REPUBLIC OF GHANA

ENERGY SECTOR RECOVERY PROGRAMME (ESRP) - ADDENDUM

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Prepared by: Ministry of Energy

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DISCLAIMER

This document is an amendment of the final version of the Energy Sector Recovery Programme (ESRP) approved by Cabinet in May 2019. This version has been modified to remove confidential information related to specific contracts and/or commercially sensitive information which should appropriately not be in the public domain. While effort has been made to ensure that all significant and relevant changes that have occurred in the sector since the adoption of the ESRP by Cabinet in May 2019 have been considered in this document, it is not exhaustive of all recent changes. The Energy Sector Task Force has strived to maintain the completeness and comprehensiveness of this document similar in all material respects to the Cabinet approved version for public review. The analysis and conclusions of this report are based on assumptions and projections that are subject to change. No representation or warranty, expressed or implied, is made as to the accuracy or completeness of the information contained herein. The Government of Ghana (GoG) or any of its representatives expressly disclaims any liability based, in whole or in part, on such information, errors therein or omissions therefrom. Any opinion or recommendation expressed in this document is subject to change without notice. The GoG is under no obligation to update or keep current the information contained herein.

1. DEFINITIONS AND INTERPRETATION

Whenever the following terms appear in this document or the Appendices hereto, whether in the singular or in the plural, present, future, or past tense, they shall have the meanings stated below unless the context otherwise requires:

AAF	Automatic Adjustment Formula as described in Section 3.1.2.
Action Item(s)	The key reform action item(s) described in Sections 3 and 5 of these documents.
Annual Sector Shortfall	In any calendar year, the difference between the revenues and costs in the power and gas sectors.
BAU or Business-As-Usual	Business-as-Usual base case used in the Financial Model using the assumptions set out in Section 6 below.
BPA	Bui Power Authority
BSA	Bulk Supply Agreement concluded between ECG and a private sector concessionaire.
BOST	Bulk Oil Storage and Transportation Company
Cabinet	Cabinet of the Government of Ghana
Cumulative Sector Shortfall	The sum of the projected annual sector shortfalls between January 2022 and December 2025.
Discos	Distribution Companies
EC	Energy Commission
ECG	Electricity Company of Ghana Limited
EMT	Economic Management Team
ESLA Bond	The series of Government bonds totalling GHS 10.39 billion as at 2021, which were securitized by a portion of ESLA tax revenue
ESRP	The Energy Sector Recovery Programme.
ESRP Approval Date	The date on which the ESRP was approved and adopted by Cabinet (May 19, 2019) and the date this Addendum was approved and adopted
ESRP Timeline	The period commencing on the ESRP Approval Date until 31 December 2023 and extended by this Addendum until 31 December 2025.
ESRP Working Group	The ESRP working group comprising representatives from the Office of the Vice President, MoEn, MOF, EC, GNPC, GNGC,

	SIGA, GRIDCo, ECG, VRA, Bui Power Authority, NEDCo, and PURC, chaired by the Director, Monitoring & Evaluation and Public Enterprises, Vice President's Secretariat.
ESTF	The Government Steering Committee comprising the Vice President (as Chair), Minister for Energy, Minister of State for Finance and Minister for Public Enterprises.
EUT	End User Tariff
Financial Viability	A situation where expenses in the energy sector do not exceed revenue collected (i.e., break-even) and funding for the interim shortfall is identified and budgeted for by Government to ensure that no new accumulation of arrears occurs following the ESRP Approval Date.
Financial Model	Financial Model prepared by the ESRP Working Group, and all subsequent updates.
GDP	Gross Domestic Product
GESTIP	World Bank-financed Ghana Energy Sector Transformation Initiative Project
Ghana	The Republic of Ghana
GNGC	Ghana National Gas Company
GNPC	Ghana National Petroleum Corporation
Government	Government of Ghana
GRIDCo	Ghana Grid Company Limited
GWh	Giga Watt Hours
IPP	Independent Power Producer
IPSMP	Integrated Power Sector Master Plan, and all subsequent updates
KPI(s)	The Key Performance Indicators as defined in the PIPs or Performance Contracts of the SOEs with SIGA
kW	Kilowatt
kWh	Kilowatt hour
LNG	Liquefied Natural Gas
MDAs	Ministries, Departments, and Agencies
MoEn	Ministry of Energy

MoF	Ministry of Finance
MoPE	Ministry of Public Enterprises
MYTO	Multi Year Tariff Order
MW	Megawatt
Office of the Vice President	The Office of the Vice President of Ghana
WAEP	USAID's Power Africa West Africa Energy Programme
Portfolio PPAs	PPAs assigned by ECG to the private sector concessionaire
PPA	Power Purchase Agreement
PPA Review Committee	An Inter-Ministerial Committee (the '**PPA Review Committee**') constituted by the Hon. MoEn, to review the fiscal and legal implications of PPAs executed by ECG for the purchase and supply of electrical energy from Independent Power Producers (IPPs) for both thermal and renewable PPAs portfolios for the period 2018 - 2027.
PSP	Private Sector Participation in electricity distribution
PIP	Performance Improvement Plan
PFM Act	Public Financial Management Act 921 (2016)
PURC	Public Utilities Regulatory Commission
SIGA	State Interests and Governance Authority
Sector Arrears	The balance of cumulative net Energy Sector arrears
Sector Stabilization Payments	Payments by the Government, excluding any revenues generated through a tariff increase, required to clear the Annual Sector Shortfall.
SNEP	The Strategic National Energy Plan 2006 – 2019 for Ghana published by the Energy Commission.
SOE	State Owned Enterprise
TTIP	Takoradi-Tema Interconnection Project
USAID	United States Agency for International Development
USD or $ or Dollars	The lawful currency of the United States of America
VRA	Volta River Authority

In this Amended ESRP, unless the context otherwise requires:

- terms not herein defined shall have the meanings ordinarily ascribed thereto in the Oxford English Dictionary
- references to any document (including this Addendum) are references to that document as amended, consolidated, supplemented, novated, or replaced from time to time, and to all annexes, schedules, attachments, supplements, and the like which form part thereof
- where this Addendum defines a word or expression, related words and expressions have a consistent meaning
- all periods of time and dates shall be based on and computed according to the Gregorian calendar and times of day are times of the day in Ghana.
- in the computation of periods of time from a specified day to a later specified day, from means from and including and until or to means to and including.
- references to any Section, paragraph, part, Appendix, or recital are to those contained in or appended to this Addendum; and 1.1.6 the table of contents, section and appendix headings are inserted for convenience only and shall not affect the interpretation or construction of this Document.

2. EXECUTIVE SUMMARY

The energy sector of Ghana has been facing a persistent under recovery of costs. As of 2019, the cumulative sector shortfall (net arrears) was USD 2,748 million and was projected to reach USD 12,564 million by the end of 2023 if no action was taken. The ESRP was approved on May 19, 2019, by the GoG to address the underlying issues of cost under-recovery in the sector. It was envisioned as a five-year programme comprising thirty reform actions or Action Items (AIs) to be implemented in three phases to bring the sector into financial equilibrium by the end of 2023. Phase I AIs were to be implemented immediately and Phase II AIs were to be implemented in the next twelve months following the approval of the programme.

Together, Phase I and II AIs were expected to reduce the cumulative sector shortfall by USD 5,540 million (from USD 12,564 million to USD 7,024 million) and prevent future imbalances, subsequently minimizing the required increase in sector stabilization payments by the GoG. Additional AIs in Phase III, to be implemented over the remaining period of the programme were expected to further reduce the shortfall to USD 2,907 million by the end of 2023.

2.1. Key Achievements of the ESRP

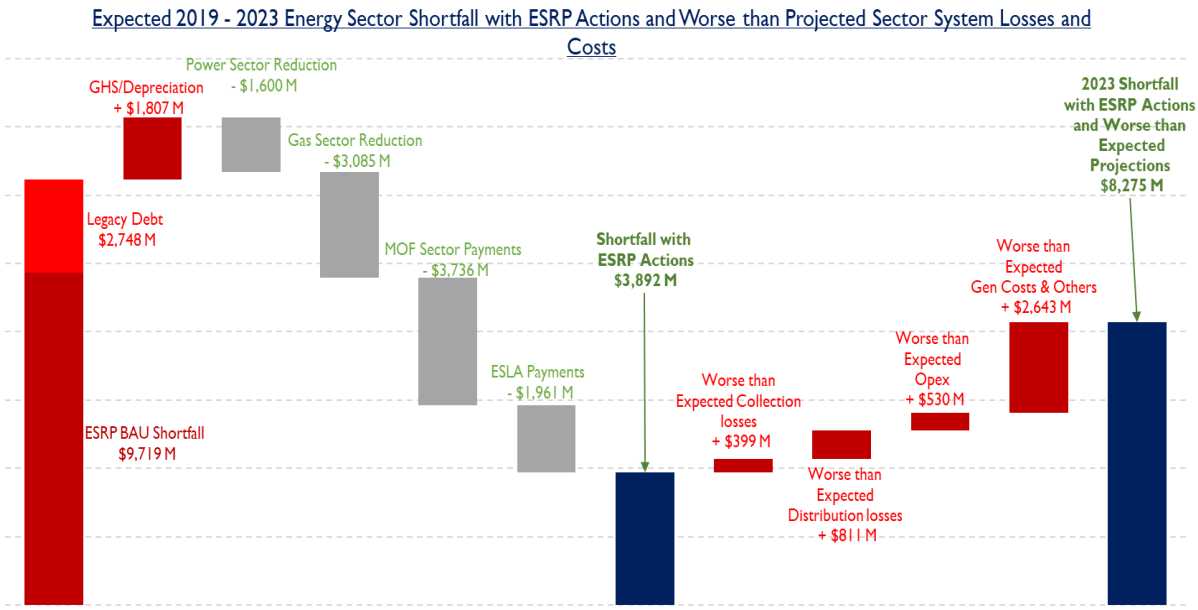
Since the launch of the ESRP, there has been major progress in the energy sector that has resulted in the reduction of the sector shortfall and improvement in the institutional and operational environment of the sector. Under the auspices of the ESRP, the sector shortfall was reduced by USD 4,878 million over the ESRP period. This was achieved through (a) a reduction in the WACOG; (b) fuel cost savings due to the relocation of the Karpowership; (c) an increase in the end user tariffs by PURC; (d) delays in the execution of PPAs; (e) delays and cancellations of LNG contracts; (f) renegotiation of the Sankofa ToP obligations (g) MoF sector Stabilization Payments and (h) ESLA Payments. See section 4 for details.

2.2. Rationale for the Amendment of the ESRP

However, the USD 4,878 million reduction did not result in a reduction of the sector shortfall to USD 7,686 million as expected due to some changed circumstances. These included a higher-than-expected exchange rate assumption and worse than expected SOE performance. Specifically, in the estimation of the sector shortfall in 2019 for the 2019 to 2023 period, a flat exchange rate of 5 GHS to 1 USD was used based on an expectation of a consistent quarterly adjustment of electricity tariffs to account for exchange rate variations. As this has not been the case, there was the need to update the estimated sector shortfall by applying a more realistic cedi depreciation assumption which averages about 7.4% year on year. With this change, the energy sector shortfall was re-estimated to be USD 14,270 million by 2023, up from USD 12,564 million as originally estimated. In addition, SOE performance was worse than anticipated in the ESRP period, with costs of power generation and operations also higher than was expected.

With, these considerations, the sector shortfall was projected to persist over the ESRP period under the original ESRP scope, reaching USD 8,275 million by the end of 2023 despite the significant achievements of the programme. See figure 1.1.

Figure 1.1: Projected Energy Sector Shortfall with adjusted Exchange Rates and Worse than Projected Sector Performance



In addition, 12 of the 30 AIs are still under implementation while one (1) has been dropped (see section 3 and Annex 1). These AIs remain critical to closing the revenue-cost gap in the energy sector. In addition, new AIs were identified during the implementation of the ESRP which would help to further reduce the sector shortfall and institutionalize critical reforms to put the sector on a sustainable path to cost recovery.

The purpose of this Addendum is to extend the ESRP and revise its scope to allow for the completion of uncompleted AIs and the implementation of new AIs in line with changed circumstances. This is necessary to sustain the gains made since the launch of the programme and further reduce the sector shortfall.

2.3. Scope of Amended ESRP

The Amendment of the ESRP encompasses an extension of the programme period by two and a half (2.5) years through year-end 2025 and an expansion of the project scope to include additional 12 AIs to be implemented during this period in addition to uncompleted AIs. See table 2.1 for details of the AIs in the Amended ESRP.

Table 2.1: Amended ESRP Action Items

1.	Develop and institutionalize a framework for inter-utility debt reconciliation and settlement.
2.	Establish a framework to improve operational efficiency of ECG/PSP and NEDCo/PSP to meet KPIs set by SIGA, EC, PURC and MoEn.
3.	Address excess take-or-pay generation capacity costs.
4.	Complete the categorization of MDAs into strategic and non-strategic and provide a budget for bill payments of strategic MDAs.
5.	Develop and operationalize a policy for granting and fully funding energy subsidies.
6.	PURC to operationalise regulatory financial reporting framework.
7.	Implement mechanism for enforcing the guidelines of the CWM and NGC.
8.	Ensure that gas purchase commitments continuously match forecasted demand.
9.	ECG and NEDCo to install prepaid meters for non-strategic MDAs.
10.	Institute regulations and tariffs for full recovery of street lighting costs.
11.	Reduce transmission losses and improve operational performance.
12.	Implement PIPs to reduce distribution losses and increase collection efficiency.
13.	PURC to complete periodic adjustment of revenue requirement for ECG and NEDCo (as per quarterly adjustment).
14.	Implement PSP in ECG and NEDCo.
15.	SOEs to publish Annual Financial Statements.
16.	Review non-residential block tariff structure.
17.	ECG to operate a single approved collection account.
18.	PURC to commission regular audit of collections and disbursements of ECG and NEDCo.
19.	Restructure VRA and BPA by divesting their non-core assets and creating two operating companies: a hydro company and a thermal company.

