



Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)

Appraisal Stage | Date Prepared/Updated: 15-Nov-2017 | Report No: PIDISDSA23196



BASIC INFORMATION

A. Basic Project Data

Country Ghana	Project ID P163984	Project Name Ghana - Energy Sector Transformation Initiative Project	Parent Project ID (if any)
Region AFRICA	Estimated Appraisal Date 26-Mar-2018	Estimated Board Date 29-May-2018	Practice Area (Lead) Energy & Extractives
Financing Instrument Investment Project Financing	Borrower(s) The Republic of Ghana	Implementing Agency Ministry of Energy	

Proposed Development Objective(s)

The Project development objectives is to: strengthen the capacity of the power sector to implement sector reforms, and improve energy sector planning and coordination in Ghana

Components

Financing (in USD Million)

Financing Source	Amount
International Development Association (IDA)	20.00
Total Project Cost	20.00

Environmental Assessment Category

C - Not Required

Decision

The review did authorize the preparation to continue

Other Decision (as needed)



B. Introduction and Context

Country Context

1. **Over the past decade, Ghana's economy grew strongly and poverty declined.** The 2015 World Development Indicators show that the national poverty headcount reduced from 39.1 percent in 2005 to 24.2 percent in 2012. Ghana also transitioned into Lower Middle Income Country status following the start of oil production in 2011 as Gross Domestic Product (GDP) growth rose to 14 percent. However, the recent lower commodity prices on international markets negatively impacted this growth trend. Economic growth slowed from 7.3 percent in 2013 to 3.7 percent in 2016, putting a strain on the overall macroeconomic outlook.
2. **The strong growth was followed by external and domestic macroeconomic shocks, which fueled inflation and exacerbated fiscal imbalances.** The sharply lower prices for Ghana's key exports - oil and gold - coupled with energy rationing due to the shortage of electricity generating capacity in 2014 and 2015, weighed heavily on the economy. The industry sector's contribution to GDP fell from 26.6 to 25.1 percent between 2014 and 2015 accompanied by job losses especially in the mining and quarrying sub-sector, which contracted by 6.1 percent in 2015. In 2016, the mining and quarrying sector contracted a further 10.7 percent, much of which was attributed to production problems in the oil sector.
3. **Ghana's medium-term economic prospects are expected to improve with increased oil production.** The GDP growth rate is expected to reach above 8 percent in 2018. The oil and gas sector is the main driver of the medium-term growth with oil production likely to increase by more than 50 percent as the Tweneboea Enyenra Ntomme (TEN) oil field started production in July 2017, followed by expected oil and gas production at the Sankofa field in 2018. The gas output of Sankofa is expected to bolster domestic energy supply and reduce fuel costs in the electricity sector. The recovery of the agriculture sector and stabilization of electricity supply are also expected to support overall growth.
4. **However, the macroeconomic outlook is subject to both domestic and external risks.** Ghana is likely to face high financing costs in the external market as the US Federal Reserve gradually increases its benchmark interest rate. Also, the country's heavy reliance on primary commodities, including cocoa, gold and oil, together with the projected weakness and possible volatility in international commodity prices, create significant uncertainty about its growth, export receipts, and domestic revenue. In addition, the substantial legacy debt of the energy SOEs, costly generating capacity and operational losses within the power sector pose substantial fiscal contingent liability risks and risks to the financial sector over the medium term. Delays in the resolution of the energy sector's legacy debt, drop in oil exports, and continued weak commodity prices and capital flows are risks for Ghana's economic outlook.

Sectoral and Institutional Context

Power Sector

5. **Ghana has connected 84 percent of its population to electricity supply.¹** This high access rate (2017) is second only to South Africa in sub-Saharan Africa but there is disparity between rural and urban access. Total installed generation capacity is 3,795 MW (42 percent hydro, 57 percent thermal, 1 percent solar), while the peak load was 2,087 MW in 2016. Transmission and distribution losses were 4.4 percent and 25

¹ Ministry of Energy, Access Secretariat



percent respectively.² The Government's goal is to achieve universal access to electricity and 10 percent of power supplied by non-hydro renewable energy sources by 2020^{3,4}. Ghana is also participating in the United Nations' Sustainable Energy for All (SE4ALL) initiative, which sets the universal access target to be met by 2030.

