Program Information Document (PID)

Concept Stage | Date Prepared/Updated: 11-Jan-2021 | Report No: PIDC213129

BASIC INFORMATION

A. Basic Program Data

Country	Project ID	Parent Project ID (if any)	Program Name
Ghana	P173258		GH Energy Sector Recovery PforR
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Does this operation have an IPF component?**
AFRICA WEST	03-Aug-2021	27-Sep-2021	Yes
Financing Instrument	**Borrower(s)**	**Implementing Agency**	**Practice Area (Lead)**
Program-for-Results Financing	Ministry of Finance	Senior's Minister Office	Energy & Extractives

Proposed Program Development Objective(s)

The Program's Development Objectives (PDO) are to improve the financial performance of the energy sector and to increase access to clean cooking solutions for households.

COST & FINANCING

SUMMARY (USD Millions)

Government program Cost	500.00
Total Operation Cost	370.00
Total Program Cost	310.00
IPF Component	60.00
Total Financing	370.00
Financing Gap	0.00

FINANCING (USD Millions)

Total World Bank Group Financing	300.00
World Bank Lending	300.00
Total Non-World Bank Group and Non-Client Government Financing	70.00

Multilateral and Bilateral Financing (Concessional)	60.00
Trust Funds	10.00

Concept Review Decision
The review did authorize the preparation to continue

B. Introduction and Context

Country Context

Over the last two decades, Ghana's favorable economic growth and political stability have led to high human capital accumulation and positioned the country at the forefront of poverty reduction in Africa. In 2012, Ghana achieved the first Millennium Development Goal, having halved the national poverty rate of 52.7 percent in 1991 to 24.2 percent. However, the rate of poverty reduction has since steadily declined primarily due to higher macroeconomic volatility, environmental challenges and the limited diversified economy. Nevertheless, Ghana's economy has been generally robust over the last decade, with an annual average GDP growth rate of 6.6 percent recorded between 2009 and 2019. The main sources of this growth were the higher prices of main export commodities such as gold and cocoa, and the commencement of a petroleum production (crude oil & associated gas) in 2011.

Prior to the COVID-19 crisis, Ghana was one of the fastest-growing economies in Africa, with GDP growth rate averaging 7 percent from 2017-2019. From 2015 to 2018, a fiscal consolidation program helped narrow the headline fiscal deficit from 7.4 percent of GDP in 2014 to below 5 percent of GDP in 2017. Inflation was progressively reduced from 17.3 percent in 2015 to 7.9 percent in 2019. Robust export growth put the merchandise trade balance into surplus and contributed to reducing the current account deficit to less than 3 percent of GDP in 2019 from a deficit of 7 percent in 2014. However, new fiscal pressures arose from costly financial sector reforms in 2018-2020 and the government's commitment to reducing shortfalls in the energy sector were operationalized in the Energy Sector Recovery Program (ESRP), which started in 2019. In addition, key challenges remained, including enhancing domestic resource mobilization and addressing interest payment and rising debt levels as the country has been at a high risk of debt distress since 2014.

The economic impact of the COVID-19 crisis is expected to be substantial. The crisis has triggered the steady decline in domestic economic activities in households and industry as a result of social distancing measures and the local spread of the virus, and an external demand and terms-of-trade shock resulting from the reduction in the country's trade, investment and tourism activities. Non-petroleum activities such as improved agriculture and agri-business and the reformed financial sector are projected to drive medium-term growth. While inflation is projected to remain at about 8 percent in 2020, a substantial fiscal gap has arisen from the COVID-19 crisis as a result of reduced revenues, primarily from lower oil-related revenues and lower economic activity and the need to increase expenditure by 5.6 percent of GDP to cover: (a) costs of the direct response to crisis by the health sector and support to individuals and businesses; (b) high interests due to elevated borrowing; and (c) higher compensations and capital expenditures.

