



RESTRUCTURING PAPER  
ON A  
PROPOSED PROJECT RESTRUCTURING  
OF  
GHANA: ENERGY DEVELOPMENT AND ACCESS PROJECT  
APPROVED ON JULY 26, 2007  
TO  
THE REPUBLIC OF GHANA

ENERGY & EXTRACTIVES GLOBAL PRACTICE

AFRICA REGION

Regional Vice President:	Hafez M. H. Ghanem
Country Director:	Pierre Frank Laporte
Regional Director:	Riccardo Puliti
Practice Manager/Manager:	Ashish Khanna
Task Team Leader:	David Vilar Ferrenbach, Juliana Chinyeaka Victor



## **ABBREVIATIONS AND ACRONYMS**

ACGF	Africa Catalytic Growth Fund
AF	Additional Financing
AfDB	African Development Bank
CMS	Commercial Management System
ECG	Electricity Company of Ghana
ESRP	Energy Sector Recovery Program
GEDAP	Ghana Energy Development and Access Project
GEF	Global Environment Fund
GoG	Government of Ghana
GPOBA	Global Partnership on Output Based Aid
IDA	International Development Association
IFR	Interim Financial Report
PURC	Public Utilities Regulatory Commission
MDAs	Ministries, Departments and Agencies
SECO	State Secretariat for Economic Affairs
TF	Trust Fund
VRA	Volta River Authority



**BASIC DATA**

**Product Information**

Project ID P074191	Financing Instrument Investment Project Financing
Original EA Category Partial Assessment (B)	Current EA Category Partial Assessment (B)
Approval Date 26-Jul-2007	Current Closing Date 30-Sep-2019

**Organizations**

Borrower The Republic of Ghana	Responsible Agency Electricity Company of Ghana,VRA (TF090542)
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**Project Development Objective (PDO)**

Original PDO

To improve the operational efficiency of the electricity distribution system and increase the population s access to electricity.

**Summary Status of Financing**

Ln/Cr/Tf	Approval	Signing	Effectiveness	Closing	Net		
					Commitment	Disbursed	Undisbursed
IDA-56290	30-Apr-2015	11-Nov-2016	29-Nov-2016	30-Sep-2019	60.00	6.30	53.16
IDA-47300	29-Jun-2010	08-Sep-2010	06-Dec-2010	31-Jan-2019	69.84	68.24	0
IDA-43560	26-Jul-2007	08-Aug-2007	06-Dec-2007	31-Jul-2017	89.63	90.92	0
TF-90450	08-Aug-2007	08-Aug-2007	06-Dec-2007	30-Nov-2012	49.82	49.82	0
TF-90542	08-Aug-2007	08-Aug-2007	08-Aug-2007	31-Mar-2015	5.49	5.49	0



### Policy Waiver(s)

Does this restructuring trigger the need for any policy waiver(s)?

No

## I. PROJECT STATUS AND RATIONALE FOR RESTRUCTURING

The Ghana Energy Development and Access Project - GEDAP (P074191) is supported by a total International Development Association (IDA) commitment in the amount of Special Drawing Rights (SDR) 148 million (US\$220.0 million equivalent). The first IDA financing was approved by the Board on July 26, 2007 in the amount of US\$90 million equivalent (IDA Credit 43560) (100 percent disbursed). On June 29, 2010, the Board approved the first additional financing (AF) in the amount of US\$70.0 million equivalent (IDA credit 47300) to concentrate efforts on improving the operational performance of Electricity Company of Ghana (ECG) in high loss regions (Ashanti East and West). This credit is 100 percent disbursed. The second AF2 to the GEDAP was approved by the Board on April 30, 2015 in the amount of US\$60.0 million equivalent (IDA Credit 56290). This credit is about 10.5 percent disbursed. The project also included funds from the Global Environmental Fund (GEF) for renewable energy initiatives in the amount of US\$5.5 million (TF-90541), which is fully disbursed and funds from Africa Catalytic Growth Fund (ACGF) in the amount of US\$50 million (TF-90450), which is fully disbursed. Other financiers included the African Development Bank (AfDB), the Africa Catalytic Growth Fund, the State Secretariat for Economic Affairs (SECO, Switzerland), the Government of Ghana (GoG) through the ECG and the Global Partnership on Output-based Aid (GPOBA).

Ghana was one of the first countries in West Africa that unbundled the electric service and created ECG to serve the southern regions of the country. ECG has increased the quality of service to its customers under its grid intensification program, which has added about 2.0 million customers, achieving the access target of the project. The project has financed upgrades of substations, and a commercial management system that is needed to improve revenue collection, reduce losses and improve the overall operational efficiency of ECG. Progress towards achieving the project development objective of improving operational performance has advanced. However, although losses have been reduced from 26 percent (in 2010) to 23 percent (in 2018), ECG is yet to achieve the targets and the collection rates of Ministries, Departments and Agencies (MDAs) of the Government are still low. The two outstanding contracts of the second AF will help increase collection rates of MDAs.

