents and achieve a 95% reduction in data breaches.	Achieve a 20% reduction in energy losses through improved energy accounting practices.	
		Achieve at least 4 innovative solutions yearly to address key company problems.			

4.2 Technical / Operating Performance Indicators/Indices

Both the System Availability Interruption Duration Index (SAIDI) and the System Availability Interruption Frequency Index (SAIFI) have consistently reduced. The System Availability is currently 99.53%, while System Reliability has seen some improvements since 2022. Whereas the regulatory benchmark for SAIDI was achieved for 2023 and 2024, the SAIFI regulatory benchmark of six (6) has not been achieved in all customer classes. This is because the benchmark indices are skewed towards a relaxed benchmark on outage duration and a more stringent requirement on outage frequency.

Table 7: Technical/ Operating Performance Indicators/Indices (2022-2024)

INDEX	CATEGORY	2022	2023	2024	PURC BENCHMARKS
CAIDI	Metro	1.62	1.81	1.77	8
	Urban	2	1.69	2.09	12
	Rural	2.13	1.91	2.18	24

SAIFI	Metro	15.27	12.09	12.18	6
	Urban	21.81	18.22	17.09	6
	Rural	18.8	16.47	20.55	6
SAIDI	Metro	24.75	21.86	21.53	48
	Urban	43.71	30.72	35.66	72
	Rural	40	31.48	44.72	144

4.2.1 ECG Proposed Technical Performance Indicators/Indices (2025-2029)

Table 8: ECG Proposed Technical Performance Indicators/Indices (2025-2029)

INDEX	CATEGORY	PROPOSED BENCHMARK	EXISTING BENCHMARKS
CAIDI	Metro	2	8
	Urban	3	12
	Rural	4	24
SAIFI	Metro	24	6
	Urban	24	6
	Rural	24	6
SAIDI	Metro	48	48
	Urban	72	72
	Rural	96	144

4.3 Financial Performance Indicators/Indices

Table 9: Financial Performance Indicators/Indices

No.	Description	Figures in GHS Million		
		2022	2023	2024
1	Net Sales	8,620	15,666	17,405
2	Power Purchase	13,972	19,578	24,386
3	Transmission Cost	1,134	1,508	1,352
4	Gross Profit	(2,028)	(335)	(11,665)
5	Net Operating Profit	(3,517)	(1,714)	-4,877
6	ANFA	27,557	40,052	55,892
7	ROR on ANFA % (using profit)	(0.128)	(0.043)	(0.087)
8	Current Asset	10,143	15,458	14,979

9	Current Liability	29,433	46,773	53,909
10	Stock	276	357	428.601
11	Current Ratio : 1	0.34	0.33	0.278
12	Gross Profit Profit Margin (%)	(0.24)	(0.02)	(0.67)
13	Net Profit Margin(%)	(0.41)	(0.11)	(0.28)

4.3.1 Liquidity Analysis – Current Ratio, Quick Ratio, and Acid Test Ratio

ECG's liquidity position shows downward trend from 2022 to 2024, as reflected in its current ratio, quick ratio, and acid test ratio.

The company's ability to meet its short-term liabilities as they become due has declined from 0.34 in 2022 to 0.278 in 2024. This figure is significantly below the standard benchmark of 2:1, indicating that the company lacks sufficient current assets to cover its short-term obligations.

This decline is primarily due to an increase in short-term liabilities resulting from new contracts for the supply of essential materials. Additionally, the company has invested substantial resources into long-term projects, which have further strained its short-term liquidity.

Over the next five years, the company's strategy focuses on improving its liquidity position by increasing current assets and reducing short-term obligations. This approach is crucial for preventing potential financial instability and ensuring the company consistently meets its operational and financial commitments.

4.3.2 Profitability

During the period under review, ECG improved its profitability with a gross profit margin of -105% to -67% and a net profit margin of -103% to -28% between 2022 and 2024. This was due to a 102% increase in sales. The increase in the Composite Bulk Generation Cost (CBGC) through the regular AAF and the procurement of liquid fuels for power generation largely accounts for the increase in direct cost. Similarly, the significant growth in sales can also be

attributable to increases in the value chain cost through the AAF, which led to 80.81% increase in the End User Tariff (EUT). The increase in sales and revenue collection can be partially attributed to ECG's transformational project, notably the Loss Reduction Project (LRP).

The AAF is expected to remain applicable in the next regulatory period to address cost under/over-recovery due to foreign exchange losses, inflation, fuel, and generation mix.

4.3.3 Gearing Ratio Analysis

Between 2022 and 2024, ECG's gearing ratio experienced notable fluctuations: 2022: 5.1, 2023: 9.0 (peak), 2024: 5.4. The sharp increase in 2023 was primarily driven by a 71% rise in total creditors, mainly due to the depreciation of the Ghanaian cedi against the US dollar and a GHS650 million loan contracted during the period. A significant portion of Independent Power Producers (IPPs) invoices are denominated in dollars, so the weakening cedi led to a substantial increase in ECG's obligations. It is projected that the underlying causes will be addressed in the tariff to maintain long-term financial stability.

5 Key Challenges Likely to Impact Service Delivery

The key challenges impacting service delivery during the regulatory period include:

- High rate of illegal connections
- Substandard meters illegally introduced to ECG network
- Communication challenges with some telecom networks
- Communication issues with substandard modems on some smart meters
- Vegetation interfering with the network
- Inaccessible routes in some districts
- Underground Cable failure
- Termination or Joint failure in the underground cable circuits
- Damage to underground cables by third-party contractors especially during excavations

- Overhead Line faults due to jumper cuts etc
- Distribution Transformer burn-outs due to Lightning strikes etc
- Frequent operation of fuses due to overloads
- Theft of copper earth conductor
- Vandalism and theft of copper winding in Transformers

5.1 Metering Including Prepayment Metering

ECG remains committed to installing smart prepaid meters in all operational areas except when conditions do not permit. As of December 2024, 1,078,181 MMS-compliant meters had been successfully installed since the inception of the MMS in 2021.

During the period under review, the company initiated a meter deployment strategy to address cash flow challenges with meter procurement and availability, reduce commercial losses, increase revenue collection, and improve revenue accounting. In all, 210,180 MMS meters were installed for new service connections and 796,636 for replacement of faulty or obsolete meters.

The districts that have not commenced the LRP project continue to provide new services or meter replacement using credit meters. In 2024, 25,718 credit meters were installed, 16,900 as new service connections and 8,828 as replacements.

5.2 Energy Audit

The Distribution Transformer and Boundary Metering projects are aimed at reducing system losses by improving the energy accounting. These would allow easy identification of areas of high system losses in the distribution network. Energy accounting has commenced on some distribution transformers which has successfully been onboarded onto the MMS. Other activities being undertaken to improve energy accounting include:

- Aggressive tackling of illegal collection

- Regular mapping and capturing of SHEP meters
- Replacement of obsolete and faulty meters
- Re-routing of concealed service tails
- Continuous regularization of unauthorized connections

Further, the company has established a quarterly reconciliation mechanism involving all stakeholders in the value chain under the Energy Sector Recovery Programme (ESRP). This process includes agreeing to and signing off on invoices and payments with each Agency. The mechanism enables the reconciliation of both the energy generated and the amount contributed by each power producer into the National Interconnected Transmission System (NITS). By so doing, the energy purchased by ECG from all plants is accurately accounted for. This arrangement ensures the completeness and accuracy of the creditors' positions with ECG and provides reassurance to stakeholders, including multilateral partners.

5.3 Theft of Power, Cables and Equipment

ECG battles various forms of theft, including direct connection, meter bypass, meter tampering, unauthorised connection, removal of copper from distribution transformers, draining of transformer oil, and cutting of underground and overhead cables. These incidents disrupt the quality of electricity supply to customers and pose a risk to the general public. Table 10 below shows illegal connections identified and recoveries made during the last regulatory period.

Table 10: Illegal connections identified and recoveries (2022-2024)

Year	Meters Monitored	Illegal Connections Identified	Anomalies Identified	Total Units Recovered (GWh)	Amount Recovered (GHS Millions)
2022	206,608	7,773	13,968	62.63	64.12
2023	136,214	5,125	9,209	34.62	50.44
2024	122,959	4,893	41,269	81.53	125.38

Total	465,781	17,791	64,446	178.78	239.94
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A total of 17,791 illegal connections were identified, resulting in the recovery of 178.78 GWh and the payment of GHS 239.94m by the culprits.

5.4 Loss Control-Technical and Commercial

Revenue Protection activities have been expanded to include a special task force dedicated to combating energy theft and supporting the company’s revenue mobilization objectives. At the end of 2024, the company reported system losses of 27.05%, which consisted of 9.16% technical losses and 17.89% commercial losses.

The company also initiated several projects aimed at reducing system losses across all its operational areas. These projects undertaken to reduce both commercial and technical losses include upgrading undersized conductors, implementing transformer injections to shorten long low-voltage (LV) networks, and installing meters on distribution transformers for accurate energy accounting.

Additionally, smart prepaid energy meters have been installed in areas prone to energy theft. The metering of previously unmetered premises has been integrated into the Loss Reduction Project (LRP) to obtain actual consumption data for billing purposes. The replacement of faulty and obsolete meters with smart prepaid meters is also ongoing.

5.5 Availability/Reliability of Supply- Quality of Service

Improvement in operational KPIs such as system availability and reliability of supply are key strategic objectives to be achieved by ECG in carrying out its mandate. Although these objectives have been achieved at some points in one way or another, more action is required by the company to sustain these gains, as discussed under section 4.2. The

circumstances contributing to low quality of supply include overloaded networks, third-party damages, theft, vegetation interfering with the network, etc.

Within the regulatory period, ECG has made considerable investments in network reliability improvement and supply quality with some of these projects ongoing. These initiatives have yielded the desired improvement in network reliability in the specific locations where those projects were undertaken. However, the challenges encountered by other players in the sector, such as generation shortfalls and transmission failures, are beyond the company's control and often impact on the availability and reliability of power supply to our customers.

5.6 Suppressed Demand

In electricity distribution systems, suppressed demand refers to electricity demand that is not served due to various constraints, even though the potential need or desire for it exists. Suppressed demand can be categorized based on the underlying causes or nature of the suppression. These include reliability-based suppressed demand, capacity-based suppressed demand, access-based suppressed demand, and economic suppressed demand.