6. **Ghana has implemented a wide range of power sector reforms and private sector participation is significant.** Ghana was one of the first countries in sub-Saharan Africa to unbundle its power sector and attract private investment through Independent Power Producers (IPPs), though all utilities are state-owned. The Volta River Authority (VRA) is the state-owned generation company, which manages both hydro and thermal assets. The transmission system is owned and operated by the state-owned Ghana Grid Company (GRIDCo), incorporated in 2006. The distribution of electricity is carried out by the Electricity Company of Ghana (ECG), with 2.6 million customers in the south and center of the country, accounting for 90 percent of retail power sales, and the Northern Electricity Distribution Company (NEDCo), a subsidiary of VRA, which services the remaining 10 percent of the market. Ghana's high-voltage power grid is interconnected with neighboring countries (Cote d'Ivoire, Togo, Benin and, soon, Burkina Faso) and the country is a member of the West African Power Pool (WAPP). The Ministry of Petroleum and the Ministry of Power were merged into The Ministry of Energy (MoEn) in 2017, and is responsible for energy sector policies. The Energy Commission (EC) and the Public Utilities Regulatory Commission (PURC) regulate the industry, as the technical and economic regulators respectively.

7. **High costs and operational inefficiencies have created serious financial difficulties.** The sector's financial difficulties mainly stem from: (a) high cost of fuel used by thermal power plants; (b) gas supply shortages; (c) high payments for installed capacity to EPPs and IPPs; (d) high distribution losses; (e) low revenue collections by ECG; and (f) non-payment by Government entities. Due to these factors, electricity sector revenues from tariff collection do not cover costs. To continue their operations, the sector entities have had to resort to expensive external debt. VRA has relied on short-term financing on the domestic market to cover operating costs including fuel for many years. As of March 2017, the sector had accumulated \$2.3 billion of net debt⁵. The cost of servicing this debt has become a financial burden on the sector. In December 2015, electricity tariffs were increased by 47 percent but this did not improve the sector's financial position. Growth in electricity demand in 2016 has been lower than originally forecast, as consumers responded to the higher prices by rationalizing their consumption.

Oil and gas sector

8. **Ghana currently has three commercial oil and gas development projects, Jubilee, TEN and Sankofa.** Petroleum production from the Jubilee field began in 2010 and is now about 100,000 barrels per day (b/d), having recovered from production curtailments in April-May 2016 because of damage to the Floating Production, Storage and Offloading (FPSO) facilities. The TEN development began production in August 2016 and is expected to reach 65,000 b/d in 2017. Most of the gas from these fields is associated gas (130 MMcfd out of 150 MMcfd) resulting in inconsistent supply of gas. The Sankofa integrated oil and gas development began oil production in July 2017 and non-associated gas production is expected to start in June 2018. Following a September 2017 ruling by the International Tribunal for the Law of the Sea clarifying the boundary line with Cote d'Ivoire, new exploration activities are likely and current concessionaires will submit revised development plans for additional wells for TEN.

² <http://www.energycom.gov.gh/energy-statistics>

³ Energy Commission: Strategic National Energy Plan 2006-2020; renewable energy does not include large scale hydro

⁴ At the end of 2016, non-hydro renewable energy generation accounted for 0.6 percent of total installed capacity.

⁵ Debt stock is net of intra-sectoral debt stock.