The sector is facing high costs from excess power capacity and natural gas supply, which are exacerbating the existing revenue gap. In 2018, arrears of US\$2.7 billion had accrued in the sector, and a further US\$1.3 billion shortfall is anticipated in 2019. If no action is taken urgently, the sector shortfall will continue to increase to US\$2.5 billion in 2023 with an accumulated shortfall of US\$12.5 billion by 2023. The Energy Sector Recovery Program (ESRP), approved in May 2019, provides an action plan for the Government to bring the sector back into financial balance over the next five years. One of the key measures to be implemented by the GoG is to install pre-payment meters to all non-strategic MDAs, in order to reduce the arrears of the GoG to the electricity sector.

### Progress on Project Implementation:



The Project Development Objective is to improve the operational efficiency of the electricity distribution system and increase the population's access to electricity. The project has successfully completed previous investments under the original and the first AF1, and the Implementation and Status Report (ISR) ratings for progress towards achievement of PDO and implementation progress (IP) have been consistently rated Moderately Satisfactory over the past 12 months. The total IDA disbursement for the entire project currently stands at 75 percent. With the implementation of the two pending contracts of around US\$30 million, at the completion of the project, the total project disbursement is estimated at 88 percent (which represents an additional 50 percent of the 2nd AF). The remaining 12 percent will be unallocated funds due to lower contract prices than expected during preparation of the 2nd AF and will be returned to IDA at closing.

Component A. Sector and Institutional Development (US\$14 million equivalent). This component has been successfully completed. Four sector entities, including the then Ministry of Energy, ECG, and the two energy sector regulators, the Public Utilities Regulatory Commission (PURC) and the Energy Commission, were supported by this component. The Renewable Energy Act was approved by Parliament in late 2011 as a result of work carried out under GEDAP. Renewable resource assessments have been completed for biomass energy, wind, and mini/micro-hydro electricity generation. Tariff studies and utility benchmarking were carried out by the PURC, along with capacity building activities for several oversight agencies.

Component B. Electricity Distribution Improvement (US\$94 million equivalent). This component helped upgrade the ECG distribution system, reduce technical losses on the network (from 28 percent to 23 percent), and improve the quality of supply to consumers and was completed in early 2015. As a result, overall system losses in the project area were brought down from 26 percent in 2007 to around 23.6 percent as at December 31, 2018.

Component C. Electricity Access and Renewable Energy (US\$101 million equivalent). This component included renewable energy electrification, with a pilot mini and micro-grids and a credit scheme for home solar systems. ECG and NEDCo connected over 150,000 households to their distribution networks, and in addition, solar PV systems were provided to 17,000 remote rural households where the grid was not expected to reach. The mini-grid component consists of five mini-grid projects that were installed and commissioned in the Peditorkope, Atigagome, Wayokope, Aglakope, and Kudorkope communities. The five mini-grid projects are serving approximately 10,000 people in the project area and have an aggregated installed capacity of 1.7 MW. The mini-grid projects in Atigagome, Wayokope, Aglakope, and Kudorkope have subsequently been transferred to the Volta River Authority (VRA) and the mini-grid in Peditorkope was transferred to ECG.

Component D. Expanded Capacity for Electricity Distribution Improvement (US\$70 million equivalent). The activities under the first AF were included under a new Component D and included the following subcomponents: (i) Distribution System Upgrade; and (ii) Commercial and Technical Capacity Upgrade. These subcomponents involved an upgrade to the distribution system, including upgrades to substation and medium-voltage line works which were successfully completed. In addition, seven district offices/customer service centers were built to deal with the growth in customer population. A company-wide Commercial Management System (CMS) was rolled out in the beginning of 2016 following the identification and resolution of two technical and billing issues with the CMS system, the contract for the CMS was successfully completed and closed in December 2016.

Component E. Revenue Collection Improvement (US\$55 million equivalent). The activities under AF2 were included under two new components, Component E - Revenue Protection Program; and Component F - Management and Planning Enhancement. Under Component E (a), the activities include: (i) installation/relocation of advanced metering infrastructure (AMI) at the premises of at least 80,000 customers with recorded monthly consumption above 600 kWh; (ii) creation of metering control



centers as new organizational units within ECG; and (iii) incorporation of a state-of-the-art meter data management (MDM) software package and training of the operators of the metering control centers for systematic monitoring of consumption of the target customers.

Under this component, there are two contracts under implementation that most likely will not be finalized before the closing date and would require additional three months to ensure they are delivered. The two contracts are:

-Supply of 156,000 prepayment meters (contract amount US\$10 million plus an addendum for US\$10 million to double the number): after contract signing and successful factory testing, the goods were shipped mid-September (90 percent of contract cost paid on shipment) but they will arrive after the closing date of the project and the remaining 10 percent of the contract cost will not be eligible for IDA payment.

-Supply of 25,000 bulk meters (contract amount around US\$12 million): after contract signing and successful factory testing, the goods were shipped early September (90 percent of contract cost paid on shipment) but they will arrive after the closing date of the project and the remaining 10 percent of the contract cost will not be eligible for IDA payment.