Fast rising public debt, low revenue mobilization and an increased fiscal burden of the energy sector are some of the key economic challenges of Ghana. Ghana's debt levels had been rising prior to the COVID crisis and debt service continues to absorb a large share of public revenues thereby crowding out public investment and reducing fiscal buffers to shocks. The energy sector is increasingly posing serious fiscal risks to the economy, with the power sector shortfall

standing at US$1.3 billion in 2019. There is a high risk of not meeting fiscal obligations given the higher debt service requirements emanating from shift in debt composition from concessional borrowing to non-concessional borrowing. The COVID-19 crisis caused financing needs to increase sharply, and as of September 2020, the Bank of Ghana reported that Ghana's debt stock had reached GH¢273.8bn (71 percent of GDP), being 49 percent domestic debt and 51 percent debt from external sources.

Despite Ghana's status as an emerging middle-income country, around 67 percent of Ghana's households still relied on solid biomass used in traditional inefficient stoves for cooking in 2017. This not only accelerates deforestation but also causes high levels of indoor pollution to which women and children are most exposed, while putting women and girls at risk of violence while performing fuel-collection tasks. The Institute for Health Metrics and Evaluation and World Bank estimate that more than 14,500 premature deaths that occur each year in Ghana are attributable to household air pollution, and this corresponds to a total welfare loss estimated at about US$3.4 billion per year in 2016. Despite significant efforts by Government, the goal of 50 percent adoption of LPG as a primary energy source for cooking by households in 2030 is at risk. In 2019, only 25 percent of households used LPG for cooking compared to 18 percent in 2010.

Sectoral (or multi-sectoral) and Institutional Context of the Program

Ghana has around five Gigawatts of installed generation capacity and an electricity access rate of about 87 percent, which is among the highest in SSA. Electricity access rate increased from 45 percent in 2000 to 87 percent in 2019, but there is a marked disparity between rural and urban access rates, with rural access rate estimated to be 67 percent. Total installed generation capacity is 5,069 megawatts (MW) of which 40 percent is hydro, 59 percent thermal, and 1 percent solar. Peak demand in 2019 was 2,800 MW and total electricity consumed was 17,887 GWh, representing a 11 percent and 12 percent increase respectively from 2018. Transmission and distribution losses were 4.7 percent and 19.4 percent respectively. Ghana is committed to the Sustainable Development Goals (SDG7), which includes the target of universal access to modern energy services including clean cooking by 2030, specifically universal access to electricity by 2025 and adoption of 2 million efficient biomass cookstoves and 50 percent of LPG access for cooking by 2030.

In recent years, the Ghanaian energy sector has experienced an acute financial crisis, which has become a fiscal burden for government, costing the national budget 1-2 percent of GDP. Over the past few years, the direct subsidy requirement of the energy sector has been in excess of a billion dollars annually. At the end of 2019, few months after the approval of the ESRP document, the accumulated power sector revenue shortfall amounted to around US$2.3 billion (legacy arrears). In 2019, the power revenue shortfall for the year was estimated at US$1.3 that GoG has to pay on behalf of the power sector. In addition to excess gas supply, this shortfall stems from:

a) excess power generation capacity: During the 2012-2016 power crisis, GoG contracted three Emergency Power Producers (EPPs) and the Electricity Company of Ghana (ECG) signed more than 30 expensive PPAs through direct negotiation. This has resulted in an accumulation of an existing excess thermal generation capacity of 1.5 GW in 2020, equivalent to US$300 million in capacity Take-or-Pay charges for capacity not utilized.
b) electricity tariffs that are not cost reflective: After the 59 percent electricity tariff increase in 2015, tariffs increased only 5 percent overall when accounting for depreciation and inflation. Capacity take-or-pay charges for unused capacity is also not included in the tariff. Current tariff levels are only 73 percent of full cost-recovery.
c) large technical and commercial and collection losses in distribution: In 2019, ECG's total energy losses were around 25 percent, with revenue collection rates around 90 percent. NEDCo's total energy losses were around 27.5 percent, with revenue collection rates below 80 percent. Despite various efforts, this structural deficit in the electricity distribution sector has been a constant feature of the sector over the past three decades.

