

PROPOSED TARIFFS 2022-2027

1.0 Introduction

Ghana National Gas Company (GNGC) was established in July 2011 as a limited liability company, wholly owned by the Government of Ghana (GoG) with a responsibility to build, own and operate the infrastructure required for gathering, processing, transportation and marketing of natural gas resources in the country. In line with this mandate, the Early Phase Western Corridor Gas Infrastructure Development Project (WCGIDP) was successfully executed and commenced commercial operations in April 2015.

The WCGIDP was funded under the US\$1 billion facility (part of the GoG's US\$3 billion Master Facility) secured from the China Development Bank (CDB)).

Subsequently, GNGC has installed and committed to installing other gas facilities to expand and improve service deliveries to other developing and potential market centres. These installed Gas Infrastructure was funded with Internally Generated Funds (IGF) and loans from commercial banks.

During the 2019 tariff setting exercise, it was agreed that the CDB assets and loan interest and the 14km Deep Water Offshore Pipeline were to be excluded from the Regulated Assets Base. Furthermore, revenues from Natural Gas Liquids (NGLs) were used to offset the Natural Gas Processing Service Charge.

GNGC seeks to recover investments installed with IGF and loans from commercial banks as well as operational and maintenance expenditures related to gas facilities through its tariff regime.

In line with the requirements under Public Utilities Regulatory Commission (PURC) Act, 1997 (Act 538) and the Rate Setting Guidelines, GNGC has put together a 5 (five) years' tariffs proposal for Gathering, Processing and Transmission services for consideration and approval by the PURC.

2.0 Brief Background of GNGC's Natural Gas Operations

Subsequent to the successful completion of the WCGIDP, the PURC approved an initial Delivered Gas Price (DGP) of US\$8.8424/MMBtu in November 2014, to enable GNGC meet operating costs, CDB loan payment obligations and to achieve at least 15% rate of return. The DGP allocated US\$ 5.9424/MMBtu to GNGC as total service tariff to cater for gathering, processing and transmission.

In 2018, under the Harmonization of Natural Gas Pricing for Electricity Generation policy, the PURC in consultation with the GoG and other stakeholders, adopted a single Weighted Average Cost of Gas (WACOG) for all streams of gas sold into the power market. The mechanics of the harmonised policy led to a US\$ 1.5524/MMBtu reduction in the 2014 total service tariff with the new DGP set at US\$ 7.29/MMBtu. For GNGC, the implementation of the WACOG led to a 24%, 39% and 59% reduction in the Gathering charge, Processing charge and Transmission Services charge respectively and cumulatively reduced charges by 37%. This adversely affected GNGC's cashflow requirement for effective operations, maintenance, and expansion of the gas facilities.

GNGC's financial challenges arising from the tariff reduction without a corresponding increase in gas volumes, was further compounded with the introduction of the revised WACOG in 2019. Though GNGC submitted a total tariff of US \$ 2.05/MMBtu required to meet the 2019 – 2020 annual revenue requirement for operating and maintaining the three-tier asset, the PURC approved a total service tariff of US\$ 1.064/MMBtu for processing and transmission without approving tariff for gathering, a key component of the regulated asset base.

Consequently, GNGC was only able to support 52% of its annual financial obligations, predominantly made up of operational expenses. In order to ensure integrity of **ALL** the regulatory assets, the operational and maintenance philosophy established by GNGC must be adhered to, and therefore required cost reflective tariff for all the regulated assets.

3.0 Rationale & Objectives Underpinning Tariff Submission

GNGC in deriving its 2021 Tariffs has applied the **Rate of Return Regulation Tariff Methodology**, which takes into consideration the total cost of providing a service against the billing determinant (expected through-put). This tariff methodology is expected to ensure the following;

- the recovery of fixed operational expenses required to ensure uninterrupted operation of GNGC's facilities and the delivery of gas;
- recovery of the cost of investment; and
- a return on assets which facilitates repayment of the cost of capital and equity return to shareholders, thereby protecting the investor interest.

4.0 Major Highlights of Issues

- Recovery of the cost of investment to include the Gathering pipeline;

- CDB assets and loan interest to be excluded from the Regulated Assets Base;
- NGLs with Condensate revenue halved 50% as revenue retained by GNGC to offset part of the Natural Gas Gathering and Processing Service Charge; and
- Payment of the 14km Deep Water Offshore Pipeline initiated and therefore included to the Regulatory Assets Base.

Hub Enclave in the Jomoro District of the Western Region.

- GPP Train 2
- 20-inch x 278km Tema-Takoradi Onshore Transmission Pipeline
- Prestea-Dawusaso-Adupre Gas Transmission Pipeline
- 1.5km x 8-inch distribution pipeline from TDS to Marco Polo Ceramics in the Shama District, Western Region.