9. **The National Petroleum Corporation (GNPC) is the state-owned natural gas aggregator.** As such, GNPC purchases gas and sells it to consumers in the power sector at a blended price. The Ghana National Gas Company (GNGC) is a subsidiary of GNPC, which owns, maintains, and operates domestic gas transportation infrastructure. The state-owned Bulk Oil Storage and Transportation Company (BOST), historically responsible for oil storage and transportation, has also been given responsibilities to construct and operate the gas transportation infrastructure, causing confusion about the role of the two institutions. As the energy sector's price regulator, PURC is developing a gas pricing policy to guide GNPC in setting gas tariffs. The West African Gas Pipeline (WAGP) is an offshore pipeline built to transport natural gas from Nigeria to Ghana. Historically, severe supply shortages in Nigeria and interruptions in deliveries have compromised Nigeria's contractual ability to supply Ghana with 120 MMcfd of firm gas. The unreliable gas flows have led to idle electricity generation capacity. In June 2016, Nigeria suspended gas supplies due to accumulated payables. After Ghana made some payments in early 2017, gas supply restarted based on pay-as-use basis.

10. **Alignment of domestic gas transport infrastructure required due to gas supply imbalance between West and East.** With the commissioning of Sankofa in 2018, gas supply in the west of Ghana is expected to be more than the offtake there, while the power plants in the east will continue to experience gas supply shortages until adequate gas transmission capacity interconnecting the west and the east is set up. This gas supply imbalance, if not addressed, would have significant financial consequences. Work is ongoing to complete the commercial arrangements and necessary infrastructure upgrades/investments to balance the gas between the west (Takoradi) and east (Tema).

Government's program to address sector issues

11. **Government has outlined a turnaround program for the sector.** The new Government, in place since January 2017, has outlined a turnaround program with four objectives to address the problems in the sector: (a) restoring the power sector's financial viability, (b) improving sector planning and investment decisions, (c) improving the regulatory framework, and (d) expanding electricity access to remote communities. As part of the turnaround program, the Government committed to implementing the following as Prior Actions under the \$200 million Macroeconomic Stability for Competitiveness and Growth II (P157343) Development Policy Operation (DPO), which is being proposed for Board consideration in December 2017.

- Implementation of a Cash Waterfall Mechanism (CWM) for transparent allocation of power sector revenues among the operating entities.
- Sector coordination function established within Ministry of Energy.

In addition, Government is now preparing a Sector Financial Recovery Plan.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

The Project development objectives is to: strengthen the capacity of the energy sector to implement sector reforms, and improve energy sector planning and coordination in Ghana

Key Results

12. The Project's outcomes will contribute to achieving the Government's sector reform objectives, including: (a) stabilizing sector finances; (b) establishing transparent investment planning and regulatory



frameworks; (c) increasing electricity access in remote areas; and (d) increasing the use of gas for power generation to reduce the cost of electricity. Some of these higher-level objectives would be achieved during the Project's implementation and some only after the closing date, depending on the Government's actions and resources. The technical assistance is also expected to create an enabling environment to allow Ghana to access and leverage the private sector investments for sustainable development of the sector.

13. The achievement of the Project development objectives will be measured through the following key indicators:

- E-billing/e-payment system is implemented by NEDCo and communicated to stakeholders (Yes/No)
- MoEn has endorsed the least-cost power expansion plan⁶ (Yes/No)
- MoEn has adopted the Electrification Investment Plan to achieve universal access and communicated to stakeholders (Yes/No)
- GNPC has adopted the pricing and allocation strategy and communicated to stakeholders (Yes/No)

14. Since this is a Technical Assistance project, the Corporate Core Sector Indicators are not applicable. The Project will have gender informed indicators to keep track of the impact of the Project.

D. Project Description

15. The Project has five components: (a) Management of power sector financial flows; (b) Sector planning and coordination; (c) Electricity access; (d) Natural gas; and (e) Project management. In addition to advisory and analytical work, the components also include training and capacity building to the staff of the energy sector entities and some software and small equipment for business operations.

16. **Component 1: Management of power sector financial flows.** The activities under this component will assist in addressing the financial viability of the energy sector, by improving revenue management at sector level, improving revenue collection at the utilities' level, and strengthening the utilities' operational and financial management functions. The activities include:

- Cash Waterfall Mechanism (CWM) and its implementation arrangements;
- Electronic billing and collection for ECG and NEDCo;
- Support for VRA Restructuring Support.