Political appointments of Board members and senior management of all energy sector SOE's, including utilities, results in lack of transparency and accountability for performance as well as strategic and investment decisions. Improvements in corporate governance as a result of sector reforms in the 1990's and mid 2000's have been reversed in some cases and implementation of other measures has stagnated. Ghana's Constitution gives the right to the President to appoint Board members and chief executives of all SOEs, and after each election these posts are refilled by the incoming President. Hence, Board members are often expected to pursue partisan agendas rather than the public interest, many of these appointees lack experience in the sector and/or professional qualifications, and few have worked in business environments with commercial orientation.

The Energy Sector Recovery Program (ESRP) adopted by the Cabinet on May 9, 2019 is the Government's roadmap to restore and sustain governance and financial viability of the energy sector, as well as to attract competitive private sector investments. The three primary objectives of the ESRP are: (a) full restoration of the financial & commercial viability of the sector; (b) curtailment of further accumulation of arrears; and (c) payment of outstanding sector arrears. While the GoG has already begun to implement the ESRP, many critical actions under ESRP are yet to be implemented and are necessary to reach financial equilibrium of the power sector.

GoG has been promoting the adoption of efficient biomass cookstoves and clean cooking fuels since the early 1990s, but progress has been slow, and outcomes have been below government targets. As part of its efforts to reduce fuelwood consumption, GoG launched the Rural LPG Cooking Fuel Promotion Program (RLPGPP) in 2013, ending in 2017. While 151,500 rural households have benefited from the program (7.7 percent rural household uptake in 2016 compared to 5.5 percent in 2013), adoption remains limited mainly due to high LPG refill cost, undue distances from filling stations and unfavorable user perceptions about the safety of LPG. Upon reviewing the RLPGPP effectiveness, GoG is seeking to scale up the RLPGPP in the proposed National LPG promotion program (NLPGPP) to increase access to LPG for domestic usage from 25 percent of households in 2019 to 50 percent by 2030 in rural, urban and peri-urban areas.

There is the need to align the ESRP and NLPGPP to achieve the objectives of the Sustainable Development Goals - ensuring access to safe, affordable, reliable, and modern energy services - including both electricity and efficient clean cooking solutions (stoves, diversification of energy sources) - for all the people of Ghana by 2030. The current ESRP activities would facilitate a sustained improvement of power sector finances, to facilitate the provision of affordable and reliable electricity supply to households (HH), improve private sector competitiveness and contribute to economic growth. The NLPGPP is one of the key GoG responses to tackle access to clean cooking, improving efficiency of energy used by households thereby reducing costs and increasing affordability of energy consumption. Both programs support Ghana's achievements of the broader SDG 7, 9 and 13 – including those related on health, gender, climate, poverty, environment, and innovation.

Relationship to CAS/CPF

The World Bank Country Partnership Framework with Ghana 2021 to 2026 (CPF FY21-FY26) provides the overarching framework for this operation. The CPF is based on the priorities identified in the SCD and is aligned with the Government's Coordinated Program of Economic and Social Development Policies (CPESDP) and the vision of 'Ghana Beyond Aid'. The CPF would focus on three strategic pillars: (i) Improved and more equitable services; (ii) Promoting conditions for sustainable growth and quality Jobs; and (iii) Promoting sustainable and resilient development. The proposed operation will support all three pillars of the CPF. The implementation of the ESRP would support sustainable economic growth and contribute to fiscal consolidation by reducing the energy sector revenue shortfall and liabilities to GoG, for more sustainable macroeconomic management (Pillar 3) while freeing up resources for public investment in other sectors, in full alignment with Pillar 1 of the proposed CPF. The project's activities echo several of the main threats to sustainable

growth identified in the Country Environmental Analysis, particularly forestry and energy production, and it is aligned with the SDG7 and the World Bank's Africa Climate Business Plan.

Rationale for Bank Engagement and Choice of Financing Instrument

In past years, the World Bank has supported the energy sector in Ghana with a focus on security of supply, increased access to electricity and regional power exchanges, while financing actions to improve the operational and commercial performance of the main electricity distribution utility, ECG, gas SOEs and energy regulators. A combination of investment, technical assistance and guarantees have provided financing to (i) support large private investments for the development of the offshore Sankofa gas resources; (ii) construct HV lines to interconnect Ghana with Burkina Faso and Togo; (iii) reinforce and extend the grid for supply to peri-urban and rural communities, install mini-grids and provide solar PV systems to increase access to electricity in remote areas of the country; and (iv) finance equipment and systems to improve the commercial performance of ECG.