Within ECG's operational regions, suppressed demand remains a challenge. All the above enumerated types of suppressed demand occur in the distribution systems. The occurrence of suppressed demand in the operations of any power distribution company cannot be eliminated but minimised. ECG is making efforts to reduce suppressed demand through targeted interventions such as network expansion, infrastructure upgrades, enhancements to system quality and timely commitment to the right quantum of generational sources to match the increasing demand. These efforts include adding feeders and distribution transformers, as well as implementing voltage improvement projects and the expansion of the distribution network to new areas and regions.

ECG is exploring modern tools and methods to better identify rapidly growing demand centres in a timely manner, enabling the utility to keep pace with evolving customer consumption needs.

5.7 Management Information System Including E-Payment

ECG has deployed several systems in its commercial operations to enhance its service delivery and improve customer satisfaction. These systems which replaced the Customer Management System (CMS) include MMS, Adora, ZEUS, and ECG PowerApp systems. The MMS is the main platform for smart prepayment meters while non-smart prepayment meters use individual meter management platforms. Adora system is the main billing platform for credit meters (Postpaid meters). Customer management and workflows are managed by the ZEUS System. The ECG PowerApp is the main payment platform for prepaid and postpaid customers.

The ECG Power App is the central system for revenue collections via Ghana.Gov, Bank Apps, USSD (mobile payment short code), G-Money, POS, Credit Card, and Direct Transfer. These E-payment systems have significantly improved the ease and convenience for customers to make payments for electricity consumption.

5.8 Billing and Collection

ECG introduced a new billing system in June 2023, known as the Adora system, which was implemented in all operational areas. The production and issuance of bills for all post-paid customers are completed within ten days of the ensuing month. However, due to the limited number of meter readers, the company adapted the quarterly meter reading method.

In 2024, the reading performance averaged 66% of the actual readings billed in a quarter. As a result, the percentage of actual bills was reduced for Non-SLT postpaid customers. By the end of 2024, the actual billing rate for customers with AMR meters was an average of 74%. To enhance billing accuracy, measures are being implemented to conduct bi-monthly meter readings and to closely monitor all meter readers.

At the end of December 2024, the total number of postpaid customers was 2,134,498. The average number of postpaid customers billed during the regulatory period were 1,793,162; 1,800,817; and 2,053,616 for 2022, 2023 and 2024 respectively.

During the current tariff period, sales increased significantly by 89% from GHS8,005 million in 2022 to GHS15,119 million in 2023. It further increased between 2023 to 2024 by 14% to GHS17,205 million in 2024. Energy growth averaged 8.6% annually between 2022 to 2024.

The main reason accounting for the increases in sales is the increase in the end-user tariff initially in the 2022 -2024 Major Tariff Review in September 2022 and subsequently through the quarterly adjustment with the implementation of the AAF. The company also embarked on some strategic initiatives that complemented the growth in sales. These are:

- a. The deployment of 1.16million smart prepaid meters under the LRP
- b. Digitization projects undertaken by ECG, including the cashless system, spot billing, and CAIMS.
- c. Various revenue improvement drives including Operation No Free Consumption, Operation Fix the Bill, Operation Collect All, and Operation Keep the Light On.

5.9 Organisational Reform & Restructuring

The Company is organized into a Head Office, ten (10) Operational areas, two (2) Sub-Transmissions, and Ninety-two (92) Districts, as indicated under section 1.1. The Management of ECG is headed by a Managing Director and two Deputy Managing Directors.

ECG is structured under three levels of Management namely low-level management, middle-level management, and top-level management.

- Top-level managers (MD, DMDs & Directors) control and oversee the entire organization.

- Middle-level managers (General Managers) are responsible for executing organizational plans that comply with the company's policies. These managers act as intermediaries between top-level management and low-level management.
- First-line managers (Managers) focus on controlling and directing. They serve as role models for the employees they supervise.

Four new directorates were instituted during the regulatory period as part of the transformation agenda. These are: Projects, Planning, Monitoring and Evaluation; Innovation and Strategic Business Management; Investigation, Prosecution and Security; and Information Security. The activities of these new directorates are meant to augment the existing directorates' operations.

ECG also created the Enterprise Change Management (ECM) Division within the PPME Directorate to drive change initiatives in the transformational agenda. The ECM Division ensured seamless organizational and personnel transitions in job roles through change impact assessment, to facilitate readiness, adoption, resistance management and targeted training.

ECG has a wholly owned subsidiary called Power Telco Business Ltd (PBTL), which was formed as a Joint Venture with VOBISS Solutions, a private company, to commercialize ECG's fibre optic asset. The joint venture with VOBISS Solutions was chosen due to its established customer base, existing operating license, and telecom sector expertise. ECG also has 20% shares in Tropical Cable Company Ltd.

ECG partners with several groups for the welfare and professional development of staff. These groups consist of Organized Labour Unions (Senior Staff Union, Junior Staff Union and Public Utility Workers Union), and clubs/associations (Engineers Forum, Project Managers Forum, Power Queens and Women in Engineering)

5.10 Customer Complaints & Dispute Resolution

The customer satisfaction index for 2024 was 62.22%, a decrease from the 2021 figure of 63.80%. Measures taken by ECG to enable customers lodge complaints with ease include the following:

- The Complaint Management Console on the ZEUS system.
- The use of additional Ghanaian languages at the ECG call centre.
- Deployment of ECG PowerApp as a complaint channel.
- Improved social media platforms with the multilingual IVR system.

ECG has managed its social media platforms to resolve many more customer complaints. Customers can easily access and lodge customer complaints through the WhatsApp channel and the management of the social media platforms. This has decreased the response time and improved the resolution period.

5.11 Resolution of Court Cases

ECG initiates and defends all civil and criminal cases before courts and other quasi-judicial bodies. During the regulatory period, a total of sixty-six (66) civil cases are pending before the courts and the breakdown is as follows.

- a. Twenty-three (23) cases are land related issues.
- b. Seventeen (17) cases involve issues of Negligence.
- c. c. Thirteen (13) cases involve customer services issues, such as outages, that result in damages/injuries to persons and/or properties.
- d. Ten (10) cases relate to issues emanating from Contracts.
- e. Three (3) of the cases are on labour/staff issues including, allegations of wrongful/unfair dismissals/treatment of staff by the Company.

Additionally, various avenues, including the issuance of demand notices, engagement of external solicitors, and legal actions, are explored in pursuing debts owed to the company.

Presently, 871 customers are being pursued to recover various amounts owed totalling GHS47,467,914.54. ECG has completed the processing of demand notices in respect of the 871 accounts (446 residential and 425 non-residential), received from five (5) regions of the company and would pursue the needed legal actions in court against these customers should they fail to honour payments as directed in the demand notices.

5.12 Government and Public Sector Debts

The Government has implemented a set-off arrangement with ECG to net off electricity bills owed by strategic Ministries, Departments, and Agencies (MDAs) against payments made by the MoF to IPPs on behalf of ECG. This arrangement has been in place since 2020, ensuring that strategic MDAs' electricity bills are fully paid annually. In particular, the outstanding strategic MDA bills, which totaled GHS 1,198.92 million, GHS 2,394.88 million, and GHS 1,404.09 million for 2022, 2023 and 2024 respectively, have been completely netted off. This arrangement applies only to strategic MDAs and the Public Lighting shortfall debt.

However, in 2022 and 2023, a new arrangement was introduced, where the MoF issued Treasury Credit Notes to net off ECG's VAT liability to the Ghana Revenue Authority (GRA) with strategic MDA bills. These two arrangements ensured that ECG has not carried strategic MDA debts in its books since 2020.

Going forward, the government is expected to make a full budgetary provision in the National Budget for the payment of strategic MDA bills.

5.13 Bad & Doubtful Debts

Bad and doubtful debt is any outstanding electricity bill owed to the company that has not been paid despite repeated efforts to collect the debt (deemed irrecoverable) or any uneconomical debt to pursue. This may be due to temporary structure removal, demolished structures, road construction, illicit transfer, meter removal, etc. The debt is written off after going through internal bad debt recovery procedures and has been declared as Finalized Accounts. The Finalized Accounts are farmed out to a third party at a commission to recover the debt. ECG also makes a provision for doubtful debt if the amount may not be collectible to ensure that future accounts will not be adversely impacted when the debt must be written off.

During the tariff period under review, the Company did not write off any bad debt. However, in November 2024, the Board of ECG was requested to approve the writing off of some Finalized Accounts. Procedures are expected to be put in place to ensure that irrecoverable debts are written off every year.

5.14 Surcharge & Subsidies

The total Power Factor Surcharge billed to customers for the past three (3) years is shown in table 11 below. During the regulatory period, the company did not apply subsidies to customer bills.

Table 11: Power Factor Surcharge (2022-2025)

POWER FACTOR SURCHARGE				
YEAR	2022	2023	2024	TOTAL
Amount (GHS)	26,836,316	31,138,981	35,500,912	93,476,209

5.15 Government Grants

Periodically, the government makes significant payments on behalf of ECG to the IPPs and GRIDCo on behalf of ECG to shore up ECG's revenue shortfall and settle its liabilities for generation and transmission obligations. These payments are made through the issuance of bonds, Direct Transfers, and payments to Fuel Suppliers. They are mainly intended to reduce the energy sector shortfall.

In 2019, the MoF directed ECG to net off payments to IPPs directly on behalf of ECG with MDAs electricity bills in the books of ECG and treat the excess as equity. Later, in a report dated November 11, 2022, KPMG recommended that the cost of power purchases, which was not

recoverable through the tariff, but paid by MoF through this arrangement should be classified as Government Grant in accordance with the requirement of International Financial Reporting Standards (IFRS) IAS 20: Government Grants.

In this regard, ECG recognizes Government Grant due to take-or-pay contracts (idle capacity cost), reserve margin cost, forex losses, generation mix cost, cost overruns from the usage of liquid fuel in power generation, and the delta between the weighted average cost of gas (WACOG) and the actual cost of gas that is billed to ECG.