2.4. Budget and Funding

The estimated budget requirement for the implementation of the extended ESRP is USD 500,000 per year comprising GoG funding of USD 100,000 per year and World Bank support of USD 400,000 per year. This will cover administrative costs of the ESRP secretariat, communication, and stakeholder engagements, as well as monitoring and evaluation.

3. INTRODUCTION

The energy sector of Ghana has been facing financial challenges. As of January 2019, cumulative net arrears (Legacy Arrears) in the sector were estimated at USD 2,748 million of which USD 851 million was owed to the private sector. This represented about 5.7% of the country's GDP in 2017 and 33% of Government tax revenue for 2018. In 2019, the Annual Sector Shortfall was estimated to be USD 1,278 million, and this was expected to reach USD 2,571 million by 2023. If nothing was done, the cumulative energy sector shortfall was projected to reach USD 12,564 million by 2023.

The ESRP was launched in May 2019 by the GoG as a roadmap to bring the energy sector into financial balance by 2023. It comprised 30 reform actions or Action Items (AIs) that would simultaneously reduce cost and increase revenues while improving the operational performance of sector SOEs. During the ESRP implementation period of 2019 to 2023, the GoG also committed to annual budgetary transfers (Stabilisation Payments) to cover prevailing sector revenue shortfalls to prevent further accumulation of Legacy Arrears.

The AIs under the ESRP were to be implemented in three main phases. Phase I comprised 4 AIs to be implemented immediately upon the adoption of the ESRP. Phase II comprised 21 AIs which were to be initiated within the first twelve months after the approval of the ESRP, by May 2020. Finally, in Phase III, 5 additional AIs would be implemented over the remaining ESRP period to bring the sector into the financial balance.

3.1. Status of ESRP Action Items

As of January 2022, 17 of the 30 ESRP AIs had been completed, 12 were still under implementation while one (1) had been dropped. See table 3.1 and Annex 1 for a summary of the status of the ESRP AIs. Phase I AIs were expected to reduce the 2018 BAU sector shortfall by USD 253 million and Phase II AIs would reduce the shortfall by another USD 1,982 million. Phase III AIs was expected to further reduce the sector shortfall to the point where stabilization payments would not be necessary. During this period, the Government also committed to making annual stabilization payments of 1% of GDP to ensure no further accumulation of arrears.

Table 3.1: Status of ESRP Action Items

No	Action Item	Status
	Phase I	
1.	MOF to Pay for MDA Electricity Bills	Completed
2.	MoEn to issue a strategy on Least Cost Fuel Procurement	Completed
3.	MoEn to issue a policy for Competitive Procurement of Energy Supply and Service Contracts	Completed
4.	GoG to establish the Energy Sector Task Force (ESTF)	Completed
	Phase II	
5.	Sector Arrears to be netted out and funding plan to be adopted to clear the remaining balance	In Progress
6.	Reduce gas purchase commitment to a level that matches forecast gas demand	Completed
7.	Full completion of Takoradi Tema Interconnection Project (TTIP)	Completed
8.	Relocation and conversion of Karpowership from use of HFO to natural gas	Completed
9.	ECG/NEDCo to install prepaid meters for "Non-strategic" MDA installations	Delayed
10.	Operation and performance of ECG/PSP to meet KPIs and annual monitoring by EC and MoEn	In Progress
11.	Address excess take-or-pay on electricity generation capacity payments	Delayed
12.	Government to order finalization of the combined PPA review report on conventional and renewable projects	Completed
13.	Conduct IPP power plant verification audit to ensure transparent billing by IPPs	Completed

14.	Complete gas pricing actions to reduce the gas tariff	Completed
15	Establish a revised gas tariff to lower cost of gas to power	Completed
16.	Institute regulations and tariffs on street lighting	In Progress
17.	Revise tariff methodology and rate setting guideline in line with Concession Agreement	Completed
18.	Amend the PURC Act or institute other regulatory measures to: (i) mandate disclosure of methodology, data, and analysis behind PURC regulatory decisions and (ii) prohibit approval of tariffs for projects not competitively bid	Completed
19.	Review non-residential block electricity tariff structure	In Progress
20.	Apply the Automatic Adjustment Formula (AAF) on a quarterly basis	In Progress
21.	Publication of SOE Financial Statements	In Progress
22.	Institutionalize an Integrated Planning Process based on 'Energy Supply and Infrastructure Plan' and Amendments to the Regulations to the PFM Act	Completed
23.	Review Power and Gas institutional responsibilities	Completed
24.	Adoption of the Cash Waterfall or Other Appropriate Mechanism to increase payment transparency	Completed
25.	Reduce technical losses and increase operational performance of electricity transmission infrastructure.	In Progress
Phase III		
26.	Restructure VRA	In Progress
27.	Improve Institutional and Regulatory Guidance for the Gas Sector	Completed
28.	Enact Transparent Merit Order Dispatch	Completed
29.	Broaden analysis to include the petroleum sector	Dropped

30.	Energy Sector Impact Analysis of Gas-Supply for Fertilizer	Completed

3.1.1. MoF to Pay for MDA Electricity Bills

As of 2018, MDA bills accounted for about USD 1,300 million (47%) of the estimated Legacy Arrears. This AI required the MoF to pay the electricity bills of Strategic MDAs. Also, the MDA Validation Committee was established on February 18, 2020, to (a) validate the electricity bills of all strategic MDAs and facilitate the installation of prepaid meters in the facilities of all non-strategic MDAs by December 31, 2021; (b) develop a monitoring mechanism to ensure the monthly payments for electricity consumption of all MDA by the MoF, and (c) develop a monitoring mechanism for efficient electricity consumption by all MDAs. By this mandate, the Committee has been charged to audit electricity bills paid on behalf of MDAs. In 2021, MoF made sector shortfall payment of GHS6.24 billion, which was more than enough to pay the accumulated arrears of MDA bills of GHS1.84 billion. The excess GHS4.4 billion was treated as a grant from GoG to ECG.

3.1.2. Least Cost Fuel Procurement Strategy

This AI sought to ensure GoG issued a policy to mandate fuel purchases and nominations based on least marginal cost principles to minimize power sector fuel bills (natural gas and liquid fuels) while honouring existing contracts and maintaining reliable power.

Pursuant to this AI, the MoEn issued a Least Cost Fuel Procurement Policy (LCFP) in May 2019, which seeks to minimise the total fuel costs borne by GoG in the power generation sector while honouring the contractual obligations of existing fuel supply contracts and maintaining reliable power supply. In furtherance of this, GoG also appointed the GNGC in May 2020 as the Aggregator of natural gas and related service contracts.

3.1.3. Competitive Procurement of Energy Supply and Service Contracts

The rationale for this AI was to ensure the adoption of a policy for competitive procurement of energy supply and services contracts that mandates the procurement of energy in a least cost manner. The policy is expected to require all future procurement of energy supply to be directly linked to the IPSMP and through an open and competitive process. The policy would also place a moratorium on all unsolicited proposals from IPPs and fuel suppliers, prevent the granting of any new licenses by the EC during the moratorium period and proscribe the inclusion of costs of power and gas supply contracts that are not procured through a transparent and competitive bidding process in the determination of tariffs by PURC.

The MoEn issued a policy on Competitive Procurement of Energy Supply and Service Contracts in May 2019 following an amendment to the Renewable Energy Act to accommodate this policy. The policy has been published and is currently available on the website of the MoEn.

3.1.4. Establishment of the Energy Sector Task Force (ESTF).

The ESTF was formed and inaugurated in 2019 to oversee the implementation of the ESRP. In 2021, the ESTF was reconstituted with the Vice President of the Republic of Ghana as Chair, and the Ministers for Energy, Finance, and Public Enterprises as members. The ESTF serves as the Steering Committee that provides the strategic direction for the ESRP.

3.1.5. Sector Arrears to be netted out and funding plan adopted to clear the remaining balance

This AI sought to audit and verify the outstanding legacy arrears in the energy sector and make provisions for netting out and financing the remaining arrears. The audit by Deloitte was completed for the period up to December 2021, and a final report on the exercise has been submitted to the MoEn. An MoU amongst the SOEs to acknowledge and effect the netting off of the balances has been signed off.

In addition, the MoF has paid an estimated USD 5.7 billion in Stabilization Payments to the energy sector since 2019. Of this, USD 1.6 billion was applied to reduce the USD 2.7 billion Legacy Arrears as of year- end 2018 and USD 4.1 billion was applied towards the 2019-2021 sector shortfall. These payments were financed with proceeds from the issuance of the ESLA bonds and fiscal transfers paid directly to contractors on behalf of the SOEs.

Final 2022 Legacy Debt Validation report has been submitted to MoEn by Deloitte and Touché. The report shows a net debt position of **US$1.62billion**. A payment plan is being developed to clear the legacy arrears.

3.1.6. Reduce gas purchase commitment to a level that matches forecast gas demand

This AI sought to ensure that natural gas supply equals demand to avoid excess supply and corresponding costs. The cost of excess gas supply was estimated at USD3,870 million at the beginning of the ESRP. The GoG terminated the LNG contract with the WAGL and GNPC renegotiated the offtake volume commitments under the Tema LNG project to reduce gas purchase commitments to levels that match forecasted demand. This eliminated 180MMscfd of excess contracted gas under the WAGL contract and 225 MMscfd under the Tema LNG contract. Government paid an arbitration cost of around USD76 million for the WAGL termination. These efforts resulted in an estimated cost savings of about USD3,110 million from 2020 to 2023.

3.1.7. Completion of Takoradi -Tema Interconnection Project (TTIP)

This AI sought to ensure the completion of the TTIP to enable the transportation of up to 140 MMscfd of gas from Takoradi to Tema. This would enable the substitution of expensive LCO with cheaper natural gas. The TTIP was completed in 2020, enabling the transportation of domestic gas from Western Ghana (Sekondi Takoradi) to the Eastern part of Ghana (Tema) where about 60% of the thermal power plants in the country are located. This increased gas offtake capacity by around 80 MMscfd, and reduced fuel costs by about USD90 million in 2020 compared to 2019 and enabled 7 thermal power plants to substitute HFO and LCO for natural gas.

3.1.8. Relocation and Conversion of Karpowership

The purpose of this AI was to relocate the Karpowership currently located in the Tema Power Enclave to the Takoradi Power Enclave and its engines converted from HFO to natural gas.

The Karpowership was relocated from Tema to Sekondi in November 2019 and converted from using HFO to natural gas. This relocation led to an estimated reduction of fuel costs by about USD412 million over the ESRP period.

3.1.9. ECG/NEDCo to install prepaid meters for "Non-strategic" MDA installations

This AI required the installation of pre-paid meters by ECG and NEDCo, in all non-strategic MDAs to help manage electricity consumption and non-payment by MDAs. Under this policy, non-strategic MDAs will continue to use post-paid meters, and MoF will make regular payments to Discos to cover their bills. However, non- strategic MDAs will take full responsibility of consumption and payment for electricity. ECG and NEDCo had planned to install 11,120 units and 6,539 units of prepaid meters respectively to non-strategic MDAs in their catchment areas. This plan could not be implemented due to lack of funding. This AI has been carried over into the Extended ESRP in pursuit of the policy objective.

3.1.10. Operation and performance of ECG/PSP to meet KPIs and annual monitoring by EC and MoEn

This AI sought to reduce energy losses by ECG/PSP in accordance with KPIs defined in the concession agreement. Following the cancellation of the concession contract with PDS, SIGA included in its annual performance contract negotiated and signed with ECG, the relevant KPIs and monitoring guidelines to measure and monitor the operational and financial performance of ECG as was expected of the PSP. In addition to this, PURC and EC have developed the guidelines for a PIP and submitted to ECG and NEDCo to develop their respective PIPs. This will enable the continuous monitoring and evaluation of ECG and NEDCo operational activities and performance.

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3.1.11. Address excess take-or-pay generation capacity payments

The GoG has undertaken a major review of all PPAs, existing and pipeline, to assess the financial obligations and renegotiate the terms of contracts to reduce oversupply and generation costs. The PPA restructuring exercise is currently ongoing. Restructuring for Cenit, Early Power, AKSA have been concluded which is expected to lead to a reduction in generation costs of $173 million in 2023.

3.1.12. Government to order finalization of the combined PPA review report on conventional and renewable projects.

This AI sought to review, update, and finalize the combined report on thermal and renewable energy PPAs by the PPA Review Committee. An inter-ministerial committee was constituted to review the fiscal and legal implications of PPAs executed by ECG. A consolidated PPA report of this exercise was prepared by the committee for Government. The report was completed and approved by Cabinet. The implementation

of the recommendation was subsequently superseded by Project Light and now by the GoG PPA review committee.

3.1.13. IPP power plant verification audit to ensure transparent billing by IPPs

This AI sought to ensure the development of a robust procedure for auditing the availability of power plants for dispatch to prevent billing of power plants that are not available.

The MoEn is implementing a mechanism for auditing the availability and performance of power plants on a regular basis to enable Regulators, System Operators and ECG to check the performance of all thermal power plants and verify bills/energy payment invoices received. This will enhance the effective verification of energy bills, reduce costs, and subsequently improve the financial performance of the power sector. The MoEn, with support from GESTIP engaged a consultant who conducted an audit with respect to the technical performance of all thermal power plants and recommended a verification audit protocol to be implemented by EC, PURC and the off taker. It is expected that the verification audit will aid in monitoring technical performance of the power plants to prevent billing of unused capacity when the plant may not be available.

3.1.14. Complete gas pricing actions to reduce the gas tariff

This AI sought to reduce the cost of gas for power generation through the reduction of the effective price of Sankofa gas. This was achieved through a Cabinet policy decision taken on June 20, 2020, which directed that the GoG royalties and GNPC share of gas be priced at zero, for the power market. Also, the PURC determined that the regulated Fees, Levies and Charges could be reduced without impacting revenue requirements of entities due to increased gas throughput. These led to the reduced gas prices described in Section 3.1.15. However, the impact of these actions was reduced by the inability to offtake the full contracted quantity of Sankofa gas.

3.1.15. Establish a revised gas tariff

Under this AI, PURC was required to review the methodology for determining allowable costs for the purposes of WACOG.