More recently, World Bank support has focused heavily on the financial recovery of the power sector, which has been in deficit for the past decade. Since 2016, the Bank has supported GoG through budget support operations (DPO) and Technical Assistance (TA) aimed at achieving a financially viable energy sector. However, lack of planning for new (committed & uncommitted) energy investments (both for gas and power) and uncompetitive procurement of new power plants, coupled with a sharp reduction of tariffs has exacerbated the financial situation of the sector, cumulating further arrears every year. Faced with further deterioration of energy sector finances in 2019, GoG sought TA support from the World Bank, which led to the preparation of the ESRP, a suite of actions to reduce the current financial shortfall as well as the elaboration of key policies focusing on reducing the sector's structural deficit in the future.

In 2018, ESMAP funded, through the Africa Cooking Energy Solution (ACCES) program, an early-stage engagement and scoping work in Ghana. The joint mission between the ACCES team and the ESMAP team led to high level discussions with Government on key sector challenges. It emerged that the lack of a clean cooking strategy for the country with high-level government support was one of the areas that impeded sector progress. As a result of the mission, the Government requested inclusion of a subcomponent on development of a clean cooking strategy under the Ghana Energy Sector Transformation Initiative Project (GESTIP) TA Loan. The ESMAP team further supported the organization of a Ghana Clean Cooking Forum, in June 2019, to bring together key stakeholders to discuss challenges and opportunities for clean cooking in Ghana and pave the path to structure the elaboration of the National Strategy for Clean Cooking financed by the Ghana Energy Sector Transformation Initiative Project (GESTIP; P163984).

C. Program Development Objective(s) (PDO) and PDO Level Results Indicators

Program Development Objective(s)

The Program's Development Objectives (PDO) are to improve the financial viability of the energy sector and to increase access to clean cooking solutions for households.

PDO Level Results Indicators

PDO Indicator 1: Reduction of energy sector revenue shortfall
PDO Indicator 2: Increase of electricity revenues
PDO Indicator 3: Increase of household access to clean cooking solutions (disaggregated by sex of head of household)

D. Program Description

PforR Program Boundary

The scope of the proposed PforR program is a subset of the broader ESRP. The program will build on activities of the ESRP aimed at the immediate objective of making the sector financially viable, and help achieve several of the medium-term objectives to: (i) ensure the sector arrears are stabilized and funded; (ii) reduce the cost of power generation; (iii) reduce electricity losses and increase revenue collection of the distribution utilities (ECG and NEDCO); (iv) improve governance of ECG and, (v) increase access to LPG as primary cooking fuel.

While the ESRP incorporates several measures to address problems in the gas sector, these will remain outside of the program boundary of the PforR. Gas sector revenue shortfalls are a combination of contracted gas oversupply and gas price under-recovery due to low collections from the power sector. The ESRP includes measures to reduce gas purchase commitments to a level that matches forecasted gas demand, as well as actions to reduce the headline price of gas and subsequently the overall price of power generation. An ongoing IDA Credit (GESTIP) provides support for some of the analysis to underpin gas sector reforms, which are presently at a very early stage of deliberation. For these reasons, although power demand for gas accounts for about 90 percent of gas sector revenues, the gas sector liabilities will remain outside the scope of this PforR.

The Program will align with the ESRP's objective of maintaining liquidity across the value chain and reduce sector arrears through a funding plan from GoG. One of the primary initiatives of the ESRP is that sector arrears are to be netted out and a funding plan be adopted to clear the remaining balance. An audit of the sector has to be updated annually, and once completed, GoG will implement a process to net out the cross arrears. It will also consider what refinancing options are available for public sector SOEs to clear their remaining arrears and curtail further accumulation of these shortfalls. Measures to implement a financing plan to help redress the sector will play a key role in the Program.

