



2020 FORTH QUARTER ELECTRICITY AND WATER TARIFF DECISION

1.0 Introduction

The Public Utilities Regulatory Commission (PURC) hereby publishes its decision in respect of Natural Gas, Electricity and Water Tariffs for the Fourth Quarter of 2020. This publication is in line with Section 3(a) and (b) of the Public Utilities Regulatory Commission Act, 1997 (Act 538) and Section 2.4 of the PURC Rate Setting Guidelines for Electricity Distribution and Supply (Volume 2), which mandate the Commission to examine and approve rates chargeable for provision of utility services. The decision is in two parts. The First Part highlights the methodology, analysis and findings which formed the basis of the Commission's decision, while the Second Part is dedicated to the decisions of the Commission in respect of the 2020 Fourth Quarter Tariffs.

2.0 Methodology, Analysis and Findings Underpinning Tariff Decision

2.1 Methodology

The methodology employed in determining the 2020 Fourth Quarter tariffs is the PURC periodic tariff adjustment framework, the Automatic Adjustment Formula (AAF). Under this framework, projections were made for Exchange Rate based on data from Association of Bankers and Bank of Ghana actual Ghana Cedi-US Dollar Exchange Rate, Ghana Statistical Service Inflation Rate for 2020 and Fuel Prices as well as adjustment in the projected Hydro Electrical Energy Generation from both Akosombo and Kpong generating stations data submitted by the Volta River Authority to the Electricity Market Oversight Panel (EMOP) and PURC. In addition to projections the PURC also took account of actual data in respect of above variables so as to address under-recovery and over-recovery of the tariff which may have occurred over previous quarters.

2.2 Analysis

To determine the direction of tariffs for 2020 Fourth Quarter tariffs, underpinning data on Generation mix (Hydro-Thermal Mix), Ghana Cedi- US Dollar Exchange Rate, Inflation Rate and Fuel Price were analysed using the AAF methodological framework noted in the previous section. The selected data which were analysed are presented in Table-1.

2.2.1 Underpinning Data

The underpinning data of the 2020 Fourth Quarter Tariff analysis are summarised and presented in Table-1.

Table-1: Summary of Data Used in Analysis of 2020 Fourth Quarter Electricity Tariffs

Item No.	Item Description	Unit	2019-2020 Approved Underlying Tariff Data Effective 1st July 2019	Q4, 2019 Approved Underlying Tariff Data Effective 1st October 2019	Q1, 2020 Actuals January-March 2020	Q2, 2020 Actuals April-June 2020	Q3, 2020 Actuals July - September 2020	Q4, 2020 Projections October - December 2020
A. Generation Mix:								
A1	Hydro	%	23.4	24.2	24.2	29.0	23.30	27.60
A2	Thermal	%	76.6	75.8	75.8	71.0	76.70	72.40
B. Exchange Rate								
B.	Exchange Rate	GHS/USD ExRate	5.0500	5.3767	5.5861	5.4539	5.6837	5.7090
C. Inflation								
C.	Inflation	%	8	8	8	8	9.90	10.95
D. Fuel Price :								
D1	Natural Gas	US\$/MMBtu	6.08	6.08	6.08	6.08	6.08	6.08
D2	Heavy Fuel Oil	US\$/MTonne	390	390	390	300	241	255

Source: PURC Data & Tariff Analysis, 2020

2.3 Findings from Analysis of Data

The findings from analysis of data captured in Table-1 are discussed below.

2.3.1 Hydro -Thermal Electrical Energy Generation Mix

The data presented in Table 1 with respect to hydro and thermal generation indicates the following:

- a) The hydro generation of 27.60% in the generation mix represents actual hydro generation as a percentage of total electrical energy generated from both hydro and thermal sources, indicating a 3.41% variance between fourth quarter of 2019 (existing) and actual generation for same period. In a nutshell, this represents 14.60% increase over the fourth quarter 2019 period.
- b) The projected thermal generation of 72.40% in the generation mix represents a 4.20% reduction over fourth quarter 2019 projected thermal generation of 76.60%. This was as a result of EMOP's approval of 64% allocation of total hydro electrical energy generation from Akosombo and Kpong by VRA to the regulated electricity market.

2.3.2 Ghana Cedi-US Dollar Exchange Rate

With respect to Ghana Cedi-US Dollar Exchange Rate the data shown in Table-1 indicates the following:

- a) A projected Weighted Average Ghana Cedi-US Dollar Exchange Rate of GHS5.7090/US\$1.0000. This projection is based on actual Association of Bankers Inter-Bank Average Ghana Cedi-US Dollar Selling Exchange Rate for the period July, August & September, 2020.
- b) This rate represents a projected 6.2% depreciation of the Ghana Cedi against the US Dollar over the fourth quarter 2019 Exchange Rate of GHS5.3767/US\$1.0000.

2.3.3 Inflation Rate

Similar to the data and approach in respect of Ghana Cedi-US Dollar Exchange Rate, a projected Ghana average Inflation Rate of 10.95% was used for the Fourth Quarter of 2020. This represents Ghana's average projected inflation rate variance of 2.95% between 2019 Fourth Quarter Average Inflation Rate of 8% and the projected average Inflation Rate noted above.