The PURC revised the WACOG from USD7.29/MMBtu to USD6.08/MMBtu in July 2019 in anticipation of the implementation of the zero-pricing of Ghana's share of the gas as detailed in Section 3.1.14, as well as the impact of Sankofa price reduction due to the refinancing of the TTIP by GNPC. The PURC concluded a major tariff review and commenced the implementation of the new MYTO covering 2022 – 2025 period, with WACOG determined at USD5.94/MMBtu in September 2022. PURC further reviewed the WACOG to USD6.09/MMBtu in the first quarter of 2023 and to USD 6.52/MMBtu in the second quarter of 2023 as part of its quarterly review of tariffs.

3.1.16. Institute regulations and tariffs on street lighting

This AI sought to put in place appropriate framework for the management of street lighting energy consumption, ensure that the methodology of electricity tariff determination includes the cost of street lighting, and that the MoF provides the required budget for MMDAs to pay for their street lighting.

The ESRP through GESTIP has engaged a Street Lighting Consultant to review the existing street lighting policy framework and potential implementation challenges and propose recommendations to fill gaps in the framework. The Consultant would also develop an estimation tool and a database for all street/public lights currently installed in the country and the associated energy consumption and maintenance costs. The assignment is expected to be completed by the end of the second quarter of 2023. In addition, the MoEn has submitted the National Street Lighting Policy to Cabinet to guide the development of the regulations.

3.1.17. Revise tariff methodology and rate setting guideline in line with Concession Agreement

This AI sought to ensure the completion and implementation the revised tariff methodology and rate setting guidelines in line with the concession agreement between ECG and PDS. After the October 2019 cancelation of the concession agreement, the PURC modified its 2017 Rate Setting Guidelines in line with the principles of the concession agreement. The PURC revoked the modified automatic adjustment guidelines and notes previously issued and replaced it with the publication of the November 2022 "Rate Setting Guidelines for Quarterly Tariff Adjustment".

3.1.18. Amend the PURC Act or institute other regulatory measures to: (i) mandate disclosure of methodology, data, and analysis behind PURC regulatory decisions and (ii) prohibit approval of tariffs for projects not competitively bid

This AI sought to amend the PURC Act to require public consultation and disclosure of information and data relating to the processes for defining the tariff methodology, periodically adjusting the revenue requirement of regulated service providers, as well as the procedures for approving tariffs. This AI also sought to prohibit the approval of any tariffs (gas and power) that were not procured in accordance with the policy for competitive procurement of energy supply and services contracts to be adopted by the Government (see section 3.1.3). Following consultative engagements with PURC and stakeholders, PURC did what the amendment sought to achieve without the need to amend the PURC Act. PURC published the tariff methodology, rate setting guidelines, and procedures for approving tariffs which was applied in the determination of the new tariff in September 2022.

3.1.19. Review non-residential block tariff structure

This AI sought for a review of the tariff rate structure and a tariff reform that mitigates grid flight of non-residential consumers. The major tariff review in September 2022 resulted in some changes to the structure of the EUT. The changes included the reduction of the threshold for the Lifeline consumption from 0-50kWh to 0-30kWh per month. Also, the 0 – 100kWh per month block in the Non-residential tariff has been merged with the 101 – 300kWh block. The merged block is now 0 – 300kWh block. The steel companies jointly negotiated for different prices outside the approved tariff structure. The inclusion of the

concessionary tariff for steel companies to the tariff schedule now sets a basis for Discos to charge the steel companies moving forward.

3.1.20. Apply the Automatic Adjustment Formula (AAF) on a quarterly basis

This AI sought to ensure the consistent application of the AAF formula for electricity tariffs, a major source of the sector shortfall.

The PURC implemented the quarterly Automatic Tariff Adjustment regime by the publication and gazetting of tariffs for Q4 in 2019, Q1, Q2, Q3 and Q4 in 2020, Q1 in 2021.

3.1.21. Publication of SOE financial statements

Under this AI, energy sector SOEs were required to publish their annual financial statements within four (4) months after the end of each financial year in accordance with the accounting standards and associated policies set out in the PFM Act. Specifically,the 2019 SIGA Act, the PFM Act of 2016 and the PFM Regulations of 2019 require all SOEs who sign performance contracts with SIGA to publish and submit to SIGA their annual financial statements by April 30 of every reporting year. On receipt of SOEs' Audited Financial Statements, SIGA is expected to report on the financial performance of the SOEs to the Minister responsible for Public Enterprise within four (4) weeks after receiving the financial statements. Copies of the report are also forwarded to the Minister for Finance and the Minister for Energy.

3.1.22. Institutionalize an integrated planning process based on "Energy Supply and Infrastructure Plans" and amendments to the regulations of the PFM Act

This AI required the publication of, and updates to, the SNEP. This is the energy supply and infrastructure plan for Ghana which was completed in 2019. The EC has developed and published the IPSMP as updates to the demand-supply forecasts and infrastructure plan. With respect to the amendment of the regulations of the PFM Act, it was agreed, following extensive stakeholder consultations, that coordination among state institutions could be improved without amendments to the regulations. The ESRP Working Group will collaborate with the Power Planning Technical Committee (PPTC), to ensure the continuous monitoring of activities captured in the IPSMP.

3.1.23. Review power and gas institutional responsibilities

This AI sought to clarify the roles and responsibilities of regulatory institutions in the gas and power sectors and recommend the best arrangements for coordinated planning and improved management capacity, including gas aggregation and transportation. Section 3.1.26 describes the reorganisation of the operating SOEs. Government clarified the institutional responsibilities of the regulators by affirming the mandate of EC as the technical regulator and PURC as the economic regulator.

3.1.24. Adoption of the Cash Waterfall or other appropriate mechanism to increase payment transparency

This AI sought the implementation of a CWM to ensure equity and transparency in the disbursement of revenues of the electricity Discos. The CWM has been operational since April 2020, ensuring equitable and transparent distribution of monthly revenue collections by ECG, based on the invoices submitted by the beneficiaries and the share of each beneficiary in the PURC tariff build up. To complement the CWM, the Natural Gas Clearinghouse (NGC) was introduced in October 2020 to ensure equitable and transparent allocation of revenues in the gas sector by recognising and allocating gas revenues from entities that over-recovered to those that under-recovered. The NGC aims for full payment of all commodity and service providers in the gas sector. This is made possible by the contribution of the MoF to cover the gas sector shortfall.

3.1.25. Reduce technical losses and increase operational performance of electricity transmission infrastructure

This AI sought to ensure the financing of the medium-term investment plan for GRIDCo to reduce transmission losses and increase transmission capacity for increased power exports. GRIDCo was expected to make strategic investments in the national grid by upgrading several substations, injecting power transformers, and providing a Supervisory Control and Data Acquisition (SCADA) System. GRIDCo completed the construction of two Bulk Supply Points – at Kasoa and Pokuase in the Central and Greater Accra Regions respectively. The ESRP extension will allow for further actions to be taken in this regard.

3.1.26. Restructure VRA

In 2017, Government announced plans to restructure VRA by divesting its non-core assets and creating two operating companies: a hydro company and a thermal company. The Bui Power Authority would also be consolidated with the new hydro company, while the thermal company would seek private sector participation. In accordance with the Cabinet decision, the Ministry of Energy in 2023 has constituted a joint Board Committee to develop an implementation plan (Roadmap) for the restructuring of the VRA and BPA. The joint Board Committee has formed a Technical Committee to facilitate its work. The Technical Committee's scope of work includes but is not limited to (a) Technical Due Diligence, (b) Integration of Planning, (c) Regulatory Compliance, (d) Human Resources, and (e)Workforce Integration.

3.1.27. Improve institutional and regulatory guidance for the gas sector

Under this AI, GoG committed to clarifying the roles of various state institutions in the gas sector to eliminate duplication of roles and strengthen the various institutions to carry out their respective mandates. In this regard, the GNGC has been appointed as the National Gas Aggregator and GNPC has been directed to novate its gas business contracts to GNGC. The implementation is currently on-going.

3.1.28. Enact transparent merit order dispatch

This AI sought for the continuation of steps towards the implementation of a wholesale electricity market within which GRIDCo would dispatch plants according to a transparent, least-cost, merit order dispatch to

minimize the system wide variable operation costs. Implementation of the merit order dispatch is currently ongoing for ECG and VRA in collaboration with GRIDCo to ensure efficient nomination and dispatch of power plants.

3.1.29. Broaden analysis to include the petroleum sector

This AI sought to extend the scope of the analysis on the sector shortfall to include operations of oil sector SOEs such as GNPC, GNGC and TOR. However, given the complexities involved, GoG has decided to focus on the power and gas sectors only for this analysis. Other GoG interventions are being implemented in the petroleum sector to address the challenges in that sub-sector.

3.1.30. Energy Sector Impact Analysis of Gas-Supply for Fertilizer

This AI aimed at conducting cost-benefit analyses in respect of supplying subsidised gas for the domestic production of fertilizer. The MoEn has completed a net-back analysis for the fertilizer industry, which demonstrated that the gas price any fertilizer project could accommodate would be far lower than the WACOG. This suggests that subsidies and other financial incentives would be needed to provide a viable business case for fertilizer production. The analyses and recommendations of the study are guiding Government's policy on use of natural gas for the development of domestic fertilizer industry.

4. CHANGED CIRCUMSTANCES AND KEY ESRP ACHIEVEMENTS

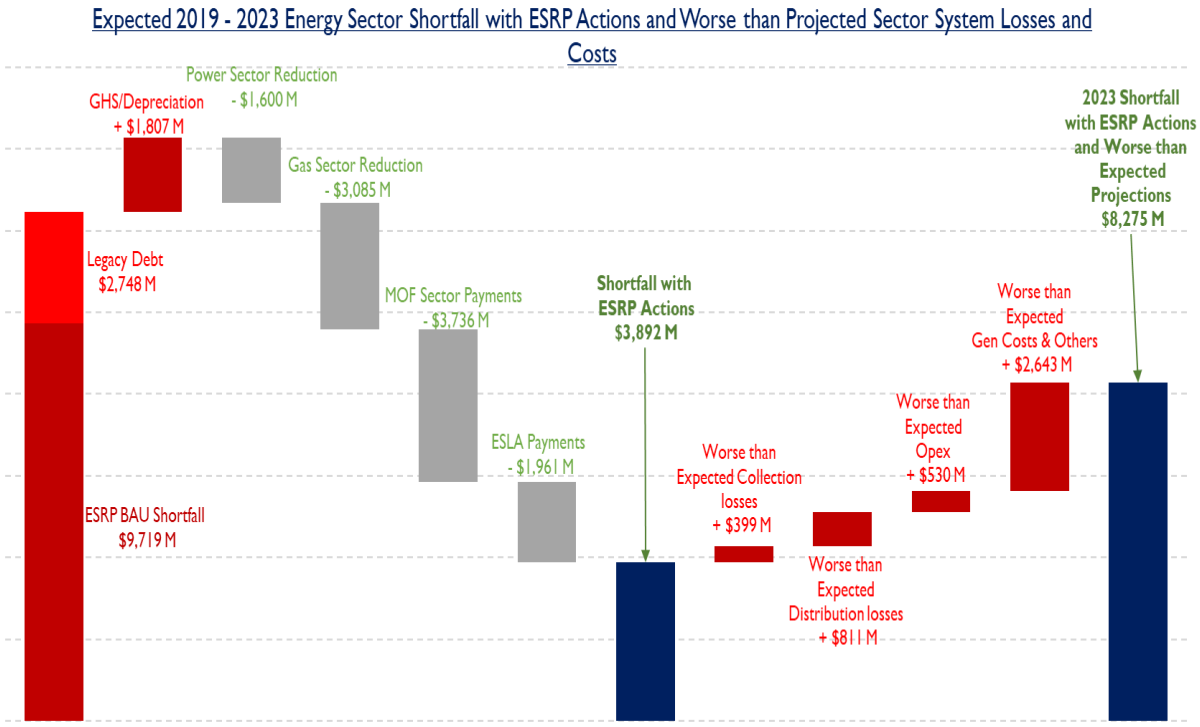
Since 2019, there have been major changes in the energy sector and the macroeconomy that needed to be incorporated in the modelling of the sector shortfall for the ESRP period (2019 to 2023). Specifically, a flat exchange rate of GHS5 to USD1 was used in the modelling earlier. This was based on the expectation of a consistent application of the AAF every quarter to account for any increase in sector costs due to local currency depreciation. However, the quarterly adjustments were irregular and did not keep pace with the depreciation of the cedi. There was therefore the need to update the estimated sector shortfall by applying a more realistic cedi depreciation assumption of 7.4% year on year on average. With this change, the projected energy sector shortfall was updated from the USD12.47 billion originally estimated, to USD14.27 billion over the original timeframe of the ESRP (2019 to 2023), implying a change in the baseline sector shortfall. This adjustment can be seen in figure 4.1.

Major achievements have been made under the ESRP which has resulted in the reduction in the energy sector shortfall. Key amongst these include (a) reduction of the WACOG (b) relocation of the Karpowership (c) PURC electricity tariff increases (d) cancellation of the Takoradi LNG and delaying of the Tema LNG (e) delays in the execution of some PPAs (f) MoF sector stabilization payments (g) ESLA payments and (h) completion of the Takoradi-Tema Interconnection Project. These actions together led to a reduction of the sector shortfall by USD 8,520 million over the ESRP period. See figure 4.1.

However, these achievements were partly offset by worse than projected SOE performance. Specifically, the assumed distribution losses, collection rates, generation costs and operating expenditures in the estimation of the sector shortfall where highly conservative as actual numbers were higher.

With these modifications, the sector shortfall as estimated under the original scope of the ESRP (2023) was re- estimated in end of year 2021 to be USD8,275 million. See figure 4.1.