These costs are not recovered through the tariff and are hence treated as Government Grant in the books of ECG in compliance with IAS 20: Government Grant as recommended by KPMG. Table 12 below shows payments made by MoF, including the component used to offset Government debt and the portion that was treated as the Government Grant.

Table 12: Payments made by Ministry of Finance (2022-2024)

Year	Direct Payment (GHS'000)	Natural Gas Clearing House (GHS'000)	Liquid Fuel	Total GoG Payment (GHS'000)	Gov't Debt (GHS'000)	Amt Treated as Gov't Grant (GHS'000)
2022	2,292,171.10	3,173,240.35	739,547.55	6,204,959.00	-	6,204,959.00
2023	3,518,580.17	3,114,816.93	-	6,633,397.10	-	6,633,297.10
2023	12,046,351.14	6,221,550.55	262,180.73	19,720,082.42	571,258.15	6,710,160.00

5.16 Access to Finance and Repayment of Financing Costs

ECG has relied on Government subsidiary loans to finance some key projects. However, in the current regulatory period, the company contracted a number of commercial loans to support the deployment of meters, digitize its operations and improve system reliability and efficiency.

Between 2022 and 2024, the Ministry of Finance (MoF) granted a 'No-objection', and ECG

borrowed GHS 614.5million from several banks for five (5) years at an average interest rate of Ghana Reference Rate (GRR) +3 to support ECG transformational projects. The company has honoured its repayment obligation, both principal and interest, without defaulting on the loans from tariff revenue. Table 13 below shows interest payments on loans between 2022 and 2024.

Table 13: Interest payments on loans between 2022 and 2024

Item	Unit	2022	2023	2024
Interest on foreign loans in	GHS million	631.08	160.21	191.76
Interest on domestic loans	GHS million	80.31	216.84	288.15

5.17 Tariff Structure and Rates Design

During the last regulatory period, the approved tariff structure and the rate design saw significant changes. The structure comprises of two main customer groups, Non-SLT and SLT. Non- SLT category comprises of residential and non- residential (commercial) customers while SLT comprises of LV, MV, HV and HV Mines. The rate design which previously had four tariff bands was collapsed into two (2) tariff bands for non- residential customers and three (3) tariff bands which includes lifeline (exclusive) for residential customers contrary to what was proposed in ECG's 2022-2026 tariff proposal.

Nonetheless, some of the challenges that informed ECG's 2022-2026 tariff proposal on the amendment to rate design continue to exist. The collapse of the multiple bands was intended to help customers understand how their bills are calculated. Also, the application of tariff with multiple bands on utility billing systems can be complex. Additionally, more tariff bands pose a problem for customers using a shared meter.

In the last tariff the Commission reduced the number of tariff bands for residential customers. However, ECG is still of the view that the tariff bands should be further reviewed to comprise two (2) tariff bands for residential customers and just one (1) tariff band for non-residential (commercial) customers as indicated in the table 14 below.

Table 14: Proposed Tariff band Structure (2022-2025)

Category	First Tariff Band	Second Tariff Band
Residential	Lifeline tariff exclusively for 0-30kWh	Tariff applicable to all non-lifeline customers (0 to X, X>30kWh)
Non- Residential	N/A	Flat tariff applicable to all

The first tariff band is a lifeline tariff exclusively applicable to low-income earners whose consumption falls within 0-30kWh. The second tariff band is a flat rate tariff applicable to all residential customers who do not fall within the lifeline tariff band. Similarly, we recommend that non-residential customers should have a flat rate tariff applicable to all. This means that the lifeline tariff does not apply to non-residential customers and effectively making the existing two (2) tariff bands a single tariff band.

Regarding the tariff structure, we propose maintaining the existing structure with an additional tariff for Public Lighting. Currently, 50% of the Public Lighting Levy (PLL) retained by ECG constitutes about 21% of the actual cost of public lighting consumption. The other 50% PLL is payable to MoEn & GT for infrastructural development.

Currently, ECG calculates the cost of public lighting based on the average Electricity Usage Tariff (EUT) for consumption. This approach has led to challenges with stakeholders regarding the tariff rate applied to this consumption, highlighting the need for a separate tariff specifically for public lighting. The estimated annual consumption of 720.99 GWh, calculated using the average EUT, translates to approximately GHS 1.03 billion. Therefore, establishing a dedicated streetlight tariff is essential to accurately determine the actual cost of streetlight consumption. This will allow ECG to properly account for public lighting consumption when assessing sales and system losses.

5.18 Introduction of Wholesale Electricity Market

The Wholesale Electricity Market (WEM) implementation has progressed beyond its initial stages, with key components now operational. As of 2025, the Energy Market has moved from partial implementation to a more structured and regulated framework, enabling improved competition and efficiency in electricity procurement.

The Capacity Market is yet to be implemented even though the foundation for this has been laid with the finalization of market rules lodged at the Energy Commission awaiting the full-scale transition into the market era. When the market rules are fully operational, long-term capacity procurements will be done based on the long-term projections and the need for additions and in a competitive manner. Also, the short-run pricing for both energy and capacity will be done on competitive basis to obtain market clearing prices for bidders in both the Energy and Capacity Markets subject to the running contracts with Independent Power Producers (IPPs). This effectively means that the transition into a fully-fledged market era depends on when all existing contracts have run their course.

Since November 2021, market participants have been nominating power plants to serve their loads and/or demand in a merit order fashion geared towards reducing cost. The only challenge observed thus far is the inefficient utilization of gas to meet the total demand (export inclusive). This, when allowed to fester, has the propensity to increase the need for reliance on more expensive liquid fuel options to meet the total demand of ECG (and sometimes the Ghana demand as well as Export). This affected the meeting ECG's demand in 2023 and 2024, and this phenomenon must be addressed in the interest of the Ghanaian consumer.

The full implementation of the WEM necessitates transparency and information flow as capacity and energy belonging to participants may be utilized by others, making the need for settlement imperative. To this end, the Energy Accounting & Settlement model developed by GRIDCo (the Market Operator) under the supervision of Commission must be taken a notch higher. This will activate the financial settlement part to make participants whole when their Energy and/or Capacity have been used to serve another participant. One area of information flow that needs

to be re-examined is the easy access to historical and real-time information, which will assist in the settlement process when the market is fully operational. ECG has led the way by calling for the information flow of incidents that occur on the Power System to be shared with market participants and has even developed templates adopted by the Energy Commission. Daily reports, system condition reports, major incident reports (especially those that will cause a deviation from published Dispatched Schedules) and the like must be shared with all market participants in the interest of transparency and to engender acceptance and/or buy-in in the settlement process. ECG has been shopping around to acquire the right online monitoring software that will aid in upstream visibility in preparedness for the full operationalization of the WEM.

Power markets require services that will keep the system running optimally and services that will bring up the system when the system collapses. Ghana cannot transition into the fully fledged market era when such services are not priced. The reluctance of market participants to render such services in the pre-market era lends credence to the need to price such services. The Ancillary Services market should be given the much-needed attention by the Commission in the forthcoming major tariff review (2025-2029 regulatory period), as the success of the market era depends on it as such services are needed for a healthy Power System. Accordingly, the incentive for active participation of players (in this case power plants) in that space must be given by the Commission in pricing such services. Currently, most of the Transmission Service Agreements (TSA) that GRIDCo has signed with the IPPs require IPPs to deliver services such as the contribution towards the generation of the needed reactive power for the system. However, GRIDCo cannot enforce this because the compensation for such calls when needed by the System Operator by way of pricing is not in place to incentivise participation. ECG recommends the pricing of Ancillary Services to enable the full implementation of the WEM

5.19 Wholesale Market Bulk Customers Embedded in Distribution Network

As Ghana moves towards the full implementation of the Wholesale Electricity Market (WEM), managing Bulk Customers (BCs) and determining industry-specific tariffs are critical issues.

Currently, ECG serves thirty-seven (37) bulk customers, each with the authority to negotiate its tariff under the existing regulatory framework. However, the shift to WEM will catalyze substantial market activity, prompting ECG and its bulk customers to reexamine and potentially recalibrate their pricing strategies to align with a more competitive and transparent market environment.

In anticipation of this transition, ECG presents a comprehensive overview of its current bulk customer portfolio. This proposal includes a complete list of the 37 bulk customers and a robust analysis of their forecasted demand and energy consumption for the forthcoming tariff period. The analysis provides insights into each customer's energy usage patterns, which are critical for accurately projecting revenue streams under the new market dynamics.

Table 15 outlines the forecasted demand and energy consumption for each bulk customer, as well as the revenue that these customers are projected to generate over the tariff period. By incorporating detailed quantitative data, ECG aims to ensure that stakeholders clearly understand the financial and operational implications associated with the transition to the WEM. This comprehensive approach supports internal planning and risk management and reinforces transparency and collaboration with external stakeholders as the power sector embarks on this significant transformation.