5.0 Existing Infrastructure

GNGC's existing gas infrastructure comprises the following;

- 58km 12-inch Offshore Gas Export Pipeline
- Atuabo Gas Processing Plant (GPP)
- 111km 20-inch Onshore Transmission Pipeline from Atuabo to Takoradi Distribution Station (TDS)
- 75km 20-inch Onshore Lateral Transmission Pipeline from the Esiam Distribution Station (EDS) to the Prestea Regulating & Metering Station (PRMS).
- 8km 20-inch onshore pipeline from TDS to Sekondi Regulating & Metering Station (SRMS) onshore pipeline.
- 9km 6-inch onshore pipeline from TDS to Distribution Valve Station 1 (DVS1) located at Eshiem.
- 1km 6-inch onshore pipeline from TDS to Keda Ceramics.
- 1.5km 20-inch onshore pipeline from TDS to WAPCO.
- Associated Gas Infrastructure for Gas Distribution and Metering
 - ✓ Takoradi Distribution Station (TDS)
 - ✓ Esiam Distribution Station (EDS)
 - ✓ Prestea Regulating & Metering Station (PRMS)
 - ✓ Sekondi Regulating & Metering Station (SRMS)
 - ✓ Distribution Valve Station 1 (DVS1)
- Anokyi Mainline Compressor Station Phase 1
- 0.3km x 6-inch distribution pipeline from DVS1 to Jintao Sanitary Ware Limited

6.0 On-Going Gas Transmission and Distribution Infrastructure

- Anokyi Mainline Compressor Station Phase 2
- 20-inch 52km Atuabo-Ivory Coast Pipeline from Atuabo and terminates at Sringabo (a border town, Jomoro District). The pipeline will supply lean gas to the Ivory Coast, a Fertilizer Plant in Domunli and the Petroleum

7.0 Future Infrastructure Expansion

GNGC expects to undertake the following projects:

- 85km x 20-inch pipeline Gas transmission pipeline to Kumasi via Nyinahin.
- 20-inch Gas Pipeline System, with an approximate length of 227km from Tema through *Atiwa-Konogo to Kumasi*.
- 510km 20-inch Kumasi through Paga to Burkina Faso

8.0 Total Cost of Service (Annual Revenue Requirement)

GNGC's projected total cost of service for 2022 amounts to **US\$ 132.47 Million**, as shown in the table

Below:

GNGC 2022 Cost of Service	Gathering	Processing	Transmission
+Return	\$7.84	\$23.90	\$15.87
+Fixed Expenses	\$17.26	\$21.58	\$30.37
+Depreciation	\$3.27	\$16.64	\$21.40
+Working Capital Allowance	\$2.1	\$2.7	\$3.80
-NGLs Revenue	(\$11.10)	(\$23.12)	\$ -
Total Cost of Service	\$19.39	\$41.67	\$ 71.40

8.1 Tariffs- Expected Through-Put

The Usage tariff is derived by computing the total cost of service against the annual expected through-put for 2022.

$$\text{Usage Tariff} = \frac{\text{Total Cost of Service}}{\text{Expected Through-put}}$$

8.2 Expected Through-put

The expected through-put amounts to 493.59MMScfd in 2022. The breakdown is as

GNGC 2022 Expected Through-put	Gathering (Raw Gas)	Processing (Raw Gas)	Transmission (Lean Gas)
Jubilee (MMScfd)	115.00	106.33	105.26
TEN AG (MMScfd)	10.00	9.25	9.15
Sankofa (MMScfd)	-	-	138.60
Total Expected Through-put (MMScfd)	125.00	115.57	253.02
Btu/Scf	1,280.00	1,280.00	1,136.56
Total Expected Through-put (MMBtu/D)	160,372.5	147,932.3	304,896.1
Operational Days Per Year	325	325	325
Total Expected Through-put (MMBtu/Year)	52,000,000.0	48,078.020.1	99,091,243.0

8.3 Usage Tariff

Accordingly, the GNGC' Usage Tariff amounts to **\$2.159/MMBtu**, based on a total cost of service of **\$132.47Million** and a volume requirement of 52.00 BBtu on Gathering, 48.08BBtu on processing, 99.09BBtu on Transmission for the year 2022.

The remaining 4-year period tariff is presented as below:

	2023	2024	2025	2026
Gathering	0.358	0.149	0.153	0.156
Processing	0.803	1.205	1.177	1.144
Transmission	0.872	1.242	1.217	1.160
Total	2.033	2.596	2.547	2.461

9.0 Conclusion

GNGC proposal for delivered tariff for Gathering, Processing and Transmission services using different input case scenarios for 2022 is \$2.159/MMBtu and summarized as follows;

- Gathering – \$ 0.373/MMBtu
- Processing – \$ 0.867/MMBtu
- Transmission – \$ 0.919/MMBtu

Signed

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