Figure 4.1: Sector Shortfall with changed Circumstances



***Note**: The original ESRP projected shortfall amounted to US$12.47 billion. This was subsequently updated to US$12.56 billion to correct a calculation error in the model. This graphic is from the original projection. As we track progress, we deemed it prudent to utilize the corrected US$12.56 billion figure in the text.*

5. RATIONALE FOR THE EXTENSION OF THE ESRP

Despite significant achievements made under the ESRP, the sector shortfall was projected to persist over the ESRP period, reaching USD8,275 million by the end of 2023 due to the changed circumstances as described in Section 4. In addition, 12 of the 30 AIs are still under implementation while one (1) has been dropped (see Annex 1). These AIs under implementation remain critical to reduce the energy sector shortfall and ensure the financial viability of the sector. In addition, new AIs have been identified during the implementation of the programme which would help to further reduce the sector shortfall and institutionalize critical reforms to put the sector on a sustainable path to cost recovery.

The purpose of this Addendum is to extend the ESRP and revise its scope to allow for the completion of uncompleted AIs and the implementation of new AIs in line with changed circumstances. This is necessary to sustain the gains made since the launch of the programme and further reduce the sector shortfall.

5.1. Scope of Amended ESRP

The Amendment to the ESRP encompasses an extension of the programme period by two and a half (2.5) years through year-end 2025 made up of 19 AIs to be implemented during this period. See table 5.1.

Table 5.1: Amended ESRP Action Items

	Extended ESRP Action Items
1.	Develop and institutionalize a framework for inter-utility debt reconciliation and settlement.
2.	Establish a framework to improve operational efficiency of ECG/PSP and NEDCo/PSP to meet KPIs set by SIGA, EC, PURC and MoEn.
3.	Address excess take-or-pay generation capacity costs.
4.	Complete the categorization of MDAs into strategic and non-strategic and provide a budget for bill payments of strategic MDAs.
5.	Develop and operationalize a policy for granting and fully funding energy subsidies.
6.	PURC to operationalise regulatory financial reporting framework.
7.	Implement mechanism for enforcing the guidelines of the CWM and NGC.
8.	Ensure that gas purchase commitments continuously match forecasted demand.
9.	ECG and NEDCo to install prepaid meters for non-strategic MDAs.
10.	Institute regulations and tariffs for full recovery of street lighting costs.
11.	Reduce transmission losses and improve operational performance.
12.	Implement PIPs to reduce distribution losses and increase collection efficiency.
13.	PURC to apply periodic adjustment of revenue requirement for ECG and NEDCo (as per quarterly adjustment).
14.	Implement PSP in ECG and NEDCo.

15.	SOEs to publish Annual Financial Statements.
16.	Review non-residential block tariff structure.
17.	ECG to operate a single approved collection account.
18.	PURC to commission regular audit of collections and disbursements of ECG and NEDCo.
19.	Restructure VRA and BPA by divesting their non-core assets and creating two operating companies: a hydro company and a thermal company.

6. EXTENDED ESRP ACTION ITEMS

The extended ESRP comprises 19 AIs to be implemented in thirty (30) months from mid-2023 to year end 2025. They include uncompleted under that original scope which in some cases been slightly modified to effectively address the intended sector challenge as well as new AIs identified during the implementation of the programme.

6.1.1. Develop and institutionalize a framework for inter-agency debt reconciliation and settlement.

The purpose of this AI is to net out inter utility debt to determine the sector arrears and provide a framework for the settlement of the arrears by GoG to improve the liquidity position of the SOEs in the value chain. An independent audit firm has been hired to audit inter-agency debt and advise on an appropriate framework to institutionalise a quarterly settlement mechanism. Once this exercise is completed, the framework developed will be used by GoG to sustainably settle the sector arrears as per the debt matrix to reduce the sector shortfall.

Estimated Cost: US$0
Source of Financing: Not Applicable
Frequency (Target date for Completion): Quarterly (End of subsequent quarter)

6.1.2. Establish a framework to improve operational efficiency of ECG/PSP and NEDCo/PSP to meet KPIs set by SIGA, EC, PURC and MoEn

This AI seeks to establish frameworks for improving the operational efficiency of ECG/PSP and NEDCo/PSP in alignment with the KPIs set by SIGA, EC, PURC and MoEn and within the context of the PIPs and the Performance Contracts. These frameworks would include amongst others an estimation of investment requirements for system and equipment upgrades and the finalization of the modalities for PSP. This is ongoing and currently scheduled to be completed by December 2023. A fast-tracked installation drive for pre-paid meters and the implementation of a code of corporate governance has already begun.

Estimated Cost: US$1 million
Source of Financing: GoG

Frequency (Target date for Completion): Once (November)

6.1.3. Address excess take-or-pay generation capacity costs

This AI aims to finalize and implement the renegotiated agreements of existing and operational PPAs and rationalize the start-up dates/ schedule of pipeline projects. For pipeline PPAs, this AI seeks to renegotiate contract terms in line with directives issued by the MoEn with respect to procurement of new IPPs. These efforts will be complemented with the ongoing GoG negotiations with IPPs.

To lessen the financial burden on GoG, the directives also require ECG to ensure that any new contracts do not include Government Guarantees or tax waivers for projects, is on a Take-and-Pay basis, is denominated in Ghana cedi. In addition, it requires that the generation cost be capped at a cedi equivalent of 10 US Cents per kWh. The 10 Cents cap was only for conventional plants, and not for renewables. This was an interim measure prior to the LI for competitive procurement coming into force. The LI is currently being processed for laying in Parliament.

Cost: $5 million – GoG

6.1.4. Complete the categorization of MDAs into strategic and non-strategic and provide a budget for bill payments of strategic MDAs

The categorization of the MDAs into strategic and non-strategic facilities was completed and approved by Cabinet. The purpose of this AI is to ensure continuous review and update of this categorization to account for new meter installations. It will ensure that the MoF allocates adequate budget on annual basis to pay for the bills of the Strategic MDAs at central Government level and make appropriation for budgeted electricity bills by Non-strategic MDAs.

Cost: None

6.1.5. Develop and operationalize a policy for granting and fully funding energy subsidies

To reduce the recuring energy sector shortfall and alleviate the burden on the GoG to provide Sector Stabilization Payments, the MoEn, in collaboration with the MoF will develop a policy document on the determination and implementation of subsidies. The joint policy document will provide the basis for which applications for subsidies will be reviewed and evaluated, and the determination of the duration of subsidies. The policy will require the MoF to issue a notice of no objection and provide a dedicated financing from the annual budget or other identified revenue sources.

Cost: None

6.1.6. PURC to operationalise regulatory financial reporting framework

The PURC in 2022 developed regulatory financial reporting/accounting frameworks for regulated utilities. The Regulatory Accounting framework is to gather financial, technical, and commercial data in performing its mandates regarding tariff determination, monitoring quality of service and compliance to regulatory

benchmarks. The Commission is currently finalising guidelines/manual for regulatory accounting reporting to guide the utilities in completing the templates when required.

Cost: None

6.1.8 Ensure that gas purchase commitments continuously match forecasted demand

Government has delayed the commercial operation of the Tema LNG project due to a revision of the demand forecast which resulted in cost savings of over US$1 billion in ToP liabilities. Government, through the Gas Aggregator, will continue to apply prudent measures to match gas purchase commitments with demand.

6.1.9. ECG and NEDCo to install prepaid meters for non-strategic MDAs

The cost of MDA electricity consumption (both strategic and non-strategic) was estimated at 1.2 billion GH cedis ($104 million) for 2023. All MDA bills are currently being paid by GoG through MDA budget allocations and offseting GoG'S payments to IPPs on behalf of ECG. Discos are expected to install prepaid meters during the extended ESRP period at the premises of the non-Strategic MDAs. ECG and NEDCO are expected to install 11,120 and 6,539 prepaid meters, respectively, for Non-Strategic customers. As the ESRP BAU Case assumes that MOF will pay for MDA bills, the implementation of prepaid meters will not result in a reduction of the projected shortfall. However, the prepaid meter program will assist the MOF to set budget limitations for electricity consumption and promote energy efficiency measures as the non-strategic MDAs.

Cost: $11 million – World Bank PforR

6.1.10. Institute regulations and tariffs for full recovery of street lighting costs

The AI seeks to institute streetlighting regulations based on the National Street Lighting Policy expected to be approved by Cabinet in 2023. The implementation of the Policy will seek to achieve the following among others: developing a mechanism for street lighting levy, assessing the quantum of energy consumption, developing a mechanism for payment for energy consumption and maintenance of streetlights.

6.1.11. Reduce transmission losses and improve operational performance

GRIDCo is to improve its transmission losses and operational performance through strategic investments in the national grid. GRIDCo plans to do this by constructing a 330/225 kV Substation, upgrading 3 161/34.5 kV substations, injecting six (6) 161/34.5 kV power transformers and one (ii) 120/145MVA power transformers, adding two (iii) Static Volt-Amps Reactive (VAR) compensators, constructing two transmission lines, and providing Substation Automation System (SAS) or Supervisory Control and Data Acquisition (SCADA) system.

Cost: US$66 Million (EBID funded) and Euros 120million (German financing)

6.1.12. Implement PIPs to reduce distribution losses and increase collection efficiency

The EC and PURC through their regulatory monitoring have determined that Discos have not been able to meet the performance standards set by the Regulators. The Commissions have formulated guidelines for the Discos to develop their PIPs. Under this AI, Discos are required to submit plans for improvement in their performance including investment requirements. Key elements of the proposed PIPs to reduce distribution losses and increase collection efficiency are enlisted in the Table below. This is expected to lead to an annual improvement in collection losses by 2% for ECG and 3% for NEDCo and an annual reduction of commercial and technical losses by 1.2%.

Table 6.2: Key elements of the PIPs to reduce distribution losses and increase collection efficiency.

NEDCO	ECG
1. Revenue Protection Program Improvement Plan	
1. Revenue Protection Program Improvement Plan (i) Replace 104,000 meters older than 20 years old with most cost effective type of meters from 2024 to 2025. (ii) Install 770 AMI DTR smart meters in Tamale in 2024.	1. Revenue Protection Program Improvement Plan (i) replace all >20yr old meters (313,821) with appropriate meter (smart/non-smart, pre/post-paid, split/Monoblock from 2024 to 2025. (ii) Implement boundary metering and distribution transformer meters for 27,000 transformers in 2024.
(ii) Install 770 AMI DTR smart meters in Tamale in 2024.	
2. Billing & Collections Improvement Program Plan	
2. Billing & Collections Improvement Program Plan (i) Replace post-paid with prepaid meters for residential customers in 2024 and 2025 in all NEDCO areas.	2. Billing & Collections Improvement Program Plan (i) Fully implement AMI with large customers integrated with billing and monitored by MCC.
The total estimated cost for the installation of the Prepayment meters is US$ 23,058,898 to be funded from NEDCO's IGF.	The total estimated cost for the installation of the Prepayment meters is US$ 24,630,314 to be funded with support from KfW.
These initiatives are contained in the attached NEDCo PIP.	All initiatives are contained in the attached ECG PIP document.

Cost: The total cost for the implementation of the PIPs is US$871 million (ECG) + US$ 253 million (Nedco) - Internally Generated Funds, donor agencies and other concessional financing.

6.1.13. PURC to complete periodic adjustment of revenue requirement for ECG and NEDCo (as per quarterly adjustment)

The Commission as per its Rate Setting Guidelines for Quarterly Review of Natural Gas, Electricity and Water Tariffs undertakes quarterly tariff reviews to ensure that targeted revenue requirements for the

regulated utilities are achieved at any point in time. PURC announced a 27.15% increase in electricity tariff effective 1st September 2022, and this was further augmented with an additional increase of 29.96% as quarterly adjustment of the electricity tariff as of 1st February 2023 to accommodate changes in foreign exchange rate and inflation. A further review was concluded by PURC in May 2023 with an increase in EUT of 18.36% effective June 01, 2023.

The Commission has assured all Stakeholders that it will continue to strictly implement its Quarterly Tariff Review per its Rate Setting Guidelines.

6.1.14. Implement PSP in ECG and NEDCo

The GoG will introduce PSP in the retail segment focusing on metering, billing, and collections to reduce commercial losses and improve revenue collection to enhance the financial viability of the sector. The PSP is expected to eliminate inefficiencies in the distribution/retail segment and reduce the electricity cost of service for a more affordable tariff. This requires the PSPs to reduce losses in accordance with KPIs to be defined in the PSP agreement.

Cost: US$ 2million – IGF

6.1.15. SOEs to Publish Annual Financial Statements

From the recent evaluation conducted among the SOEs, it was recorded that most of the SOEs failed to publish their Audited Financial Statements. Moving forward, SIGA will ensure these SOEs to comply with the publication of their Audited Financial Statement as enshrined in section 32 of the SIGA Act 2019, PFM Act 2016, and PFM Regulations 2019.

6.1.16. Review Non-Residential Block tariff structure.

It remains a policy of Government to ensure that the electricity tariff structure ensures optimum revenue collection and efficiency in tariff administration. The changes included in the Multi-Year Tariff Order (MYTO) of September 2022 simplified the system to achieve these objectives. For example, the threshold for the Lifeline consumption from 0-50kWh has been reduced to 0-30kWh block. Also, the 0 – 100kWh block in the Non-residential tariff has been merged with the 101 – 300kWh per month block. This reform would mitigate grid flight of non-residential consumers and stabilize the cash revenues of the Discos.

6.1.17 Transparency Measures

To enhance transparency in the energy sector, the MoEn and MoF will approve all district/regional tariff collections accounts of ECG. The Ministries will further approve a CWM Collection Account where all revenue collections from the district/regional accounts will be swept into daily.

6.1.18. Regular Audit of Collections and Disbursements of ECG and NEDCo

PURC will appoint independent auditors to undertake quarterly audits of collections and disbursements of ECG and NEDCo. This is to validate collection declared by ECG and NEDCo and ensure disbursements are effected in line with CWM.

In order to strengthen the CWM, Government has adopted the following measures for immediate implementation to improve transparency in ECG collections and payments to CWM beneficiaries. These include the use of the CWM as the sole payment mechanism of ECG customer revenues to beneficiaries, ECG to operate a single holding collection account, and ECG collections and disbursements to be audited quarterly by an independent auditor appointed by PURC. PURC will publish the collections/disbursements monthly on its website. The audit will commence from Q1 2023. PURC is also expected to validate the revenue collections and payments due other entities as per CWM guidelines; on quarterly basis, PURC, MoF and CWM team will undertake reconciliation exercise to determine any shortfall for payment by MoF.