ELECTRICITY COMPANY OF GHANA LIMITED

PROPOSALS FOR REVIEW OF ELECTRICITY DISTRIBUTION AND SUPPLY AGGREGATE REVENUE REQUIREMENT AND TARIFF

Table 15: Projected Demand and Energy Consumption for each Bulk Customer 2022-2025)

Name_Of_Customer	2025			2026			2027		
	Total kWh	Max. kVA	Total Charge/ GHS	Total kWh	Projected Max. Demand/ kVA	Total Charge/ GHS	Total kWh	Projected Max. Demand/ kVA	Total Charge/ GHS
Steel Companies									
B5 Plus Company Ltd	9,477,152	1,016	10,192,951	9,524,537	1,021	19,975,637	9,572,160	1,026	22,083,066
Fabrimetal Ghana Limited	82,441,920	17,800	88,668,676	82,854,130	17,889	173,768,437	83,268,400	17,978	192,101,007
Ferro Fabric Manufacturing	87,183,972	18,603	93,768,890	87,619,892	18,696	183,763,583	88,057,991	18,789	203,150,641
Sentuo Steel Ltd	106,282,746	20,520	114,310,175	106,814,160	20,623	224,019,366	107,348,230	20,726	247,653,409
Tema Steel Company	18,295,586	8,032	19,677,434	18,387,064	8,072	38,562,851	18,479,000	8,113	42,631,232
West African Forgings Ltd.	3,410,190	2,604	3,667,759	3,427,241	2,617	7,187,890	3,444,377	2,630	7,946,212
Star Steel Company Ltd	78,910,926	23,320	84,870,990	79,305,481	23,437	166,325,922	79,702,008	23,554	183,873,307
RGJB Plus Steel Ltd (Ghana Steels)	7,084,548	1,784	7,619,637	7,119,971	1,793	14,932,583	7,155,571	1,802	16,507,971
Rider Iron & Steel Ghana Limited	13,494,323	19,323	14,513,536	13,561,795	19,420	28,442,902	13,629,604	19,517	31,443,628
ADI Steel	5,097,800	8,760	5,482,831	5,123,289	8,804	10,744,979	5,148,905	8,848	11,878,574
SUB - TOTAL FOR STEEL COMPANIES	411,679,163		442,772,879	413,737,559		867,724,150	415,806,247		959,269,047
Mining Companies									
Chirano Gold Mines Ltd	854,232	184	1,427,336	858,503	185	1,577,920	862,796	186	1,744,391
GMC	8,336,016	1,886	16,841,004	8,377,697	1,895	18,617,730	8,419,585	1,905	20,581,900
Mensin Gold Bibiani Ltd.	68,267,983	10,606	114,068,972	68,609,323	10,659	126,103,249	68,952,369	10,712	139,407,142
SUB-TOTAL FOR MINING COMPANIES	77,458,231		132,337,313	77,845,522		146,298,899	78,234,750		161,733,433
Manufacturing Companies									
Olam Ghana Ltd	13,886,584	2,800	19,441,218	13,956,017	2,814	38,099,928	14,025,797	2,828	42,119,470
Sentuo Ceramics	38,091,446	6,480	40,968,454	38,281,903	6,512	80,287,929	38,473,312	6,545	88,758,305
Nixin Paper Mill Ghana Ltd	23,455,301	2,000	33,775,633	23,572,578	2,010	66,191,798	23,690,440	2,020	73,175,032
Sunda Ghana Limited (Group Incl. Homepro)	24,189,989	2,524	32,656,485	24,310,939	2,537	63,998,547	24,432,494	2,550	70,750,393
Printex Ltd	6,033,311	1,372	8,929,301	6,063,478	1,379	17,499,197	6,093,795	1,386	19,345,362
LEXSZ FIBER PRODUCTION LTD	13,002,746	2,850	18,723,955	13,067,760	2,864	36,694,270	13,133,099	2,879	40,565,516
MINIPLAST LTD	13,600,780	2,716	19,857,138	13,668,784	2,730	38,915,027	13,737,128	2,743	43,020,562
BLOW CHEM IND.	35,821,980	8,052	51,583,651	36,001,090	8,092	101,091,061	36,181,095	8,133	111,756,167
DURAPLAST LIMITED	10,971,199	1,088	16,127,663	11,026,055	1,093	31,606,187	11,081,185	1,099	34,940,639
INTERPLAST GHANA LTD	21,633,757	3,710	31,585,286	21,741,926	3,728	61,899,263	21,850,636	3,747	68,429,636
QUALIPLAST LTD	7,236,437	715	10,420,470	7,272,619	719	20,421,515	7,308,982	722	22,575,985
SUB-TOTAL FOR MANUFACTURING COMPANIES	207,923,531		284,069,254	208,963,149		556,704,721	210,007,964		615,437,069
Refineries									
SENTUO REFINERY	65,556,155	5,605	70,507,546	65,883,936	5,633	138,177,163	66,213,355	5,661	152,754,854
SUB-TOTAL FOR REFINERIES	65,556,155		70,507,546	65,883,936		138,177,163	66,213,355		152,754,854
Cement Companies									
Ghacem Ltd (Tema)	59,533,027	7,813	81,560,247	59,830,692	7,852	159,837,695	60,129,846	7,891	176,700,571
Ghacem Ltd (Western)	46,006,024	9,640	63,028,252	46,236,054	9,688	123,519,618	46,467,234	9,737	136,550,937
WAN HENG GH LTD (Sol Cement)	19,760,614	5,560	29,245,709	19,859,418	5,588	57,314,279	19,958,715	5,616	63,360,935
EMPIRE CEMENT GH LTD	23,227,912	4,002	33,448,193	23,344,051	4,022	65,550,096	23,460,772	4,042	72,465,631
SUB-TOTAL FOR CEMENT COMPANIES	148,527,577		207,282,402	149,270,215		406,221,687	150,016,566		449,078,075
Food and Beverages Company									
Kasapreko	44,136,087	2,108	65,321,409	44,356,768	2,119	128,013,631	44,578,551	2,129	141,519,069
Pioneer Food Cannery Ltd	5,786,666	1,553	8,680,000	5,815,600	1,561	17,010,629	5,844,678	1,569	18,805,251
Nestle Ghana Limited	15,784,551	3,240	23,676,826	15,863,473	3,256	46,400,659	15,942,791	3,272	51,295,929
Fan Milk Ltd Accra	14,701,177	2,672	22,051,765	14,774,683	2,685	43,215,947	14,848,556	2,699	47,775,229
TWELLIUM INDUS COMP	17,921,489	6,130	26,523,803	18,011,096	6,161	51,980,024	18,101,152	6,191	57,463,916
COSMOS SEAFOODS COMPANY LTD	9,352,897	1,496	14,029,346	9,399,662	1,503	27,494,011	9,446,660	1,511	30,394,629
NUTRIFOODS GHANA LTD.	8,139,573	918	11,883,777	8,180,271	923	23,289,232	8,221,173	927	25,746,247
WILMAR AFRICA	18,180,632	4,008	25,452,885	18,271,535	4,028	49,881,291	18,362,893	4,048	55,143,767
SUB-TOTAL FOR BEVERAGE COMPANIES	134,003,072		197,619,811	134,673,088		387,285,424	135,346,453		428,144,037
GRAND TOTAL	1,045,147,730		1,334,589,204	1,050,373,469		2,502,412,044	1,055,625,336		2,766,416,514

ELECTRICITY COMPANY OF GHANA LIMITED

PROPOSALS FOR REVIEW OF ELECTRICITY DISTRIBUTION AND SUPPLY AGGREGATE REVENUE REQUIREMENT AND TARIFF

Table 16: Projection for Bulk Customer Energy and Demand 2022-2025

Name_Of_Customer	2028			2029		
	Total kWh	Projected Max. Demand/ kVA	Total Charge/ GHS	Total kWh	Projected Max. Demand/ kVA	Total Charge/ GHS
Steel Companies						
B5 Plus Company Ltd	9,620,021	1,031	24,412,830	9,668,121	1,036	26,988,383
Fabrimetal Ghana Limited	83,684,742	18,068	212,367,664	84,103,166	18,159	234,772,452
Ferro Fabric Manufacturing	88,498,281	18,883	224,583,033	88,940,773	18,978	248,276,543
Sentuo Steel Ltd	107,884,972	20,829	273,780,844	108,424,396	20,933	302,664,723
Tema Steel Company	18,571,395	8,153	47,128,827	18,664,252	8,194	52,100,918
West African Forgings Ltd.	3,461,599	2,643	8,784,538	3,478,907	2,656	9,711,306
Star Steel Company Ltd	80,100,518	23,672	203,271,941	80,501,021	23,790	224,717,130
RGJB Plus Steel Ltd (Ghana Steels)	7,191,349	1,811	18,249,562	7,227,305	1,820	20,174,891
Rider Iron & Steel Ghana Limited	13,697,752	19,615	34,760,931	13,766,240	19,713	38,428,209
ADI Steel	5,174,650	8,892	13,131,764	5,200,523	8,937	14,517,165
SUB - TOTAL FOR STEEL COMPANIES	417,885,278		1,060,471,932	419,974,705		1,172,351,721
Mining Companies						
Chirano Gold Mines Ltd	867,110	187	1,928,424	871,445	188	2,131,873
GMC	8,461,683	1,914	22,753,291	8,503,991	1,924	25,153,763
Mensin Gold Bibiani Ltd.	69,297,131	10,766	154,114,595	69,643,617	10,820	170,373,685
SUB-TOTAL FOR MINING COMPANIES	78,625,924		178,796,310	79,019,053		197,659,321
Manufacturing Companies						
Olam Ghana Ltd	14,095,926	2,842	46,563,074	14,166,406	2,856	51,475,478
Sentuo Ceramics	38,665,679	6,578	98,122,306	38,859,007	6,611	108,474,210
Nixin Paper Mill Ghana Ltd	23,808,893	2,030	80,894,998	23,927,937	2,040	89,429,421
Sunda Ghana Limited (Group Incl. Homepro)	24,554,656	2,562	78,214,560	24,677,429	2,575	86,466,196
Printex Ltd	6,124,264	1,393	21,386,298	6,154,886	1,400	23,642,552
LEXSZ FIBER PRODUCTION LTD	13,198,764	2,893	44,845,178	13,264,758	2,907	49,576,344
MINIPLAST LTD	13,805,813	2,757	47,559,232	13,874,842	2,771	52,576,731
BLOW CHEM IND.	36,362,001	8,173	123,546,443	36,543,811	8,214	136,580,593
DURAPLAST LIMITED	11,136,591	1,104	38,626,877	11,192,274	1,110	42,702,012
INTERPLAST GHANA LTD	21,959,889	3,766	75,648,962	22,069,688	3,785	83,629,928
QUALIPLAST LTD	7,345,527	726	24,957,751	7,382,255	729	27,590,794
SUB-TOTAL FOR MANUFACTURING COMPANIES	211,058,004		680,365,679	212,113,294		752,144,258
Refineries						
SENTUO REFINERY	66,544,422	5,689	168,870,491	66,877,144	5,718	186,686,328
SUB-TOTAL FOR REFINERIES	66,544,422		168,870,491	66,877,144		186,686,328
Cement Companies						
Ghacem Ltd (Tema)	60,430,495	7,931	195,342,482	60,732,648	7,970	215,951,114
Ghacem Ltd (Western)	46,699,570	9,785	150,957,061	46,933,068	9,834	166,883,031
WAN HENG GH LTD (Sol Cement)	20,058,508	5,644	70,045,514	20,158,801	5,672	77,435,316
EMPIRE CEMENT GH.LTD	23,578,075	4,062	80,110,755	23,695,966	4,083	88,562,440
SUB-TOTAL FOR CEMENT COMPANIES	150,766,649		496,455,812	151,520,482		548,831,900
Food and Beverages Company						
Kasapreko	44,801,444	2,140	156,449,331	45,025,451	2,150	172,954,736
Pioneer Food Cannery Ltd	5,873,901	1,576	20,789,204	5,903,271	1,584	22,982,466
Nestle Ghana Limited	16,022,505	3,289	56,707,649	16,102,617	3,305	62,690,306
Fan Milk Ltd Accra	14,922,799	2,712	52,815,516	14,997,413	2,726	58,387,553
TWELLIUM INDUS COMP	18,191,657	6,222	63,526,359	18,282,616	6,254	70,228,390
COSMOS SEAFOODS COMPANY LTD	9,493,894	1,519	33,601,263	9,541,363	1,526	37,146,196
NUTRIFOODS GHANA LTD.	8,262,279	932	28,462,476	8,303,590	936	31,465,267
WILMAR AFRICA	18,454,707	4,068	60,961,434	18,546,981	4,089	67,392,865
SUB-TOTAL FOR BEVERAGE COMPANIES	136,023,185		473,313,232	136,703,301		523,247,779
GRAND TOTAL	1,060,903,463		3,058,273,457	1,066,207,980		3,380,921,306