ESRP measures to improve performance and financial viability of the distribution utilities will be supported by the Program. This will include supporting the PURC to establish a new tariff methodology in order to project a tariff trajectory, implement a new tariff for street lighting and install prepaid meters for MDAs to ensure that utilities are paying their dues. The Program will also support the establishment and enforcement of performance improvement plans by ECG and NEDCo that will help improve both technical and commercial performance. Finally, the Program will support key activities to improve corporate governance at ECG to improve transparence and accountability.

The Program will include the results of ESRP actions related to generation cost reduction and increase revenues of the distribution companies. The Program will also support ESRP activities aimed to reduce current generation costs (ensuring transparent implementation of the merit order dispatch and optimization of hydropower generation for the regulated market) as well as ensure that new power plants will be procured competitively and are consistent with the least-cost power expansion plan. On the revenue side, the Program will support activities of the ESRP that are expected to reduce electricity losses and increase collection rates of the distribution utilities.

The clean cooking component of the program will support GoG's commitment to LPG becoming the primary cooking fuel for 50 percent of households. GoG intends to utilize market-based approaches in the delivery of cooking solutions by providing the necessary conditions for sustainable innovation, investments and the transformation of this market segment focusing on LPG utilization for cooking. Some of the interventions prescribed under the NLPGPP are subsidizing the initial cylinder deposit fee, cost of stove and accessories for domestic, commercial and industrial first-time users, promoting LPG stoves by local producers, deployment of a comprehensive public education and awareness campaign,

as well as partnering with Liquefied Petroleum Gas Marketing Companies (LPGMCs) to enhance their supply-chains for expanded coverage and easy access across the country.

The IPF component will finance priority investments needed to improve the electricity losses of the main distribution company, ECG. Reduction of the current electricity losses. To reduce commercial electricity losses, utilities will need to invest in equipment and systems, as well as adopt and enforce the right operational processes to systematically monitor consumption at the end-user level. These investments will be financed under the IPF component of the Program. The IPF component will also finance the TA to support capacity building of key stakeholders, key sectoral studies and communication strategies.

E. Initial Environmental and Social Screening

The E&S risks and impacts of the proposed operation are adjudged to be Moderate. The activities to increase access to clean cooking for households (LPG) in Ghana are also proposed to be an IPF considering their potential E&S risks to ensure that the Borrower follows the Bank's Environmental and Social Framework and the Bank provides support in ensuring effective management and monitoring of E&S issues. The E&S risks and impacts of the PforR program are adjudged to be Moderate and consistent with Bank Policy of Program-for-Results Financing.

Environmental risks would be associated with replacement of old meters which will result in the generation of electrical and electronic wastes (e-waste) as well as solid wastes. Inappropriate processing of e-waste can cause detrimental environmental and public health effects as toxic heavy metals such as arsenic, cadmium, copper, nickel, and mercury, and hazardous contaminants, such as dioxins and dioxin-like compounds are released.

The environmental risks and potential impacts of the proposed LPG activities are expected to be moderate, site specific, and amenable to mitigation by standard good practices and other well-understood mitigation measures and technologies.

The Program is expected to have overall positive social & environmental impacts as the interventions will improve the reliability of power supplies and reduce cost of electricity; and improved access to clean cooking. These improvements are also expected to be pro-poor as access to clean cooking energy and electricity in particular contribute to health, livelihood, and gender benefits.

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts of the IPF Component

CONTACT POINT

World Bank

Name :	David Vilar Ferrenbach		
Designation :	Senior Energy Specialist	Role :	Team Leader(ADM Responsible)
Telephone No :	5241+4116 /	Email :	dvilar@worldbank.org

Name :	Sunil W. Mathrani		
Designation :	Lead Energy Specialist	Role :	Team Leader
Telephone No :	5331+3424 /	Email :	smathrani@worldbank.org

Borrower/Client/Recipient

Borrower :	Ministry of Finance		
Contact :		Title :	
Telephone No :		Email :	

Implementing Agencies

Implementing Agency :	Senior's Minister Office		
Contact :	Kwaku Appiah-Adu	Title :	ESRP Working Board Coordinator
Telephone No :	00233242644738	Email :	kwaku_appiahadu2001@yahoo.com

FOR MORE INFORMATION CONTACT

The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 473-1000
Web: http://www.worldbank.org/projects