Government has restructured the CWM into two levels of payments – level A and B, where level A payments will be made to six IPPs and level B to the local SOEs and remaining generators. Based on ECG's renegotiation with the IPPs, a negotiated amount of **US$43million** monthly will be made to six IPPs and the remaining amount of ECG collections distributed to the SOEs and remaining generators using the CWM formula. The CWM payments will be made by ECG from the single holding account established for this purpose. Audit of ECG collections will show payments being made under CWM (monthly, etc) and balance to be catered-for by MoF which is expected to be the balance after the ECG/CWM payment of the flat rates on IPP invoices.

The process of transferring payables from ECG to MoF will involve three main steps:

i. IPPs will issue invoices to ECG

ii. ECG validates the invoices and forwards it to the CWM implementation committee

iii. CWM team validates the invoices and determine payment to IPPs using the CWM formular. ECG will then communicate the balance on the IPP invoices to MoF (if any) through MoEn to MoF for processing and payment;

iv. MoF validate the IPP invoices in line with the requirements of PFM Regulation 78, which includes, validated invoice, an agreement covering the transaction, covering letter from sector Ministry, Budget provision for the said payment, etc; and

v. The processed payment requests go through MoF internal approval processes to ensure internal and quality controls and fulfilment of legal/regulatory requirements before payment.

The following arrangements have been made for payment of IPPs and SOEs:

a. ECG pays IPPs and SOEs in cedis, however, regarding the shortfall covered by MoF, Bank of Ghana has been engaged to ensure that forex is made available to pay IPP bills when processed. This is expected to eliminate delays in the payment of IPPs. The SOEs balance are paid in cedis.

Cost (to PURC for regular audit of collections and disbursement of ECG and NedCo: $250,000 – World Bank PforR under preparation) July 2022 to September 2023: $403,000 retrospective. Monthly cost thereafter of $46,258.34 (ECG) - $34,619.43.

6.1.19. Restructure VRA and BPA

The Ministry of Energy in 2023 constituted a joint Board Committee to develop an implementation plan (Roadmap) for the restructuring of VRA and BPA by divesting their non-core assets and creating two operating companies: a hydro company and a thermal company. The purpose of this restructuring is to combine and streamline operation of hydro generating assets which is expected to result in operating synergies and reduce operating costs. Also, the combination will mitigate two state-owned generators from competing against each other for clients. The financial analysis does not include any impact on the shortfall from this AI, and the modelling team will update projections once the impacts can be better estimated. The joint Board Committee will continue its work to develop the implementation plan which will form the framework for the restructuring.

6.1.20. Additional Ongoing Measures to Improve Shortfalls in Energy Sector

The financial model reflects current situation and interventions planned to transform the energy sector. A major component of it is the ongoing renegotiation of Power Purchase Agreements and other related agreements which makes up greater percent of the costs in the model. Key amongst them include the following:

i. Negotiation of fixed amounts (comprising capital recovery charge, fixed O&M and non-fuel variable O&M charges) for payments to the power producers. The renegotiated terms will reflect the payment of bills for energy generated only and the restructuring of idle capacity costs.
ii. Separation of fuel invoices and assignment of receivables relating to it from Independent Power Producers (IPPs) to GNPC as the gas supplier. This is expected to be rolled out into a full tolling structure in a contractual agreement.
iii. Restructuring of the payment terms of existing PPAs to reduce current bills to amount billed and collected and defer or restructure all non-passthrough bills. This could be achieved through:
    a. Extension of term
    b. Removal of working capital on fuel supply and other related costs
    c. In some cases, levelization of tariff

a) Negotiation of payment of legacy debt to IPPs and other power producers.

The above exercise is expected to be completed November 30, 2023, and would bring significant gains to the energy sector. It is therefore recommended that the sector financial model is reviewed upon the completion of the above exercise to reflect the gains made as well as the documentation of contracts in the revised model, which will serve as a projected guide to monitoring sector performance.

7. FINANCIAL MODEL

The extended ESRP financial model provides a medium-term projection of the energy sector shortfall, disaggregated year-on-year into the power and gas sub-sectors. It models the difference in projected revenues and costs between 2022 to 2025 to determine the annual and cumulative sector shortfalls. The 2022 numbers used in the modelling are provisional at the time of the completion of this document pending the publication of audited financial statements of the SOEs.

The model has been updated with recent changes in the energy sector and will be revised periodically to reflect a more realistic progression of the energy sector shortfall. The model runs several scenarios to provide a range of projections and the impacts of various interventions on the sector's financial position.

The Business as Usual (BAU) scenario runs financial projections based on most recent updates to establish the base case energy sector financial shortfall magnitude. The 2023 ESRP Action Items scenario assesses the financial impact of the ESRP action items including payments by the Ministry of Finance to reduce the financial shortfall.

7.1. Key Model Assumptions

This section outlines the key assumptions used in the estimation of the energy sector shortfall over the Extended ESRP period (2023-2025). It presents assumption on electricity demand and supply, gas demand and supply, and other macroeconomic and sector variables that influences the revenues and costs in the energy sector.

7.1.1. Power Sector Demand and Supply Projections.

Gross power demand estimates are based on the annual wholesale generation requirements by ECG, NEDCo, EPC, VRA bulk customers. This is then augmented to account for transmission losses. See table 7.1. Currently, there is adequate generation capacity to meet this demand.

Table 7.1: Power demand projections from 2022 to 2025

Year	2022	2023	2024	2025
Annual Wholesale Generation Requirements (GWh)				
ECG	15,817	16,769	17,574	18,660
NEDCo	1,904	2,164	2,429	2,611
EPC	284	385	407	421
VRA Bulk Customers	1,796	2,236	2,750	2,944
VALCO	765	1,372	1,372	1,372
Domestic Power Demand	20,567	22,925	24,532	26,007
Exports	1,953	1,964	2,058	2,058
Total Power Demand - Gross	22,520	24,889	26,590	28,065
GRIDCo transmission Losses	1,059	1,094	1,174	1,261
Total Power Demand Ghana	23,579	25,983	27,764	29,325

Source: 2022 Electricity Supply Plan

7.1.2. Natural Gas Demand and Supply Projections.

Domestic gas production comes from three fields – Jubilee, TEN, and Sankofa – and this is expected to be the case through 2025 with no other field projected for production start-up. Ghana currently imports gas from Nigeria through the West Africa Gas Pipeline (WAGP) and has contracted supplies of LNG scheduled for arrival in 2025 through the Tema LNG project. Projected gas supply is expected to rise from 386 MMscfd in 2022 to 428 MMscfd in 2025. See table 7.2.

Table 7.2: Gas supply projections from 2022 to 2025

	2022	2023	2024	2025
Gas Supply				
Jubilee / TEN	126	93	93	93
N-Gas	70	75	75	75
Sankofa	190	204	215	260

Sankofa MUG	-	41	45	-
LNG	-	-	-	-
Total Gas Supply	**386**	**413**	**428**	**428**
Gas Demand				
Power Sector	314	360	361	352
Non-Power Sector	50	53	67	76
Total Demand	**364**	**413**	**428**	**428**

7.1.3. Other Key Assumptions

There are some important determinants of the sector shortfall that are outside the scope of sector operations. These include the Ghana cedi -US dollar forex rate, inflation rates, Annual GDP (as a determinant of the number of fiscal transfers), the legacy debt as validated in the netting out exercise and actual supply demand projections in the gas and electricity subsectors. The macroeconomic assumptions are similar across both the BAU and ESRP scenarios.

Table 7.3: Other Key Assumptions

Business as Usual Scenario Assumptions	
Inflation	Average MOF projected inflation at 25.9% (2022-2025)
GDP	Average MOF projected GDP at GHS 59Billion (2022-2025)
PURC Average Tariff	Average ECG and NEDCo End User Tariff at GHS 2.16/kWh (2022 at GHS 1.3442/kWh)
PURC Flat Rate	PURC Flat Rate at ~ GHS 12.326/USD average (2023-2025)
Gas Sector	Updated Supply, demand, and cost of gas supply
Legacy Debt	Provisional debt position per the Debt matrix as at end of 2022 (US$ 1,624 Million)

The BAU assumptions in the model in relation to the technical and collection losses are detailed below.
Technical Losses: 29.3% for ECG and 27.3% for NEDCo

- Collection losses: 9.25% for ECG and 18.3% NEDCo

7.1.4. ESRP Scenario Assumptions

Based on the AIs proposed, some scenarios have been generated to assess the impacts of the ESRP on the energy sector shortfall. Through various channels, the ESRP is expected to impact the sector shortfall through improvements in collections, reduction in system losses, reduction in generation costs, and increase in revenues in both the power and gas sub-sectors. Table 7.4 provides the improvement assumptions of the ESRP.

Table 7.4: ESRP Scenario Assumptions

ESRP scenario assumptions	
Collection Efficiency (CE)	CE is the percentage of invoiced sales in Ghana Cedis (GHS) for any given calendar year received by the Distribution Utilities. The model considers uncollected invoiced sales as lost revenue. ECG's base assumption of 9.25 as of [2022] assumes the Ministries, Departments and Agencies (MDA) collection rate is 100%. The PIPs and SIGA performance contracts project an annual improvement as indicated in the table below. Annual improvement of 2% from 2022 baseline of 9.25% to 3.225% in 2025 for ECG, and 3% from 2022 baseline of 18.3% to 9.3% in 2025 for NEDCo. It should be noted that these rates are the ESRP working assumptions until the revised PIP's are approved by the sector regulators.
Network Losses (NL)	NL refers to the percentage of generation purchased by the Distribution Utilities (KWh) which is not invoiced to end-users, due to technical limitations and underbilling resulting from actions such as theft. The model does not distinguish between these technical and commercial losses. Baseline assumptions are historicals as reported by distributions companies in 2022. The PIPs and SIGA performance contracts project an annual improvement as indicated in the table below. It should be noted that these rates are the ESRP working assumptions until the revised PIP's are approved by the sector regulators.
Generation costs	Generation costs include contractual obligations to the IPPs and cost of operating the State-Owned Generation Utilities (VRA and BPA plants). a. The total cost of Variable O&M and Fuel charges considered in the model are determined using on a simulated marginal cost dispatching process along with the prevailing gas prices (WACOG), global market prices for crude derivatives and the contractual Variable. b. The total Fixed Costs (Capacity Charges and Fixed O&M) are based on contractual terms. The ESRP scenario includes revisions to contractual terms resulting from PPA restructuring agreements with CENIT andAKSA, and the net impact of increased WACOG. On aggregate, the average cost of power generation is higher in ESRP reform scenario than in the BAU scenario in 2024 and 2025 because the increased fuel costs emanating from equating the WACOG to the actual cost of gas supply is expected to more than offset the downward revision in cost emanating from PPA renegotiations. The model assumes PURC increases end-user tariffs to reflect any changes in WACOG.
Public lighting	The cost of public lighting is determined based on an estimate of usage in KWh provided by the Distribution Utilities multiplied by the PURC approved tariff designated for this purpose. Proceeds from the 3% street lighting tax are assumed to be provided to the distribution utilities to offset these costs. The ESRP scenario calculates the additional tariff needed to be applied in excess of existing end user tariffs to offset the deficit for streetlighting after applying the tax revenue. The model assumes that this is an additional revenue source to the Distribution Utilities, but the

	actual payee has not yet been determined by the PURC (e.g., tariff increase, increased taxes, budget support, etc.) The model derived streetlighting tariff of GHS0.036/kWh (ECG) and GHS0.177/kWh (NEDCo) represents the additional tariff required to offset streetlighting consumption after applying expected streetlighting levy receipts.
WACOG	The BAU case assumes an average WACOG at US$7.70/MMBtu (2023-2025) remains constant in line with the most recent PURC WACOG determination. However, the actual cost of gas supply is expected to increase in the near term due to creases in the commodity price. The ESRP scenario assumes that PURC will periodically update (annual adjustments) the WACOG to be equivalent to the actual cost of gas supply so there is no accumulation of gas sector arrears. However, if the cost of gas increases, the PURC should determine end user electricity tariffs based on the actual cost of gas. As such, the model applies an "incremental tariff" above and beyond the the quarterly adjustment for depreciation and inflation to offset the increased costs of generation resulting from an increase in the WACOG. For illustration purposes, increasing the WACOG to equal the true cost of gas supply (before adjusting electricity tariffs) will reduce the gas sector shortfall by US$606 million. However, the cost of generation would increase by US$803 million in the cost of fuel to the power generators. To offset the increase in fuel costs, the ESRP scenario assumes that PURC will increase electricity tariffs annually to effectively pass through the higher gas costs via its periodic tariff adjustments. The additional increase results in an average End User Tariff at GHs2.60/kwh (over 2023-2024), which is more than average electricity End User Tariff of GHS2.4/kWh expected from only the proposed ESRP Quarterly Adjustment for depreciation and inflation.

Table 7.5: Other Assumptions

ASSUMPTION	**UNIT**	2023	2024	2025
Reduction in collection losses				
ECG	%	7.2	5.2	3.2
NEDCo	%	15.3	12.3	9.3
Reduction in system losses				
ECG	%	28.1	26.9	25.7
NEDCo	%	26.1	24.9	23.7
Public lighting levy				
ECG	GHS/kWh	0.04	0.04	0.04
NEDCo	GHS/kWh	0.19	0.18	0.18
WACOG=Unit cost of gas supplied	US$/MMBtu	7.19	7.47	8.82
Incremental tariff increase	%	20.7	3.1	22.8

7.2. Results of the Financial Model

Based on the BAU scenario (without ESRP impacts), the financial projection for the period 2022 to 2025 show an average annual energy sector deficit of approximately USD 2,000 million. At the close of 2025, the cumulative energy sector shortfall will amount to USD 8,930 million. At the end of 2022, the power sector shortfall was USD1,715 million and a gas sector shortfall of USD67 million. This was in addition to the year-end 2021 legacy debt balance of USD1,225 million, bringing the total 2022 annual shortfall to USD3,007[1]. Between 2022 and 2025, the total energy sector shortfall is projected to reach US$8,930 million under the BAU (inclusive of legacy debt as of year-end 2021), with the power sector and gas sector contributing USD 6,751 million and USD 954 million, respectively, over the period.