5.20 Embedded Generators and Interconnection

There are four (4) operational renewable energy sources which are directly connected to the distribution network of ECG. These are:

- 20MW BXC Solar Farm at Gomoa Onyeadze in the Central Region
- 20MW Meinergy Solar Farm at Winneba in the Central Region
- 0.1MW Safisana Waste-to-Energy plant at Ashaiman in the Greater Accra Region
- 0.03MW Tsatsadu Mini-Hydro Power plant at Tsatsadu in the Volta Region, which is owned and operated by the Bui Power Authority.

Table 17 below shows the summary of the capacity and energy projections of the expected energy from the embedded generation plants in the ECG distribution network for the period 2025 to 2030.

Table 17: Summary of Embedded generators in ECG distribution network

Name of Plant	Capacity (MW)						Comments
	2024	2025	2026	2027	2028	2029	
BXC Ghana Limited	20	36.5	36.5	36.5	36.5	36.5	PPA operational
Meinergy Technology	20	36.5	36.5	36.5	36.5	36.5	PPA operational
Safisana Company Limited	0.1	0.69	0.69	0.69	0.69	0.69	PPA operational
Tsatsadu Mini-Hydro Power Plant	0.03	0.29	0.29	0.29	0.29	0.29	Capacity and output of plant is included in the Bui PPA and has the same tariff

5.21 Power Procurement from Independent Power Producers and Renewable Energy Generators

ECG procures power for distribution from Volta River Authority (VRA), Bui Power Authority (BPA) and IPPs. Apart from meeting the projected demand, power procurement seeks to resolve power quality (Voltage, frequency control, etc.) and supply security for the sector. In the light of the foregoing, ECG has factored in the generation plan, provisions for 18% reserve margin as determined by the system operator (GRIDCo) and ratified by the EMOP for consideration by the Commission. To this end, ECG has projected its Bulk Generation Charge for the tariff-regulated period (2025 to 2029) based on operational power plants and committed projects to achieve commercial operation date (COD).

Table 18 and 19 below shows scenarios of the cost of energy. The cost of energy (Bulk Generation Charge) without reserve margin is estimated to range from 253.78 Ghp/kWh in 2025 to 302.73 Ghp/kWh in 2029. When reserve margin is factored in the cost estimates, the cost ranges from 313.02 Ghp/kWh in 2025 to 359.09 Ghp/kWh in 2029.

ECG recommends that the Commission consider the additional cost introduced by the reserve margin as a pass-through in the tariff since this is beneficial to the stability, energy security, and reliability of the entire system.

Table 18: Summary of Cost of Energy Projection scenarios (USCent/kWh)

Description	2024 (Base Case)		2025		2026		2027		2028		2029	
	Energy (GWh)	USCent/ kWh	Energy (GWh)	USCent/ kWh	Energy (GWh)	USCent/ kWh	Energy (GWh)	USCent/ kWh	Energy (GWh)	USCent/ kWh	Energy (GWh)	USCent/ kWh
Cost of Energy at BSP	16,575.56	9.88	17,777.03	11.07	18,699.73	10.09	19,664.42	10.38	20,671.40	10.60	21,720.91	10.71
Cost of Energy at Customer End (based on PURC Allowable Losses)	11,934.41	14.28	12,977.23	15.81	13,837.80	14.22	14,748.32	14.43	15,710.26	14.55	16,725.10	14.50
Cost of Energy at Customer End (Including Reserve Margin)	11,934.41	18.36	12,977.23	19.50	13,837.80	18.00	14,748.32	17.76	15,710.26	17.45	16,725.10	17.20
Cost of Energy at Customer End (Including Idle Capacity)	11,934.41	19.20	12,977.23	19.88	13,837.80	18.78	14,748.32	18.63	15,710.26	18.01	16,725.10	17.54

Table 19: Summary of Cost of Energy Projection scenarios (Ghp/kWh)

Description	2024 (Base Case)		2025		2026		2027		2028		2029	
	Energy (GWh)	Ghp/ kWh	Energy (GWh)	Ghp/ kWh	Energy (GWh)	Ghp/ kWh	Energy (GWh)	Ghp/ kWh	Energy (GWh)	Ghp/ kWh	Energy (GWh)	Ghp/ kWh
Cost of Energy at BSP	16,575.56	158.04	17,777.03	177.69	18,699.73	164.34	19,664.42	200.90	20,671.40	220.05	21,720.91	223.58
Cost of Energy at Customer End (based on PURC Allowable Losses)	11,934.41	228.47	12,977.23	253.78	13,837.80	231.54	14,748.32	279.28	15,710.26	301.88	16,725.10	302.73
Cost of Energy at Customer End (Including Reserve Margin)	11,934.41	293.70	12,977.23	313.02	13,837.80	293.03	14,748.32	343.62	15,710.26	362.10	16,725.10	359.09
Cost of Energy at Customer End (Including Idle Capacity)	11,934.41	307.16	12,977.23	319.14	13,837.80	305.73	14,748.32	360.55	15,710.26	373.74	16,725.10	366.22

Table 20 below shows the Capacity and projected energy for all the power plants that will supply ECG's energy requirements during the regulatory period, 2025 to 2030.

Table 20: Projected Annual Energy Dispatch of Power Plants (2025 – 2030)

Name of Plant	Tested Capacity MW	Projected Annual Energy (GWh)					
		2025	2026	2027	2028	2029	2030
Akosombo	1020	3316	3316	3316	3316	3316	3316
Kpong	160	606	606	606	606	606	606
Bui Hydro Power	330	1030	1030	1030	1030	1030	1030
Tapco	300	373	373	373	373	373	373
Ameri	150	1117	1861	1861	1861	1861	1861
TwinCity (Amandi Energy)	200	1612	1612	1612	1612	1612	1612
Cenpower Generation	325	2619	2619	2619	2619	2619	2619
Bridge (Early) Power Limited	200	1612	1612	1612	1612	1612	1612
Sunon Asogli II	350	2100	2100	2100	2100	2100	2100
AKSA Enerji	330	1808	1808	1808	1808	1808	1808
Karpowership Ghana	450	3627	3627	3627	3627	3627	3627
Sunon Asogli I	180	1077	1077	1077	1077	1077	1077
Cenit Energy (Tema)	110	887	887	0	0	0	0
AKSA Enerji	350	353	1410	2821	2821	2821	2821
Cenit Energy (Kumasi)	330	148	1182	1773	2142	2660	2660

Table 21 below shows the detailed cost of energy generation from power plants based on fuel consumption.

Table 21: Supply Sources and associated costs (2025-2029)

SOURCES OF SUPPLY AND COST												
Supply Sources:	2024		2025		2026		2027		2028		2029	
	GWh	Million USD	GWh	Million USD	GWh	Million USD	GWh	Million USD	GWh	Million USD	GWh	Million USD
Embedded Generation												
Renewables (Solar & Biomass):												
BXC	28.17	5.14	36.50	7.35	36.50	7.35	36.50	7.35	36.50	7.35	36.50	7.35
Meinergy	22.14	4.46	36.50	6.66	36.50	6.66	36.50	6.66	36.50	6.66	36.50	6.66
Safisana	0.62	0.11	0.69	0.12	0.69	0.12	0.69	0.12	0.69	0.12	0.69	0.12
Total Renewables	50.93	9.71	73.69	14.13	73.69	14.13	73.69	14.13	73.69	14.13	73.69	14.13
Hydro Generation:												
Bui	1,314.35	134.59	1,030.00	105.47	1,030.00	105.48	1,030.00	105.48	1,030.00	105.48	1,030.00	105.48
Akosombo (VRA)	5,071.37	135.21	3,316.21	66.99	3,316.21	66.99	3,316.21	66.99	3,316.21	66.99	3,316.21	66.99
Kpong (VRA)	666.89	17.78	606.39	25.10	606.39	25.10	606.39	25.10	606.39	25.10	606.39	25.10
Total Hydro	7,052.61	287.58	4,952.60	197.56	4,952.60	197.57	4,952.60	197.57	4,952.60	197.57	4,952.60	197.57
Thermal Generation:												
VRA:												
Tapco (VRA) - NG	304.00	8.11	373.20	28.74	373.20	28.74	373.20	28.74	373.20	28.74	373.20	28.74
Ameri (VRA) - NG	649.25	17.31	1,117.00	136.27	1,861.00	149.25	1,861.00	149.25	1,861.00	149.25	1,861.00	149.25
Total VRA	6,691.51	178.40	5,412.80	257.10	6,156.80	270.08	6,156.80	270.08	6,156.80	270.08	6,156.80	270.08
IPPs:												
Amandi (NG)	1,250.13	170.61	1,611.84	189.49	1,611.84	191.78	1,611.84	198.14	1,611.84	199.10	1,611.84	200.08
Cenpower (NG)	1,864.73	294.91	982.22	136.49	982.22	136.84	982.22	137.20	982.22	137.56	982.22	137.93
Karpowership (NG)	2,213.58	382.81	783.58	106.64	962.28	144.24	1,926.98	290.21	2,933.95	444.01	3,626.64	551.52
Cenit (NG)	55.05	31.64	-	-	-	-	-	-	-	-	-	-
Sunon Asogli Power 1 (NG)	420.82	55.78	-	-	-	-	-	-	-	-	356.83	28.58
Sunon Asogli Power 2 (NG)	2,124.05	263.48	1,410.36	139.71	1,410.36	139.71	1,410.36	139.71	1,410.36	139.71	1,410.36	139.71
Early Power (NG)	620.67	90.43	1,611.84	231.15	1,611.84	231.95	1,611.84	238.77	1,611.84	239.60	1,611.84	240.44
Aksa Energy (HFO)	443.24	91.83	1,087.99	282.60	1,087.99	144.26	1,087.99	144.77	1,087.99	145.28	1,087.99	145.81
Cenpower (LCO)	-	-	1,309.62	258.49	1,309.62	258.88	1,309.62	259.28	1,309.62	259.68	1,309.62	260.09
Cenpower (DFO)	-	-	327.41	95.70	327.41	95.79	327.41	95.89	327.41	95.99	327.41	96.10
Sunon Asogli Power 2 LCO	-	-	1,410.36	234.95	1,410.36	234.95	1,410.36	234.95	1,410.36	234.95	1,410.36	234.95
Total Thermal (IPPs)	8,992.27	1,381.48	10,535.22	1,675.22	10,713.91	1,578.39	11,678.61	1,738.92	12,685.58	1,895.88	13,735.10	2,035.21
Total Thermal (VRA + IPPs)	9,945.52	1,406.89	12,025.42	1,840.23	12,948.11	1,756.38	13,912.81	1,916.91	14,919.78	2,073.87	15,969.30	2,213.20
Grand Total	17,049.06	1,704.17	17,051.70	2,051.92	17,974.40	1,968.08	18,939.09	2,128.61	19,946.07	2,285.57	20,995.59	2,424.90