17. **Component 2: Sector planning and coordination.** To enhance planning and coordination across the energy sector, this component will assist the Government to:

- Review and recommend effective institutional arrangements with clear mandates for the regulatory institutions, and improve the planning capacity of the power and gas sector actors;
- Transboundary power trading with WAPP participants;
- Grid resilience and reinforcement study for GRIDCo specifically on implementing transboundary power trading and absorption of variable renewable energy.

⁶ The establishment of the sector coordination body is a prior action under the proposed DPO. The Project will provide it with knowledge tools and training to facilitate its work.



18. **Component 3: Electricity access.** This component will support the following activities:
- Development of an investment strategy and plan to achieve the Government's goals for universal electrification by 2030.
 - NEDCo's distribution system upgrade;
19. **Component 4: Natural Gas.** The fourth component will develop guidance to promote the sustainable and efficient use of natural gas in Ghana through following activities:
- Pricing and allocation strategy;
 - Review of WAGP;
 - Capacity development for GNPC.
20. **Component 5: Project management.** This component will cover support to the PIU to manage the activities described in Components 1 through 4.

E. Implementation

21. The implementation arrangements mirror those successfully used for the ongoing Ghana Electricity Development and Access Project (GEDAP). The MoEn will have the overall responsibility for the Project's implementation.

Institutional and Implementation Arrangements

22. The Project implementation arrangements include a **Steering Committee**, which will oversee implementation and ensure effective coordination and cooperation between the energy sector entities. The **Technical Committee** will be established to review the outputs of the activities and be responsible for their technical quality and strategic relevance. **Project Implementation Unit** will manage the day-to-day operations of the Project under the purview of the MoEn, and include procurement, financial management, monitoring & evaluation and communication specialists.

F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)

This is a technical assistance project which would include many specialized sector diagnostic work, which would not involve any physical activity. All the activities will be conducted from the offices of the Ministry of Energy, and specialized energy related agencies.



G. Environmental and Social Safeguards Specialists on the Team

Gloria Malia Mahama, Social Safeguards Specialist

Anita Bimunka Takura Tingbani, Environmental Safeguards Specialist

SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	No	
Natural Habitats OP/BP 4.04	No	
Forests OP/BP 4.36	No	
Pest Management OP 4.09	No	
Physical Cultural Resources OP/BP 4.11	No	
Indigenous Peoples OP/BP 4.10	No	
Involuntary Resettlement OP/BP 4.12	No	
Safety of Dams OP/BP 4.37	No	
Projects on International Waterways OP/BP 7.50	No	
Projects in Disputed Areas OP/BP 7.60	No	

KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

The project is an EA category C project. Project activities include studies and capacity building. No physical impacts as in land acquisition, relocation, displacement or irreversible impacts are anticipated.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

The anticipated long term impact will be positive as outcome of the TA if to be implemented by client outside the scope of this project may result in efficient management of the energy sector.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

Not applicable considering the scope of project activities which does not pose significant adverse impacts.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower



capacity to plan and implement the measures described.

No safeguards policies have been triggered for this project. Notwithstanding the PIU for the earlier GEDAP project has an Environmental and Social specialist. This PIU will be maintained for the project and the specialist will focus more on Gender, social inclusion and Citizen’s Engagement activities proposed for the project.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

There are no identified PAPs as covered by the scope of the safeguards policies. Project beneficiaries are key government agencies in the energy sector who will benefit from the various studies and capacity building efforts of the project. Notwithstanding the project intends to discuss findings of the various studies with relevant stakeholders including CSOs, NGOs, the general public through the media etc.

B. Disclosure Requirements

C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting)

The World Bank Policy on Disclosure of Information

Have relevant safeguard policies documents been sent to the World Bank for disclosure?

Yes

Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?

Yes



All Safeguard Policies

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?

Yes

Have costs related to safeguard policy measures been included in the project cost?

Yes

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?

Yes

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?

Yes

CONTACT POINT

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APPROVAL

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