Table 7.5: Results of Financial Model

Energy Sector Shortfall	Unit	2022	2023	2024	2025	Total
BAU Power Sector Shortfall	Million US$	1,715	1,546	1,673	1,817	**6,751**
BAU Gas Sector Shortfall	Million US$	67	196	235	456	**954**
Legacy Debt	Million US$	1,225	-	-	-	**1,225**
BAU Energy Sector Shortfall	Million US$	3,007	1,742	1,907	2,273	**8,930**

7.2.1. Drivers of Power Sector Shortfall

The primary drivers of the power sector shortfall are the average electricity tariff not being cost reflective, transmission and distribution losses, and collection inefficiency. These pose significant challenges to the financial viability of the power sector. See table 7.6. The average EUT is consistently below the average cost per unit of electricity purchased. Thus, even at perfect collection efficiency (i.e., 100% collection rate), there will still be a sector shortfall since the end user tariff will be insufficient to cover the cost of electricity purchased. In addition, the average power revenues per unit of electricity purchased, which is an indicator of revenue generation efficiency is also consistently below the average tariff and the average cost per unit of electricity purchased.

[1] Provisional figure pending update of ESRP Financial Model

Table 7.6: Drivers of Power Sector Shortfall

Revenues and Costs per Unit of Electricity Purchased (Ghs/kWh)	Description	2022	2023	2024	2025
BAU Scenario					
Average Power Revenues per Unit of Electricity Purchased	(Power Revenue with collection losses, streetlight shortfall, steel subsidies)	0.501	0.746	0.789	0.793
Average Cost per Unit of Electricity Purchased	(Opex + Capex + Debt + Cost of Generation)	1.411	1.531	1.749	1.878
Average Cost of Power Generation per Unit of Electricity Purchased	(Cost of Generation)	1.068	1.175	1.381	1.501
Average End user Tariff (ECG)		**0.858**	**1.436**	**1.539**	**1.539**

7.2.2. Gas Sector shortfall and drivers

The annual Gas Sector shortfall is forecasted to rise from USD67 million in 2022 to USD456 million in 2025 due to escalating gas commodity prices and the WACOG being below the cost of gas supply. With respect to the rising gas commodity price, Jubilee and TEN gas, previously priced at USD0/MMBtu, are projected to have an average price of USD2.09/MMBtu. Furthermore, the price of Sankofa gas is projected to increase price from USD8.72 to USD10.05/MMBtu in 2023, with further projected increases up to USD10.87/MMBtu in 2025. In addition, rising WAGP reverse flow costs will increase the cost of gas supply from upstream sellers. Under the BAU scenario, although the average cost of gas supply is projected to increase from USD6.04/MMBtu in 2022 to USD8.82/MMBtu in 2025, the WACOG is not projected to adequately reflect the cost of gas supply, leading to under-recovery in the gas sector.

7.3. Impact Analysis

The implementation of action items outlined in the Extended ESRP is expected to result in a decrease in the cumulative shortfall from USD8,930 million to USD5,301 million by 2025, after MoF's 2022 funding of USD680 million has been deducted. This implies that the annual shortfall that needs to be financed via MoF payments will be halved from an average of around US$ 1,974 million between 2023 and 2025 under the baseline, to US$ 991 million under the reform scenario. Notable actions contributing significantly to this reduction include quarterly adjustments in tariffs by the PURC, setting the WACOG to equal the actual cost of gas supply, reducing generation costs, improving collection efficiency, reducing system losses, and introducing an additional levy to cover the expenses associated with streetlighting. Government is further committed to exploring funding/policy options to clear the stated shortfall amount.

Figure 7.1: Impact of ESRP Actions on Sector Shortfall

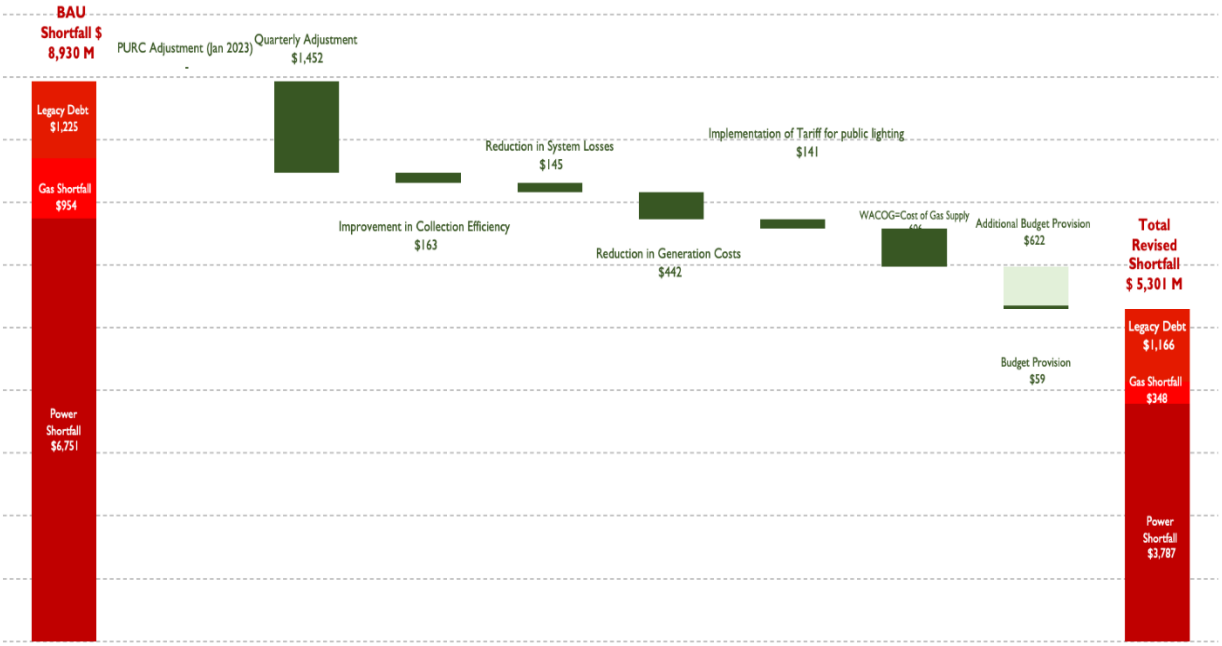


Table 7.7: Impact of Amended ESRP Actions

Revenues and Costs per Unit of Electricity Purchased (Ghs/kWh)	Description	2022	2023	2024	2025
Impact of Amended ESRP Action Items					
Average Power Revenues per Unit of Electricity Purchased	(Power Revenue with improved collection losses)	0.501	0.981	1.299	1.743
Average Cost per Unit of Electricity Purchased	(Opex + Capex + Debt + Cost of Generation)	1.411	1.525	1.777	2.077
Average Cost of Power Generation per Unit of Electricity Purchased	(Cost of Generation)	1.068	1.166	1.400	1.686
Average End user Tariff (ECG)		**0.858**	**1.908**	**2.535**	**3.355**

From the table 7.7, the implementation of the Amended ESRP AIs raises the average end user tariff to levels which more than cover the average cost of electricity purchased. However, despite improvement in collection efficiency, the revenues gained from selling electricity is insufficient to cover the cost of the electricity purchased which leads to a persistent shortfall, albeit at reduced levels. Government is exploring avenues for further reduction in shortfall by reducing the losses in the value chain, even more.

The average cost of power generation is higher in ESRP reform scenario than in the BAU scenario for 2024 and 2026 because the increased fuel costs emanating from equating the WACOG to the actual cost of gas supply.

Table 7.8: Energy Sector Shortfall from 2023 to 2025

Energy Sector Shortfall	2022	2023	2024	2025	Total
BAU Power Sector Shortfall	1,715	1,546	1,673	1,817	**6,745**
BAU Gas Sector Shortfall	67	196	235	456	**954**
Legacy Debt	1,225				**1,225**
BAU Energy Sector Shortfall	**3,007**	**1,742**	**1,907**	**2,273**	**8,930**
Less ESRP Action Items					
Quarterly Adjustment	-	(254)	(530)	(668)	**(1,452)**
Improvement in Collection Efficiency	-	(29)	(55)	(79)	**(163)**
Reduction in System Losses	-	(22)	(48)	(75)	**(145)**
Reduction in PPA Costs	-	(173)	(150)	(119)	**(442)**
Street Lighting Levy	-	(50)	(46)	(44)	**(141)**
WACOG	-	(125)	(141)	(340)	**(606)**
Total 2022 ESRP BAU Savings	**-**	**(654)**	**(970)**	**(1,325)**	**(2,949)**
Total Shortfall before Budget Provision	3,007	1,088	937	949	5,981
Budget Provision for ongoing Energy Sector Shortfalls	(680)	(1,806)	(1,442)	(1,425)	**(5,353)**
Allocation for Legacy Arrears Clearance		(115)			
Total Shortfall after MoF Budget Provision	**2,327**	**(833)**	**(505)**	**(476)**	**513**

Note: ***There are ongoing measures including the PPA renegotiations, Debt restructuring and energy sector debt net-off to ensure that the balance of the projected shortfall of 513 million is cleared (refer to section 6.1.20 and 7.4).***

7.4. Treatment of Legacy Arrears.

The following are the measures through which Government has adopted to manage the legacy arrears:

a) ***Energy Sector Legacy debt net-off exercise***: The 2021 Energy Sector Debt Validation report showed a debt position of US$1,225million. The final 2022 Legacy Debt Report submitted by Deloitte and Touche showed a debt position of US$1.62 billion. Government is expected to liquidate the legacy debt through a combination of budgetary provisions and other policy instruments;

b) ***IPP Debt restructuring***: The Government of Ghana, as part of its debt management strategy to restore debt sustainability in the medium-term has programmed to restructure debts owed to IPPs and fuel suppliers for the period up to end of May 2023, amounting to about US$1.7billion (provisional);

c) ***IPP Power Purchase Agreement (PPA) renegotiations***: Government has constituted a Government Negotiation Team including the Project Light Team, ECG, MoEn and MoF to negotiate with the IPPs on the terms of their PPAs. Agreement being finalized with the IPPs by 30th November 2023 will ensure that only active energy will be paid for and not idle capacity. This is because idle capacity costs are not passed on to ECG's customers and that some restructuring of costs and invoices are underway to manage such costs. In that regard debts owed to the IPPs relating to idle capacity is being restructured. Additionally, any amount outside the fixed amounts negotiated with the IPPs will also be paid after 5 years through tariffs. This is expected to reduce Government's arrears obligations to IPPs during the ESRP period and monthly obligations significantly; and

d) Balance outstanding after these measures will be catered-for through staggered budget provisions and paid over a three-year period. Other policies/mechanisms may be adopted by Government to clear the arrears as well.

7.5 IMPLEMENTATION ARRANGEMENTS

7.2. Implementation Timeline

A 2.5-year implementation period is expected for the Extended ESRP. This spans from July 2023 to 31st December 2025.

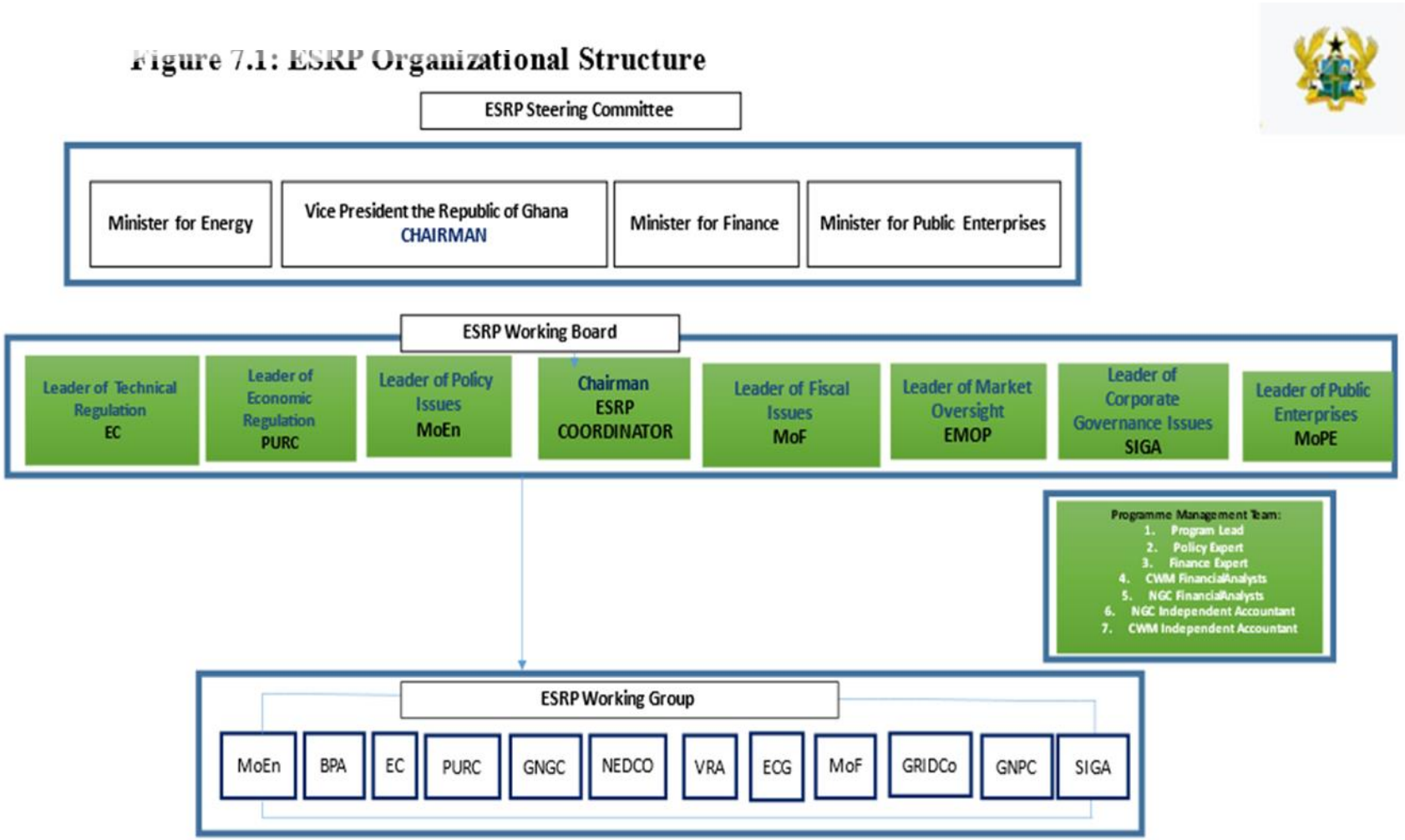
7.3. Institutional Mandates and Responsibilities

A successful implementation of the Extended ESRP requires robust governance and implementation arrangements given the complex inter-agency dependencies of many of the AIs. The ESTF will ensure the implementation, monitoring, evaluation, and reporting of the extended ESRP in close coordination with the Office of the Vice President, MoEn and MoF. The various agencies in the energy sector will have the responsibility to implement the various AIs as it pertains to their mandates.