Table 22 illustrates the projected reserve margin energy and the potential power plants that will supply during the tariff horizon i.e. 2025 to 2029.

Table 22: Projected Reserve Margin for Power Plants (2025 – 2029)

Name of Plant	Projected Annual Energy (GWh)					
	2025	2026	2027	2028	2029	2030
Karpowership Ghana Company Limited	2843	2664	1700	693	0	0
Sunon Asogli I	1077	1077	1077	1077	720	0
Cenit Energy (Tema)	60	296	0	0	0	0

AKSA Enerji (Kumasi)	0	89	1562	2791	2821	2449
Cenit Energy (Kumasi)	0	0	0	0	1251	2584

Table 23 below shows the estimated cost of the projected reserve margin energy for the 2025 to 2029 regulatory period. The total estimated cost for the 18% reserve margin requirements is about USD 2,892.39 million as shown in the table below. This highlights the significant financial commitment required to maintain an 18% reserve margin, critical for system reliability and addressing suppressed demand. The estimated cost of the reserve margin needs to be recovered through the tariff due to its relevance to the entire sector.

The non-inclusion of 18% Reserve Margin (Operating Reserve) in the tariff structure imposes a cost on ECG operations that is not recoverable through the tariff, even though such capacities are useful to both the Ghana System and the export market.

These idle plants are utilized in instances where plants high up the merit order table shutdown for planned or forced outages for the benefit of all whilst ECG is made to bear the payments of these capacities alone, a situation which keeps increasing the power sector shortfall.

This major addition to the tariff structure will go a long way to wean ECG off its dependency on GoG for idle capacities payments, thereby freeing funds for other forms of economic activities within the country.

Table 23: Cost of Reserve Margin (2025 – 2029)

Cost of Reserve Margin (18%)							
Item	2025	2026	2027	2028	2029	2030	Total
Reserve Margin (USD Million)	479.02	522.65	490.44	455.93	451.48	492.88	2,892.39

5.22 Human Resource-Skilled Manpower

The employee strength decreased by 0.17% from 2022 to 2023 (from 6,407 in 2022 to 6,396 in 2023) and then increased by 0.97% from 2023 to 2024. The total staff strength at the end of December 2024 was 6,458. To ensure optimal staffing amidst ongoing digital transformation, workforce and work optimization analysis will be conducted before recruiting new non-technical staff. Nevertheless, gradual recruitment in specific fields, especially junior technical staff, remains necessary to meet current shortfalls, support ongoing expansion projects, and serve the growing customer population. An average staff increase of 1.55% is expected during the five (5) year tariff period. A study to determine the Company's Average Aggregate of Percentage Readiness (AAPR) of staff to achieve corporate objectives showed that the AAPR was approximately 77%. This figure is expected to improve after the implementation of appropriate interventions. ECG intends to continue to utilise the Human Capital Readiness Index (HCRI) to identify appropriate intervention programmes for employee skill development. Such intervention programmes will include capacity building, employee motivation, managing change, and improving accountability among staff. Table 24 below shows the projected staff strength for various categories from 2025 to 2029.

Table 24: Projected Staff Strength (2025-2029)

ITEM	2025	2026	2027	2028	2029
Total Number of Employees	6,581	6,688	6,783	6,878	6,973
Management Staff	362	362	362	362	362
Non- Management Staff	6,219	6,326	6,421	6,516	6,611
Skilled Staff	3,675	3,738	3,778	3,863	3,951
Non- Skilled Staff	2,906	2,950	3,005	3,015	3,022

ITEM	2025	2026	2027	2028	2029
Operations	1,592	1,627	1,662	1,697	1,732
Maintenance	582	597	612	627	642
Customer Services	1,890	1,930	1,970	2,010	2,050
Transport	526	531	536	541	546
Overheads	1,991	2,003	2,003	2,003	2,003
Total Number of Employees	6,581	6,688	6,783	6,878	6,973

6 Strategies to Address Key Challenges

The following proactive strategies have been adopted to address the key challenges likely to impact service delivery in the short, medium and long term:

Short term:

- Revamp commercial systems (e.g., Enhanced ECG PowerApp, Adora, and ZEUS Customer Management systems) to improve their functionality and performance.
- Undertake aggressive Loss Reduction initiatives by continuously deploying Smart Energy Meters with remote monitoring systems.
- Design and implement a revenue assurance programme through a continuous monitoring and maintenance program for smart meters.
- Implement operational efficiency programmes through the end-to-end ERP (i.e., SAP4/HAHA) systems with smart informative dashboards.
- Optimize the revenue mobilization exercise to improve revenue collection.
- Deploy VIT feeder automation technology on all overhead feeders to address transient faults.
- Deploy LIVE-line technologies for network operations to reduce network interruptions during fault identification and remediation.
- Technical inspection of the network in all Regions and Districts with a focus on identifying and replacing defective insulators on frequently tripping feeders.
- Intensify vegetation control strategies across all 92 operational Districts.
- Strict adherence to planned maintenance activities to reduce outage periods.
- Creation of redundant networks for system flexibility and reliability.
- Implement PMO project prioritization and selection system to ensure value for money and alignment with budget.
- Employment of staff and acquisition of vehicles to execute the maintenance charts.
- Training of contractors to improve workmanship.
- Replacement and repair of faulty test vans to facilitate the timely localization of underground faults.

- Installation of AMR meters for high-consuming residential and commercial customers to improve billing accuracy, subsequently improving customer satisfaction and revenue collection.
- Intensive customer education on E-payment, i.e. ECG PowerApp.
- Identifying and removing weak spots on feeders
- Upgrading Capacity of Lines/Cables
- Relieving overloaded distribution transformers
- Intensifying vegetation control activities
- Reviewing protocol for load management requests
- Collaborating with GRIDCo to revise the operations and settings of the Transmission Company's existing Automatic Frequency Load Shedding (AFLS) system to optimize its effect.

Medium term:

- Deployment of the OMS for effective outage management and GIS technologies to improve operational efficiency.
- Review and optimize the procurement policy and process (across directorates, regions and districts).
- Secure funding for medium-term strategic projects aimed at improving non-tariff revenue.
- Completion of the various ongoing strategic projects to improve system reliability, loss reduction and operational efficiency.
- Integration of the Battery Storage and Renewable Energy Technology at various Primary Substations to augment supply reliability during upstream supply curtailment.
- Engage strategic partners to deploy Electric Vehicle (EV) Charging Stations nationwide to boost Revenue Generation.
- Conduct a workforce optimization assessment to improve workforce distribution and productivity.
- Implement enterprise-wide risk management to mitigate commercial, operational and technological risks associated with the business.

- Monetize existing data to improve non-tariff revenue.
- Leverage existing strategic partnerships with other leading utilities for purposes of benchmarking to build internal capabilities.
- Collaborating with GRIDCo to upgrade transformers at selected Bulk Supply Points, intensifying the sub transmission backbone network.
- Upgrading the capacities of transformers at Primary Substations

Long Term

- Establish a centre of excellence aligned with the corporate core values to improve customer value and experience.
- Smart grid deployment with predictive maintenance, load forecasting with full Artificial Intelligence (AI) capabilities.
- Institutionalize knowledge transfer and leadership pipelines through workforce succession and leadership development.
- Progressively overhaul the Distribution Network system to replace overaged distribution lines, expand substations, and invest in intelligent automation systems.
- Develop an Environment, Social and Governance framework to ensure compliance with business sustainability initiatives and operational standards to enable ECG access green financing opportunities.
- Collaborating with GRIDCo to build additional BSPs to improve power supply capacity and reliability.

7 Total Distribution Utility System Load at Peak

The coincidental peak demand is projected to rise each year with a forecast of 2,524.33 MW for 2025 and an increase to 3,039.00 MW by the end of the tariff period 2029. The projected Compound Annual Growth Rate (CAGR) for this five-year period is 4.75%. To maintain a reliable and high-quality supply for customers, it is essential that ECG continues to investment in its distribution network.

8 Regulated Market Customers

ECG primarily serves customers in the regulated market. To strategically maintain and grow its customer base, customers are categorized into two groups: non-Special Load Tariff (NSLT) and Special Load Tariff (SLT) customers. The company is committed to implementing best practices to achieve its goal of delivering improved services to all customer categories. As of December 2024, the total number of active customers reached 4.87 million.