2.3.4 Price of Fuel - Light Crude Oil (LCO), Heavy Fuel Oil (HFO) and Natural Gas

The three primary fuels which are normally used in determination of the Fuel Recovery Charge as a component of the individual power plant tariffs, hence the Composite Bulk Generation Tariff, are Light Crude Oil (LCO), Heavy Fuel Oil (HFO) and Natural Gas. For Natural Gas, the approved Weighted Average Cost of Gas (WACOG) of US\$6.08/MMBtu was used while a plant gate HFO price of US\$ 255/Metric Tonne equivalent to US\$7.012/MMBtu¹ was used specifically for determination of the Fuel Recovery Charge for the AKSA plant.

It must be noted that LCO usage in generation of electricity has considerably reduced as a result of significant domestic production of natural gas which is used by all thermal generation plants except AKSA Power Plant. However, whilst it is acknowledged that Ghana's dominant fuel is now

¹ HFO price of US\$255/Metric Tonne was converted to US\$/Barrel using a conversion factor of 6.67 and further to US\$/MMBtu using a conversion factor of 5.438

natural gas, there is not much benefit in terms of reduction in tariffs for the quarter based on Gas Fuel Recovery Charge due to high priced long term domestic natural gas contracts.

2.4 Combined Effect of Generation Mix, Ghana Cedi-US Dollar Exchange, Inflation Rate and HFO Price on Tariffs Payable by Consumers

The combined impact of Hydro-Thermal Generation Mix, Ghana Cedi-US Dollar Exchange, Inflation Rate and HFO Price indicate a total amount of GHS8.6 million recoverable from consumers over 2020 Fourth Quarter, representing an increase of 0.42% across board in electricity tariffs payable by all categories of consumers. However, accounting for over-recovery of revenue from previous quarters as a result of increase in hydro generation will result in about 0.9% decrease across board in electricity tariffs payable by all categories of consumers. This indicates that the gains from the increase in hydro and fuel cost reduction cancels out the losses from cedi depreciation.

3.0 Commission's Decision on 2020 Fourth Quarter Tariffs

In light of results from its analysis of data discussed in previous sections, the Commission has taken the following decisions:

1. The Commission has approved a no change in electricity and water tariffs.
2. The Commission recognised an over-recovery of revenue after reconciliation of data on hydro electrical generation by VRA. In addition to the approval of 64% hydro allocation by EMOP to the regulated market, there was a marginal reduction of cost of procuring power from VRA by the DISCOs. The Commission decided that, the DISCOs should be allowed to use this revenue to address revenue shortfall challenges relating to power sales to industrial customers.
3. With regards to water, the Commission noted that GWCL's cost drivers for the Fourth Quarter 2020 did not indicate strong or significant impact on the Company's cost of operations over the period. The Commission, however, opted for a continuing monitoring of the direction of the Company's cost drivers with a view to determining the necessary regulatory actions going forward. This assessment coupled with the decision taken on electricity tariff led to approval of no change in water tariffs.
4. The Commission urges the DISCOs to double their efforts in revenue collection to minimize challenges relating to revenue collection.
5. The Commission wishes to assure all stakeholders including utility service providers that it will deploy all necessary regulatory tools for realization of financial viability of utility service providers while ensuring that quality of service delivery is not compromised.

Appendix-1 Approved Electricity Tariffs Effective October 01, 2020

Customer Class	Approved Tariff (GHP/kWh)
Residential	
0-50	32.6060
51-300	65.4161
301-600	84.8974
600+	94.3304
Service Charge for Lifeliners	213.0000
Service Charge for Other Residential Consumers	745.6947
Non-Residential	
0-300	79.7943
301-600	84.9097
600+	133.9765
Service Charge	1242.8245
Customer Class	Approved Tariff (GHP)
SLT-LV	
Energy Charge (GHP/kWh)	104.7943
Service Charge (GHP/month)	4971.2983
SLT-MV	
Energy Charge (GHP/kWh)	79.5167
Service Charge (GHP/month)	6959.8177
SLT-HV	
Energy Charge (GHP/kWh)	83.4562
Service Charge (GHP/month)	6959.8177
SLT-HV Mines	
Energy Charge (GHP/kWh)	263.9705
Service Charge (GHP/month)	6959.8177

Appendix-2 Approved Water Tariffs Effective July 01, 2020

Category of Service	Approved Rates in GHP/1000 litres
Metered Domestic	
0-5	329.2121
5 and above	560.2083
Commercial	923.0390
Industrial	1111.8338
Public Institutions/Government Departments	718.6628
Premises without connection (Public stand pipes)	
Per 1000 Litres	369.4489
Special Commercial	5607.5588
Sachet Water Producers	1237.7011
GHAPOHA (Internal Usage)	923.0390
GHAPOHA (Ocean Going Vessels)	12586.8266

NB: Special Commercial refers to bulk customers who use GWCL treated water as the main raw material for bottling water