7.4. Organisation

The ESTF is a steering committee chaired by the Vice President of Ghana. Other members are the Ministers of Energy, Finance, and Public Enterprises. The extended ESRP activities will be managed by the ESRP Coordinator who will report directly to the ESTF and be supported by a Programme Management Team. The Coordinator will also serve as the Chair of the ESRP Working Group. The Working Board, also chaired by the ESRP Coordinator, reports to the ESTF and is made up of director-level personnel of sector regulators. The ESRP Working Group serves as the implementation committee of the ESRP. See Figure 8.1 for details.

Figure 8.1: ESRP Organisational Structure



7.5. Monitoring and Evaluation

Government has introduced a more robust Monitoring and Evaluation (M&E) framework in the Extended ESRP. The ESTF has the overall responsibility for results. The ESRP Working Board will be responsible for overseeing and facilitating the regular monitoring and reporting conducted by the ESRP Working Group under the direction of the ESRP Coordinator. The ESRP Working Board and Working Group, through the ESRP Coordinator, will also provide regularly updated analysis and data to the MoEn and MoF, including projected revenue shortfall and other financial and operational metrics to ensure that the Action Items and the overarching goal of the ESRP will be achieved within the Extended ESRP timeline.

7.6. Reporting

The ESRP working group will provide quarterly and annual reports to the ESTF including feedback on the implementation status of the extended ESRP. The annual reports will be made available to the relevant stakeholders.

7.7. Communication and Stakeholder Engagement

In order to deliver accurate and ensure timely reporting, the ESRP will receive the necessary data and inputs from each of the relevant sector SOEs regularly and in a timely manner. Government requires that all sector SOEs provide quarterly operational and financial information to the ESRP. There will be active engagement with key stakeholders, ranging from policymakers to sector operators and the wider public (civil society, media, private sector associations, and the public). The MoEn will coordinate regular consultations to seek stakeholder feedback on the ESRP and disclose summaries of the consultations held.

7.8. Governance and Transparency Arrangements

Improving transparency and accountability and strengthening sector governance will be the foundation for the successful implementation of the extended ESRP and its sustainability of the reforms.

The ESRP document and periodic reports will be published on the MoEn, MoF, MoPE, PURC and EC websites along with any revisions and updates. ESRP implementation will be strengthened through active engagement with key stakeholders, ranging from policymakers to sector operators and other stakeholders (civil society, media, private sector associations, and the public). MoEn will coordinate regular consultations to seek stakeholder feedback on the ESRP and disclose summaries of the public consultations held.

7.9. Budget

The estimated budget required to manage and coordinate the implementation of the extended ESRP is USD 500,000 per year comprising of GoG funding of USD 100,000 per year and World Bank support of USD 400,000 per year.

7.10. Role of Development Partners

There is a strong presence of many bilateral and multilateral DPs in the energy sector of Ghana supporting infrastructure development, improving operational efficiency and sector financial recovery. To ensure a coordinated approach to the various DP supports, the ESRP would serve as a key reference for energy sector reforms by the Government. The ESRP would be another avenue for Government to give the DPs more visibility on the progress being made on the reform agenda.

The ESRP will continue to engage with the DPs and the Energy Sector Working Group to ensure effective coordination of donor support in line with Government policy priorities and funding requirements.

RESULTS MATRIX

ANNEX 1: ESRP MONITORING AND EVALUATION FRAMEWORK

A. Introduction

This section provides the Monitoring and Evaluation (M&E) Framework for the Energy Sector Recovery Programme (ESRP). The success of the implementation of the extended ESRP will depend heavily on tracking progress towards the expected results. There will be an ongoing process of Monitoring, Evaluation and Learning to improve delivery processes, document results, inform stakeholders about the relevance, effectiveness, and efficiency of the ESRP, and mobilise stakeholder support for sustaining and expanding the gains of the programme and actions therein.

Purpose of ESRP Monitoring and Evaluation Framework

The M&E framework serves as a reference guide to efficiently track, assess, and report the expected results of the Programme. To facilitate a shared understanding and a consistent, systematic implementation of ESRP M&E processes, all stakeholders should become familiar with the ESRP, and its annexes, especially this Results Framework**.**

B. RESPONSIBILITY FOR RESULTS MONITORING AND EVALUATION

The ESRP Working Group will have the primary responsibility for monitoring and evaluating the ESRP with support from focal persons drawn from various agencies. The Results Framework will serve as the basis for establishing and tracking ESRP implementation. The Programme will support the strengthening of the M&E capacity of all the M&E focal persons drawn from various agencies (See details in Annex 2 – Budget).

C. GUIDELINES FOR IMPLEMENTING THE MONITORING AND EVALUATION (M&E) SYSTEM FOR ESRP

To implement the M&E system in a robust, efficient, and comprehensive manner, the following steps shall be applied:

a) Periodically review the Programme Results Framework to reflect any changes in program design.
b) Develop and implement a suitable Data collection, storage, and processing system.
c) Develop and implement an information reporting/communication system.
d) Undertake M&E capacity development and engage External evaluators.

e) Develop Performance Incentives and Sanctions
f) Ensure Compliance with the code of corporate governance.
g) Prepare and utilize the M&E budget.

Annex 1a: Status of ESRP Actions as of December 2021

	Category	Description	Responsible Party	Expected Completion Date	Budget Required (USD)	Expected Impact	Status
	PHASE I						
1.1	Power	MOF to Pay for MDA Electricity Bills	MoF	Q2 2019	150 million	Revenue Increase of USD 150 million annually	Complete
1.2	Gas	Least Cost Fuel Procurement Strategy	MoEn/ EC	May 2019	0	Cost Reduction of USD 180 million annually	Complete
1.3	Power	Competitive Procurement of Energy Supply and Service Contracts	MoEn	May 2019	0	Prevention of further deterioration of sector financials	Complete
1.4	Power	MoEn to establish the Energy Sector Task Force (ESTF)	MoEn	Q2 2019	150,000 per annum	Successful implementation, monitoring, update, and reporting on the ESRP	Complete
	PHASE II						
2.1	Power	Sector Arrears to be netted out and funding plan to be adopted to clear the remaining balance	MoEn and MoF	Q2 2020	USD 4,016 million	Shortfall reduction by USD 4,016 million	In progress
2.2	Gas	Reduce gas purchase commitment to a level that matches forecast gas demand	MOF, MoEn, and GNPC	By end of 2019	1,100	Reduction in sector costs by USD 1,400 million per year	Complete
2.3	Gas	Full completion of Takoradi Tema Interconnection Project (TTIP)	GNPC, MoEn	Q3 2019	USD 170 million	Full utilization of domestic gas	Complete
2.4	Gas	Relocation and conversion of Karpowership	GNPC, GNGC, MoEn	Q3 2019	USD 50 million	USD 103 million per year in fuel cost savings	Complete
2.5	Power	ECG/NEDCo to install prepaid meters for "Non-strategic" MDA installations	Q2 2020	MoEn/ECG/ NEDCo	TBD for the PSP. NEDCo 107.5	TBD	Not started

					million until 2021		
2.6	Power	Operation and performance of ECG/PSP to meet KPIs and annual monitoring by EC and MoEn	MoEn, EC	Annual basis	Not applicable	Compliance with KPIs and associated reduction in losses	In progress
2.7	Power	Address excess take-or-pay generation capacity payments	MoEn	2019 – 2020	Not applicable	To be determined per restructuring discussions with Wholesale Suppliers.	delayed
2.8	Power	Government to order finalization of the combined PPA review report on conventional and renewable projects	EC, MoEn, ECG, Office of the Attorney General and MoF	Q4 2019	USD 200,000	Prevention of further deterioration in financial status of sector and potential capacity payment savings.	Complete
2.9	Power	IPP power plant verification audit to ensure transparent billing by IPPs	EC, PURC, MOF, SEC, GRIDCo	Ongoing	None	Enhanced transparency and improved contract management at Restructured ECG.	Complete
2.10	Gas	Complete gas pricing actions to reduce the gas tariff	MoEn, GNPC, PURC	Q3 2019	USD 300 million, MOU Payment	USD 100 million per year	Complete
2.11	Gas	Establish a revised gas tariff	MoEn, GNPC, PURC	Q3 2019	None identified	USD 100 million per year	Complete
2.12	Power	Institute regulations and tariffs on street lighting	EC, PURC, MoEn	January 2020	TBD – associated investments	USD 50 million per year	In progress
2.13	Regulatory	Revise tariff methodology and rate setting guideline in line with Concession Agreement	PURC	June 2019	None	Fulfilment of conditions after complete transfer of the operational rights under the Concession Agreements.	Complete

2.14	Regulatory	Amend the PURC Act or institute other regulatory measures to: (i) mandate disclosure of methodology, data, and analysis behind PURC regulatory decisions and (ii) prohibit approval of tariffs for projects not competitively bid	PURC	2020	None	Increased transparency and predictability in PURC tariff setting process.	Complete[2]
2.15	Power	Review non-residential block tariff structure	PURC	July 2019	None identified	Prevents further deterioration of the SOE financial status	In progress
2.16	Power	Apply the Automatic Adjustment Formula (AAF) on a quarterly basis	PURC	July 2019; and quarterly application thereafter	None identified	Increased transparency and accountability in the sector	Ongoing
2.17	Regulatory	Publication of SOE Financial Statements	ECG, NEDCo, GNPC, GNGC, BOST, TOR, VRA, Bui Power Authority and GRIDCo	Annual	None	Increased transparency and accountability in the sector	Ongoing
2.18	Regulatory	Institutionalize an Integrated Planning Process based on 'Energy Supply and Infrastructure Plan' and Amendments to the Regulations to the PFM Act	EC, MoEn, MOF	Q3/Q4 2019.	None	Increased transparency and accountability in the sector.	Ongoing
2.19	Regulatory	Review Power and Gas institutional responsibilities	MoEn	n/a	None	Increased transparency and accountability in the sector	Complete
2.20	Power	Adoption of the Cash Waterfall or Other Appropriate	MoEn, MOF	n/a	TBD	Increased transparency and equity in the sector	Complete

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		Mechanism to increase payment transparency					
2.21	Power	Reduce technical losses and increase operational performance of electricity transmission infrastructure.	GRIDCo, MoEn, MoF, PURC	Quarterly	USD 300 million	TBD	In progress
	PHASE III						
3.1	Regulatory	Restructure VRA	MoEn	n/a			Dropped
3.2	Regulatory	Improve Institutional and Regulatory Guidance for the Gas Sector	MoEn, Energy Commission	n/a			Complete
3.3	Power	Enact Transparent Merit Order Dispatch	MoEn, EC, GRIDCo	n/a			Completed
3.4	Gas	Broaden analysis to include the petroleum sector	MoEn, EC, NPA	n/a			Dropped
3.5	Gas	Energy Sector Impact Analysis of Gas-Supply for Fertilizer	MoEn, EC, MoF, Ministry of Agriculture	n/a			Complete

ANNEX 2: OUTCOME INDICATORS

Indicator Name	Unit of Measurement	YEAR 0 (2023)	YR 1 (2024)	YR 2 (2025)	(TOTAL)
Outcome 1: Reduction in Sector Shortfall					
ESRP Savings	Million USD	654	970	1325	**2949**
Outcome 2: Private Sector Participation in ECG and NEDCo					
PSP implemented in ECG	Yes /No		No	Yes	

ANNEX 3: INTERMEDIATE RESULTS INDICATORS

No	Action Item (Cost Estimate – Funding Source)	Indicator Name	Unit of Measurement	Baseline	Target			
				Year 0 (2022)	YR 1 (2023)	YR 2 (2024)	YR 3 – End Target (2025)	
AI#1	Develop and institutionalize a framework for inter-utility debt reconciliation and settlement ($0)	Reconciliation of debt completed and signed off by all parties	Date	N/A	N/A	June 2024	June 2024	June 2024
		Adoption of Framework for the institutionalization of the debt matrix	Date	N/A	N/A	April 2024	April 2024	April 2024

		GoG settles sector shortfall after netting out	Percentage of annual GDP	1%	1%	1%	1%	1%
AI #2	Establish a framework to improve operational efficiency of ECG/PSP and NEDCo/PSP to meet KPIs set by SIGA, EC, PURC and MoEn ($1 million - GoG).	Approval of ECG PIPs by PURC and EC	Date	N/A	July 2023	July 2023	July 2023	July 2023
		ECG signs Performance contract with SIGA	Date	N/A	June 2023	June 2024	June 2025	June 2025
		Approval of NEDCo PIPs by PURC and EC	Date	N/A	July 2023	July 2023	July 2023	July 2023
		NEDCo signs Performance contract with SIGA	Date	N/A	June 2023	June 2024	June 2025	June 2025
AI#3	Address excess take-or-pay generation capacity costs ($5 million -GoG).	Commercial terms agreed with the six IPPs	Date	N/A	N/A	April 2024	April 2024	April 2024
		Renegotiated PPAs executed	Date	N/A	N/A	May 2024	May 2024	May 2024
AI#4	Complete the categorization of MDAs into strategic and non-strategic and ensure budget allocations to pay for the electricity bills of strategic MDAs	Categorization of MDAs into strategic and non-strategic completed	Date	N/A	N/A	June 2024	June 2024	June 2024
		Official Communication on Cabinet Decision on the	Date	N/A	N/A	July 2024	July 2024	July 2024