8.1 Regulated Market - Non-Special Load Tariff Customers

As of December 2024, the total NSLT customer population was 2.13 million credit customers and 2.74 million Prepayment customers. These numbers are projected to increase by an average of 5% for NSLT year on year between 2025 and 2029.

8.2 Regulated Market - Special Load Tariff Customers

The total SLT customer population was 2,216 as at December 2024. To retain all the SLT customers, specific engagement strategies are undertaken regularly to improve service delivery and increase customer satisfaction. Such efforts help avert the threat posed by bulk customers certified by the Energy Commission, which permits them to negotiate and purchase directly from other suppliers.

9 De-Regulated Market-Energy Commission Licensed Bulk Customers Embedded in Disco Network

10 Base Load

The demand for ECG contributes significantly to the base load of the country's electricity supply. However, the market operator, GRIDCo oversees the entire electricity market, enabling it to determine the base load of the entire electricity grid.

11 Forecast of Energy to be Purchased

Table 25 below shows the forecasted energy purchases, projected sales and system losses for the period 2025 – 2029. In the tariff computation, the base case scenario was adopted.

Table 25: Electricity Demand Forecast (2025 – 2029)

Scenario	Category	Units	2025	2026	2027	2028	2029
Low	Total Sales	GWh	12,495.9	13,322.1	14,196.1	15,119.4	16,093.4
	Total Purchases	GWh	16,886.3	17,762.7	18,679.1	19,635.6	20,632.6
	System Losses	GWh	4,390.4	4,440.7	4,482.9	4,516.2	4,539.2
	System Losses	%	26%	25%	24%	23%	22%
	Peak Load	MW	2,397.8	2,485.2	2,613.4	2,747.2	2,886.7
Base	Total Sales	GWh	13,155.1	14,024.8	14,944.9	15,916.9	16,942.3
	Total Purchases	GWh	17,777.1	18,699.7	19,664.4	20,671.4	21,720.9
	System Losses	GWh	4,622.1	4,674.9	4,719.4	4,754.4	4,778.6
	System Losses	%	26%	25%	24%	23%	22%
	Peak Load	MW	2,524.3	2,616.3	2,751.3	2,892.2	3,039
High	Total Sales	GWh	14,300.8	15,246.4	16,246.7	17,303.4	18,418
	Total Purchases	GWh	19,325.4	20,328.5	21,377.2	22,471.9	23,612.8
	System Losses	GWh	5,024.6	5,082.1	5,130.5	5,168.5	5,194.8
	System Losses	%	26%	25%	24%	23%	22%
	Peak Load	MW	2,744.2	2,844.2	2,990.9	3,144.1	3,303.7

11.1 Non-Conventional Energy - Renewable Energy

Table 26: Non-conventional energy – renewable energy (2025-2029)

Renewable Energy	2025	2026	2027	2028	2029
Hydro<100MW	0.29	0.29	0.29	0.29	0.29
Waste to Energy					
Biomass	0.69	0.69	0.69	0.69	0.69
Wind					
Solar	73	73	73	73	73
Wave					
TOTAL	73.98	73.98	73.98	73.98	73.98

12 Distribution System Losses at Various Voltage Levels

Table 27: Distribution system losses at various voltage levels (2025-2029)

Voltage Levels	2025	2026	2027	2028	2029
34.5kV-11.5kV					
33kV-11kV	5.77	5.66	5.56	5.45	5.34
415V-240V	3.39	3.25	3.10	2.96	2.82

13 Customer Population By Classification at Characteristics

Table 28: Customer Population by Classification at Characteristics (2025-2029)

Category	2025	2026	2027	2028	2029
Active Customers	5,119,704	5,375,690	5,644,474	5,926,698	6,223,033
Non-active Customers	654,425	664,242	674,205	684,318	694,583
Total	5,774,129	6,039,932	6,318,679	6,611,016	6,917,616

13.1 Regulated Market- Non-Special Load Tariff Customers

13.1.1 Residential Customers

Table 29: Active Residential Customers (2025-2029)

Category	2025	2026	2027	2028	2029
Lifeline	1,334,383	1,401,102	1,471,157	1,544,715	1,621,951
Medium	2,696,520	2,831,346	2,972,913	3,121,559	3,277,636
High	318,053	333,956	350,654	368,187	386,596
Total	4,348,956	4,566,404	4,794,724	5,034,460	5,286,183

13.1.2 Non-Residential Customers

Table 30: Active Non-Residential Customers (2025-2029)

Category	2025	2026	2027	2028	2029
Medium	594,059	623,762	654,951	687,698	722,083
High	174,746	183,483	192,657	202,290	212,405
Total	768,805	807,245	847,608	889,988	934,488

13.1.2b Special Load Tariff Customers

Table 31: Active Special Load Tariff Customers (2025-2029)

Category	2025	2026	2027	2028	2029
SLT-LV	1,227	1,288	1,352	1,420	1,491
SLT-MV	555	583	612	642	675
SLT-HV	162	170	178	187	196
Total	1,943	2,040	2,142	2,249	2,362

13.2 De-regulated Market-Energy Commission Licensed Bulk Customers Embedded in Disco Network

Table 32: De- Regulated Market-Energy Commission Licensed Bulk Customers Embedded in Disco Network (2025-2029)

Category	2025	2026	2027	2028	2029
Bulk (MV&HV)	529,820,966	532,470,071	535,132,421	537,808,083	540,497,124

14 Energy Allocated to Public Lighting (GWh)

Table 33: Energy Allocated to Public Lighting (GWh)

Category	2025	2026	2027	2028	2029
Streetlight Consumption	788.27	840.53	895.84	954.24	1015.89

15 ECG's System Load Data

Table 34 below shows the peak demand projections for the various markets for ECG (2025-2029).

Table 34: Disco System Load Data 2025-2030

Parameter	2025	2026	2027	2028	2029
Total System Load @ Peak	2,524.33	2,616.30	2,751.27	2,892.16	3,039.0
Regulated Market (Non-SLT Customers)	2,145.68	2,223.85	2,338.58	2,458.33	2,583.15
Regulated Market (SLT including Bulk Customers)	277.68	287.79	302.64	318.14	334.29

Regulated Market (Energy Commission Licensed Bulk Customers Embedded in Disco Network)	100.97	104.65	110.05	115.69	121.56
Projected Base Load	2,524.33	2,616.30	2,751.27	2,892.16	3,039.0

16 Capital Expenditure

The capital investment plan contains details of ongoing projects and new projects during the tariff period. These projects will be financed through three major sources: World Bank under Performance for Results PforR program, Government of Ghana and the DSC1.

The detailed project scope, justification, cost–benefit analysis, estimated life extension from a reference date, financial package, phasing of expenditure and schedule of completion are available for inspection. The capital expenditure incurred and capitalisation during the year were included in the estimation of the Annual Revenue Requirement.

Table 35: Summary of Capital Investment Plan (Million GHS) 2025-2029

ECG's Capital Investment Requirements (2025-2029)							
SN	Description	2025	2026	2027	2028	2029	Total
		US\$	US\$	US\$	US\$	US\$	US\$
A.	Total Capital Expenditure	483,393,728	492,555,578	312,449,808	186,261,451	150,249,889	1,624,910,453
B.	Source of Funds	483,393,728	492,555,578	312,449,808	186,261,451	150,249,889	1,624,910,453
i.	Donor Funds - PforR	35,450,000	131,550,000	3,000,000	-	-	170,000,000
	GoG Funds	10,800,000	12,007,972	11,386,485	10,693,513	10,693,513	55,581,483
ii.	Amount to funded by ECG	397,403,389	317,270,551	270,966,657	159,607,216	126,869,432	1,272,117,246
C.	Total Capital Expenditure Requirements	483,393,728	492,555,578	312,449,808	186,261,451	150,249,889	1,624,910,453
i.	A. Reliability Improvement Projects	160,734,190	110,720,605	86,665,187	51,967,017	17,050,809	427,137,807

ii.	B. Technical Loss Reduction /Voltage Improvement Projects	16,611,308	15,264,925	14,087,342	21,325,449	21,907,954	89,196,977
iii.	C. Commercial /Revenue Improvement Projects	255,507,892	322,835,021	173,214,129	86,314,750	87,910,670	925,782,461
iv.	D. Electricity Access Projects	10,800,000	12,007,972	11,386,485	10,693,513	10,693,513	55,581,483
vii.	Contingency (10% of ECG Funded Component)	39,740,339	31,727,055	27,096,666	15,960,722	12,686,943	127,211,725
	Total	483,393,728	492,555,578	312,449,808	186,261,451	150,249,889	1,624,910,453

16.1 Capital Expenditure Financing Plan

Table 36: Summary of Capital Expenditure Financing Plan (Million GHS) 2025-2029

Item	2025	2026	2027	2028	2029
Accumulated Depreciation	3,163.55	3,431.98	3,275.61	3,415.91	3,558.98
Retained Earnings	2,451.00	8,750.00	7,520.00	6,421.00	7,121.00
Commercial Borrowings:	-	-	-	-	-
Domestic	373.36	273.59	194.04	144.05	96.31
Foreign	192.28	183.47	173.29	161.64	148.39
Additional Equity Contribution By Shareholder(s)	142.00	180.00	132.00	150.00	105.00
Grants:	1,653.58	330.72	66.14	13.23	2.65
Domestic	-	-	-	-	-
Foreign	-	-	-	-	-
Tariff Revenue (Revenue from Projected Capacity Charge)	22,367.47	24,156.87	26,089.42	28,176.57	30,430.70

17 Operation and Maintenance Costs

The operations and maintenance expenditure of the distribution network are critical cash operational costs that must be expended every month to ensure a stable power supply. The key cost drivers on the technical side are substation maintenance, overhead and underground cables

& devices maintenance, vegetation control, vehicle maintenance, spare parts, and protective clothing. On the other hand, the main cost drivers on the commercial side are meter maintenance and reading, revenue/debt collection, stakeholder engagement and digital revenue collections.