	($11 million – World Bank PforR under preparation)	Categorization issued to relevant MDAs and utilities						
		Budget allocation provided for payment of electricity bills of strategic MDAs	Date	N/A	N/A	October 2024	October 2024	October 2024
AI#5	Develop and operationalize a policy for granting and fully funding energy subsidies ($0).	Issuance of a policy on granting subsidies	Date	N/A	N/A	May 2024	Many 2024	May 2024
AI#6	PURC to operationalise regulatory financial reporting framework ($0).	Annual publication of Regulatory Financial Report by PURC	Date	N/A	N/A	February 2024	February 2024	February 2024
AI#7	Implement mechanism for enforcing the guidelines of the CWM and NGC ($1 million – World Bank Project under Preparation).	Approval of guidelines by al signatories	Date	No		January 2024	January 2024	January 2024
		Inclusion of guidelines in SIGA performance contract	Date	No	Dec 2023	Dec 2023	Dec 2023	Dec 2023
AI#8	Ensure that gas purchase commitments continuously match forecasted demand ($0)	Variation between Gas purchase commitment and Gas demand is less than 6%	In percentage of demand	0%	0%	Not more than 6%	Not more than 6%	Not more than 6%
AI#9		Number of Non-strategic MDAs that have been	Number	0	0	3000	7000	11,511

	ECG and NEDCo to install prepaid meters for non-strategic MDAs ($8 million – World Bank PforR .	metered with prepaid meters by ECG						
		Number of Non-strategic MDAs that have been metered with prepaid meters by NEDCo.	Number	0	0	1000	4000	6539
AI#10	Institute regulations and tariffs for full recovery of street lighting costs ($0).	Approve revised street lighting policy	Date	N/A	N/A	May 2024	May 2024	May 2024
AI#11	Reduce transmission losses and improve operational performance ($0).[3]	Transmission losses	%	5%	5%	5%	5%	5%
AI#12	Implement PIPs to reduce distribution losses and increase collection efficiency (ECG) - ($871 million – Internally Generated Funds, donor agencies and other concessional financing).	Technical and Commercial losses of ECG	Percentage of energy sent out	29.3%	29.3%	28.1%	26.9%	25.7%
		Collection losses - ECG	%	9.25%	9.25%	7.2%	5.2%	3.2%

[3] Investment plans of GridCo to be included.

	Implement PIPs to reduce distribution losses and increase collection efficiency (NEDCo) – ($253 million – Internally Generated Funds, donor agencies and other concessional financing).) .	Technical and Commercial losses of ECG	Percentage of energy sent out	27.3%	27.1%	26.1%	24.9%	23.7%
		Collection losses - NEDCo	%	18.34%	18.34%	15.34%	12.34%	9.34%
AI#13	PURC to complete periodic adjustment of revenue requirement for ECG and NEDCo (as per quarterly adjustment) ($0).	Completion Date	Date	Yes		Yes	Yes	Yes
AI#14	Implement PSP in ECG and NEDCo ($ 2 million – internally-generated Funds)	Framework for PSP developed and approved	Date	N/A	N/A	N/A	January 2025	January 2025
		Implementation of approved PSP framework	Date	N/A	N/A	N/A	July 2025	July 2025
AI#15	SOEs to publish Annual Financial Statements ($0)	Annual Financial statements published for all energy sector SOEs	Date	N/A	N/A	Oct 2024	Oct 2025	Oct 2025
AI#16	Review non-residential block tariff structure.($0)	Completion of review of non-residential block tariff structure	Date	N/A	N/A	N/A	April 2025	April 2025

AI#17	Transparency Measures ($0).	Approved single account for ECG	Date	N/A	N/A	Sept 2024	Sept 2024	Sept 2024
AI#18	PURC to commission regular audit of collections and disbursements of ECG and NEDCo. ($250, 000 – World Bank PforR under preparation)	Commissioning of audits by PURC	Date	No		April 2024 July 2024 Oct 2024 Jan 2025	April 2025 July 2025 Oct 2025 Jan 2026	April 2025 July 2025 Oct 2025 Jan 2026
AI#19	Restructure VRA and BPA by divesting their non-core assets and creating two operating companies: a hydro company and a thermal company ($2.5 million for preparatory activities - VRA and BPA internally generated funds).	VRA and NEDCo restructured	Date	No		Oct 2024	Oct 2024	Oct 2024

MONITORING AND EVALUATION FRAMEWORK

No	Action Item	Indicator Name	Definition/ Description	Frequency	Data Source	Methodology for Data Collection	Responsible Party for Data Collection
AI#1	Develop and institutionalize a framework for inter-utility debt reconciliation and settlement	Reconciliation of debt completed and signed off by all parties	Collation and reconciliation of inter-utility debt of SOES	Quarterly	SOE's Financial Statement	Analysis of Audited Financial Statement	MOF & MOEN
		Adoption of Framework for the institutionalization of the debt matrix	Framework to guide the institutionalization of the debt matrix has been officially adopted	Once	Consultancy Report	Review of consultancy Work	MOEN & MOF
		GoG settles sector shortfall after netting out	This refers to the total amount of money that GOG spent to settle the sector shortfall after netting out	Quarterly	National Budget	Review of National Budget	MOF & MOEN

AI #2	Establish a framework to improve operational efficiency of ECG/PSP and NEDCo/PSP to meet KPIs set by SIGA, EC, PURC and MoEn.	Approval of ECG PIPs by PURC and EC	Date on which ECG PIPs were approved by PURC and EC. This indicator aims at improving operational performance of ECG including distribution losses	Quarterly	PURC quarterly report	Analysis of quarterly report and monitoring report by PURC & EC	PURC & EC
		ECG signs Performance contract with SIGA	Date on which ECG signs Performance contract with SIGA. This KPI seeks to monitor and evaluate the performance of ECG. Thus, helping to impose strict time-bound performance targets to be achieved by ECG.	Annual	Performance Contract Document	Analysis of Quarterly and Annual Performance Report	State Interest and Governance Authority (SIGA)
		Approval of NEDCo PIPs by PURC and EC	Date on which NEDCo PIPs were approved by PURC	3 years (monitored quarterly)	NEDCo quarterly report	Analysis of quarterly report and monitoring	PURC & EC

			and EC. This indicator aims at improving operational performance of NEDCo including distribution losses			report by implementation committee	
		NEDCo signs Performance contract with SIGA	Date on which NEDCo signs Performance contract with SIGA This indicator aims to monitor and evaluate the performance of NEDCo. Thus, it helps to impose strict time-bound performance targets to be achieved by NEDCO	Annual	Performance Contract Document	Analysis of Quarterly and Annual Performance Report	State Interest and Governance Authority (SIGA)
AI#3	Address excess take-or-pay generation capacity costs.	Commercial terms agreed with the six IPPs	Legally binding agreement among six IPPs	Annual	Project Light / MoF	Review of Project light report	MoF
		Renegotiated PPAs executed	Date in which the Renegotiated PPAs is fully signed	Once	PPA Report	Review of PPA Report	MOF / MOEN

AI#4	Complete the categorization of MDAs into strategic and non-strategic and ensure budget allocations to pay for the electricity bills of strategic MDAs	Categorization of MDAs into strategic and non-strategic completed	Number of MDAs categorize into Strategic and non-strategic	Annua	Cabinet Memo	Review of Cabinet memo	MOF
		Official Communication on Cabinet Decision on the Categorization issued to relevant MDAs and utilities	Communication on Cabinet Decision on the Categorization issued to relevant MDAs and utilities	Once	Cabinet Memo	Review of Cabinet memo	MOEN / MoF
		Budget allocation provided for payment of electricity bills of strategic MDAs	Amount of money budgeted for payment of electricity bills of strategic MDAs	Annual	Budget Report	Review of Budget report	MoF
AI#5	Develop and operationalize a policy for granting and fully funding energy subsidies.	Issuance of a policy on granting subsidies	The indicator aims to develop a policy document on the determination and implementation of subsidies	Once	MOF Economic Report	Review of Annual Report	MOF
AI#6	PURC to operationalise regulatory financial reporting framework.	Annual publication of Regulatory Financial Report by PURC	The indicator aims to gather financial, technical, and commercial data in	Annual	PURC Annual Report	Review of Annual Report	PURC

			performing its mandates regarding tariff determination, monitoring quality of service and compliance to regulatory benchmarks.				
AI#7	Implement mechanism for enforcing the guidelines of the CWM and NGC.	Approval of guidelines by all signatories	All signatories sign off guidelines	one off	Signed off guidelines	Review of signed off guidelines	ESRP Secretariat
		Inclusion of guidelines in SIGA performance contract	SIGA incorporating guidelines in Performance Contract of each SOE	Annual	SIGA Performance Contract	Review of PC	SIGA
AI#8	Ensure that gas purchase commitments continuously match forecasted demand	Variation between Gas purchase commitment and Gas demand is less than 6%	Prudent measures applied by government to to match gas purchase commitments with demand.	Annual	MOEN & Ghana GAS Annual Report	Review of MOEN & Ghana GAS Annual Report	Ghana GAS & MOEN
AI#9	ECG and NEDCo to install prepaid meters for non-strategic MDAs.	Number of Non-strategic MDAs that have been metered	Measures the number of Non-Strategic MDAs that have been metered	Quarterly	ECG Quarterly Report (CMS)	Review of Quarterly Report	ECG

		with prepaid meters by ECG	with prepaid meters by ECG				
		Number of Non-strategic MDAs that have been metered with prepaid meters by NEDCo.	Measures the number of Non-Strategic MDAs that have been metered with prepaid meters by NEDCo	Quarterly	NEDCO Quarterly Report (CMS)	Review of Quarterly Report	NEDCO
AI#10	Institute regulations and tariffs for full recovery of street lighting costs.	Approve revised street lighting policy	National Street Lighting Policy Framework	One	Consultant Report	Review Report	Ministry of Energy
AI#11	Reduce transmission losses and improve operational performance.	Transmission losses	Measures the difference between the total electrical energy received from the generating plants and the total energy supplied to all transmission customers. It is usual to express losses as a percentage.	Quarterly	GRIDCo Operational Systems Report	Analysis of Operational Report	GRIDCO

AI#12	Implement PIPs to reduce distribution losses and increase collection efficiency (ECG).	Technical and Commercial losses of ECG	[(Total MWh sent from generation to transmission -Total MWh billed) / Total MWh sent from generation to transmission]	Quarterly	ECG Customer Services Division Performance Report	Analysis of ECG Customer Service Report	ECG
		Collection losses - ECG	Collection losses = 100 - collection efficiency Where Collection Efficiency = total Revenue Collected divided by total billed *100	Quarterly	ECG Customer Services Division Performance Report	Analysis of ECG Customer Service Report	ECG
AI#13	Implement PIPs to reduce distribution losses and increase collection efficiency (NEDCo).	Technical and Commercial losses losses of ECG	[(Total MWh sent from generation to transmission -Total MWh billed) / Total MWh sent from generation to transmission]	Quarterly	NEDCO Customer Services Division Performance Report	Analysis of NEDCo Customer Service Report	NEDCO
		Collection losses - NEDCo	Collection losses = 100 - collection	Quarterly	NEDCO Customer	Analysis of NEDCo	NEDCO

			efficiency where Collection Efficiency = total Revenue Collected divided by total billed *100		Services Division Performance Report	Customer Service Report	
AI#14	PURC to complete periodic adjustment of revenue requirement for ECG and NEDCo (as per quarterly adjustment).	Yes/ No	Aims to ensure that targeted revenue requirements for the regulated utilities are achieved at any point in time	Quarterly	Quarterly Electricity and Water Tariffs report	Quarterly tariff reviews	PURC
AI#15	Implement PSP in ECG and NEDCo	Framework for PSP developed and approved	The PSP is expected to eliminate inefficiencies in the distribution/retail segment and reduce the electricity cost of service for a more affordable tariff.	Once	Consultant report	Review of consultant report	NEDCO, ECG and MOEN
		Implementation of approved PSP framework	N/A	Annual	Consultant report	Review of consultant report	NEDCO, ECG and MOEN
AI#16	SOEs to publish Annual Financial Statements	Annual Financial statements published	This indicator aims to ensure financial transparency and	Annual	SOE's Financial Statement	Review of SOEs Financial Statement	All SOE's in the Energy Sector

		for all energy sector SOEs	accountability among the SOE's in the Energy Sector				
AI#17	Review non-residential block tariff structure.	Completion of review of non-residential block tariff structure	This reform aims to mitigate grid flight of non-residential consumers and stabilize the cash revenues of the Discos.	Quarterly	PURC Quarterly Report	Review of PURC Quarterly Report	PURC
AI#18	Transparency Measures	Approval of ECG single collection account	This indicator aims to improve a CWM Collection Account where all revenue collections from the district/regional accounts will be swept into daily	Quarterly	ECG Quarterly Report	Review of ECG Quarterly Report	ECG
AI#19	PURC to commission regular audit of collections and disbursements of ECG and NEDCo	Commissioning of audits by PURC	This aims to validate collection declared by ECG and NEDCo and ensure disbursements are affected in line with CWM.	Quarterly	PURC Quarterly Report	Review of the PURC Quarterly Report	PURC

AI#20	Restructure VRA and BPA by divesting their non-core assets and creating two operating companies: a hydro company and a thermal company.	VRA and NEDCO restructured	This reform seeks to streamline the operations of these two entities and help improve their financial performance	Quarterly	Joint Board Committee Report	Review of the Joint Board Committee Report	MOEN