The amount approved for operations and maintenance in the current regulatory period was GHS615.93 million compared to GHS680 million incurred in 2022, GHS669 million incurred in 2023, and GHS1,148 million incurred in 2024. In May 2023, ECG adopted a cashless revenue collection system in which the service provider charges 3% commission on revenue collection. This accounts for the sharp increase in operations and maintenance in 2024. The total commission charge by the service provider in 2023 and 2024 is GHS 148 million and GHS 406 million, respectively.

The projected cost for operations and maintenance was based on the 2024 actual cost and adjusted for inflation.

Table 37: Operation and Maintenance Costs (Million GHS) 2025-2029

Item	2025	2026	2027	2028	2029
Fixed O & M Costs	1,482.83	1,582.18	1,688.50	1,801.63	1,922.34
Variable O & M Cost	147.59	157.47	168.06	179.32	191.33

18 Administration and General Costs

Table 38: Administration and General Costs (Million GHS) 2025-2029

Item	2025	2026	2027	2028	2029
Fixed O & M Costs	640.60	688.60	739.69	794.19	794.19
Variable O & M Cost	140.62	151.16	162.37	174.33	174.33

19 Human Resource Costs- Employee Costs

The human resource expenditures include basic salary, allowances, medical, training and development, statutory obligations, and other related costs.

This cost constitutes a significant portion of cash operations expenditure, which must be expended monthly. Human resource costs increased marginally during the period under review due to an average 10% increase in salaries in 2023. A 20% increase in wages and allowances in line with the condition of service as approved by the board applied from January 2025. The projected human resource cost in the next tariff review period, 2025-2029, incorporates a 12% increase in base pay plus inflation.

Table 39: Human Resource Costs (Million GHS) 2025-2029

Item	2025	2026	2027	2028	2029
Fixed O & M Costs	1,268.73	1,359.97	1,457.61	1,545.84	1,655.64
Variable O & M Cost	95.50	102.36	109.71	116.35	124.62

20 Public Education

Table 40: Summary of Public Education Costs (Million GHS) 2025-2029

Item	2025	2026	2027	2028	2029
Stakeholder Communication & Sensitisation (Public Education)	50.36	53.73	57.34	61.20	65.283

21 Financing and Interest Costs

Table 41: Financing and Interest Costs (Million GHS) 2025-2029

Item	2025	2026	2027	2028	2029
Interest on Foreign Loans	192.28	183.47	173.29	161.64	148.39
Interest on Domestic Loans	373.36	273.59	194.04	144.05	96.31
Interest on Working Capital Loan	64.66	53.98	54.21	53.17	49.60

22 Return on Equity

The company recorded negative Return on Equity (ROE) between 2022 and 2024, indicating a shareholder investment loss due to tariff under recoveries. The downward trend of ROE underscores the deteriorating financial position, without a significant increase in tariff, the company will continue to struggle to generate positive returns and remain financially viable

Therefore, these figures strongly support the case for a central tariff review. Improved tariff levels are essential for ECG to return to profitability, enhance shareholder value, and achieve long-term financial sustainability.

Table 42: Equity Financing Costs (%) 2025-2029

Item	2025	2026	2027	2028	2029
Rate of Return	18.72	18.72	18.72	18.72	18.72

23 Projected Electricity Distribution Revenue Requirement

Table 43: Summary of Distribution Company's Revenue Requirement (GHS) 2025-2029

ECG'S ANNUAL REVENUE REQUIREMENT EXCLUDING NEW INVESTMENT						
Composition of Annual Revenue Requirement	5-YEAR MULTI-YEAR TARIFF PROPOSAL (GHS'M)					
	2025	2026	2027	2028	2029	Average
Operations Cost	2,581.30	2,754.24	2,939.33	3,136.26	3,346.39	2,951.51
Human Resources Cost	1,464.23	1,562.33	1,667.32	1,762.19	1,880.26	1,667.27
Depreciation	1,518.81	1,518.81	1,518.81	1,518.81	1,518.81	1,518.81
Return on RAB	2,123.48	2,123.48	2,123.48	2,123.48	2,123.48	2,123.48
Capital Recovery Payments on Approved Capex-2026	659.83	659.83	659.83	659.83	659.83	659.83
Cost on Working Capital Allowance	31.02	33.51	37.97	41.04	37.09	36.12
Corporate Tax	124.86	158.23	123.82	158.41	115.91	136.25
Annual Revenue Requirement	8,503.53	8,810.44	9,070.56	9,400.03	9,681.78	9,093.27
DSC 1 (GHP/kWh)	64.6410	62.8204	60.6931	59.0567	57.1456	61.8028
Projected Sales (GWh)	13,155.00	14,024.79	14,944.96	15,916.98	16,942.31	14,996.81
Projected Sales (GHS'M)	22,367.47	24,156.87	26,089.42	28,176.57	30,430.70	26,244.20
Uncollectable-2% of Sales (GHS'M)	44.73	48.31	52.18	56.35	60.86	52.49
Current DSC1	19.0875	19.0875	19.0875	19.0875	19.0875	19.0875
Percentage Increase	239%	229%	218%	209%	199%	224%

23.1 Projected Energy Cost

Table 44: Projected Energy Cost (2025-2029)

SN	Projected Energy Cost						
	Item	Unit	2025	2026	2027	2028	2029
A	Capital Recovery Charge (CRC)	USCent/ kWh	86.10	83.23	83.23	83.23	83.23
B	Fixed O & M Charge (FOMC)	USCent/ kWh	36.48	36.87	37.26	37.67	38.08
C	Capacity Charge (A+B)	USCent/ kWh	122.58	120.10	120.49	120.90	121.31
D	Non-Fuel Variable O & M Charge	USCent/ kWh	13.82	13.95	14.10	14.25	14.41
E	Fuel Recovery Charge	USCent/ kWh	154.63	141.76	142.47	142.47	142.47

F	Energy Charge (D+E)	USCent/ kWh	168.45	155.71	156.57	156.72	156.88
G	Total Charge (C+F)	USCent/ kWh	291.03	275.81	277.06	277.62	278.19
H1	Reconnection Charges	USCent/ kWh	0.66	0.76	0.87	1.00	1.16
H2	Meter Maintenance Charges	USCent/ kWh	70.37	80.93	93.06	107.02	123.08
H3	Illegal Connection Charges	USCent/ kWh	0.01	0.01	0.01	0.02	0.02
H4	Meter Testing Charges	USCent/ kWh	5.32	6.12	7.04	8.09	9.31
H5	Others	USCent/ kWh	10.50	12.07	13.88	15.97	18.36
H6	Revenue from Public Lighting Levy-50%	USCent/ kWh	335.51	362.35	391.34	422.65	456.46
	Fixed Charges	GHS Million	422.37	462.24	506.21	554.75	608.38

24 Proposed Tariff and Rates Structure

Setting Guidelines Vol. 1,2&3. The main cost items of operations and maintenance, administration and overhead and Human Resource reflect the current and projected future costs with adjustment for inflation. As noted earlier, the depreciation of the cedi is the biggest cost driver in the DSC1 which must be addressed completely AAF. The Rate of Return on RAB and CRC were determined per the Rate Setting through Guidelines. The implementation of the LRP and other critical projects mentioned above saw a drastic increase in the deployment of meters and other assets for which the company expects to be granted a tariff in accordance with the Rate Setting Guidelines. Table 44 below indicates the proposed tariff and structure between 2025 and 2029

Table 45: Proposed Tariff for Distribution and Retail Sales Business (DSC1)

Composition of Annual Revenue Requirement	5-YEAR MULTI-YEAR TARIFF PROPOSAL (GHS'M)					
	2025	2026	2027	2028	2029	Average
DSC 1 (GHP/kWh)	64.6410	62.8204	60.6931	59.0567	57.1456	61.8028

24.1 Proposed Tariff Structure

Table 46: Proposed Tariff Structure for DSC1

Customer Group	Unit
Residential	
0-30 (exclusive)	GHp/kWh
Service Charge - Lifeline	GHp/MON
All Other Residential Customers	
31 + kWh	GHp/kWh
Service Charge	GHp/month
Non-Residential	
0+ kWh	GHp/kWh
Service Charge	GHp/month
SLT - LV	
Energy Charge	GHp/kWh
Service Charge	GHp/month
SLT - MV	
Energy Charge	GHp/kWh
Service Charge	GHp/month
SLT - MV2	
Energy Charge	GHp/kWh
Service Charge	GHp/month
Applicable FX rate	US\$: GH¢
SLT - HV	
Energy Charge	GHp/kWh
Service Charge	GHp/month
SLT - HV MINES	
Energy Charge	GHp/kWh
Service Charge	GHp/month

25 Conclusion

In conclusion, the ECG has developed this tariff proposal for 2025-2029, keeping in mind the financial viability, operational efficiency, and sustainable service delivery required to meet the dynamic demands of the energy sector in Ghana. The proposed adjustments aim to address the

inherent challenges ECG faces, including the need for cost-reflective tariffs and addressing systemic challenges.

The proposal outlines comprehensive strategies to overcome key challenges such as illegal connections, technical losses, and financial constraints. It emphasizes the importance of adapting to macroeconomic factors like inflation, foreign exchange fluctuations, and interest rates, which critically influence the cost components of the tariff structure.

ECG's commitment to investing in infrastructure, digital transformation, and human resource development is pivotal to achieving our vision of being a competitive, sustainable, innovative, and customer-centric energy service provider. The proposed tariff increases will ensure financial sustainability and reliable electricity services that support Ghana's economic growth and development. We urge the Commission and all stakeholders to consider this proposal favourably.

26 Appendices

F-1D Distribution Sub-Transmission Data

F-2D Distribution Network Capacity Parameters Data

F-3D Distribution Substations Data

F-4D Distribution System Capital Outlay Data

F-5D Distribution Fixed Assets Schedule

F-6D Distribution Fixed Assets Depreciation Schedule

F-7D Distribution Project Cost Data (Foreign Costs)

F-8D Distribution Project Cost Data (Local Costs)

F-9D Capital Expenditure Funding/Financing Plan

F-10D Operation and Maintenance Cost Data

F-11D Administration and General Cost Data

F-12D Human Resource Cost Data

F-13D Customer Costs Data

F-14D Working Capital Requirement Data

F-15D Summary of Distribution Costs

F-16D Relevant Documentation in Respect of Distribution Tariff Proposal