The GoG has formally requested to extend the closing date by three months but ringfence the extension to only these two contracts, until 31 December 2019. However, although the goods are shipped, given the uncertainties on the lead times to offload the goods at the port (currently congested) and the customs clearances, the team recommends extending the closing date for four months, until January 31, 2020 to allow enough time to install the goods. Considering the time constraint for the upcoming closing date, the project savings will be cancelled through another restructuring for the cancellation after discussing with the GoG.

These two contracts are of critical importance to the Ghana First Enhancing Economic Growth and Reducing Vulnerability Development Policy Financing (DPF) (P167654), which is under preparation. The contracts are key to fulfilling the policy reforms related to reducing the GoG arrears to the power sector. The supply and installation of these two contracts will contribute to preventing the accumulation of additional arrears of the GoG to the utility and therefore will contribute to the sustainability of the energy sector by reducing the revenue shortfall of the sector going forward.

## **DESCRIPTION OF PROPOSED CHANGES**

The present project restructuring proposes to extend the closing date of the project for four additional months, from September 30, 2019 to January 31, 2020 to allow enough time for the GoG to complete the supply and installation of two contracts key for the financial sustainability of the power sector in Ghana.

There are no outstanding safeguards issues in this project and the preparation of the project Implementation Competition Results Report (ICR) has commenced and the ICR will be completed within this current fiscal year by June 30, 2020.

The Task Team confirms that the requirements under the World Bank Investment Project Financing Policy and Directive regarding closing dates are met, specifically: (i) the project objectives continue to be achievable; (ii) the performance of the Borrower is satisfactory despite the aforementioned setbacks, as the factors causing the implementation delays have resulted mainly from externalities, not directly linked to the Borrower's performance; and (iii) the World Bank and the Borrower agree on actions that will be undertaken by the Borrower to complete the project. With respect to the requirement that there be no



outstanding audits or interim financial reports (IFRs) for the project, the team confirms that, to date, the project has complied fully with the submission of timely, acceptable IFRs. There are no outstanding project audits, however there is an outstanding audit for the entity (ECG). The task team is working with the Borrower to ensure timely completion of the ECG audit.

## II. SUMMARY OF CHANGES

	Changed	Not Changed
Results Framework	✓	
Loan Closing Date(s)	✓	
Implementing Agency		✓
DDO Status		✓
Project's Development Objectives		✓
Components and Cost		✓
Cancellations Proposed		✓
Reallocation between Disbursement Categories		✓
Disbursements Arrangements		✓
Disbursement Estimates		✓
Overall Risk Rating		✓
Safeguard Policies Triggered		✓
EA category		✓
Legal Covenants		✓
Institutional Arrangements		✓
Financial Management		✓
Procurement		✓
Implementation Schedule		✓
Other Change(s)		✓
Economic and Financial Analysis		✓
Technical Analysis		✓
Social Analysis		✓
Environmental Analysis		✓



**IV. DETAILED CHANGE(S)**

**LOAN CLOSING DATE(S)**

<b>Ln/Cr/Tf</b>	<b>Status</b>	<b>Original Closing</b>	<b>Revised Closing(s)</b>	<b>Proposed Closing</b>	<b>Proposed Deadline for Withdrawal Applications</b>
IDA-43560	Closed	30-Nov-2012	30-Nov-2013, 31-Jul-2015, 31-Jul-2017, 19-Dec-2017		
IDA-47300	Closed	30-Nov-2013	31-Jul-2015, 31-Jul-2017, 31-Jan-2019, 26-Jun-2019		
IDA-56290	Effective	31-Jul-2017	31-Jan-2019, 30-Sep-2019	31-Jan-2020	31-May-2020
TF-90450	Closed	30-Nov-2012	13-Jun-2013		
TF-90542	Closed	30-Nov-2012	30-Sep-2014, 31-Mar-2015, 19-Aug-2015		



**Results framework**

COUNTRY: Ghana

Ghana: Energy Development and Access Project

**Project Development Objectives(s)**

To improve the operational efficiency of the electricity distribution system and increase the population s access to electricity.

**Project Development Objective Indicators by Objectives/ Outcomes**

Indicator Name	DLI	Baseline	End Target
<b>To improve the operational efficiency of the electricity distribution system and increase the popula</b>			
Direct project beneficiaries (Number)		1,300,000.00	1,950,000.00
Female beneficiaries (Percentage)		51.00	51.00
ECG Performance Verification Index (Text)		68.90%	90%
Tonnes of CO2 Avoided through the adoption of Renewable Energy (Amount(USD))		0.00	250,000.00

**Intermediate Results Indicators by Components**

Indicator Name	DLI	Baseline	End Target
<b>Revenue collection Improvement</b>			
Billed revenue (GWh) in the targeted consumer segments (above 600 units/month) (Number)		3,592.00	5,851.00
ECG annual accounts receivable (excluding government agencies and departments and the Ghana Water Company Ltd) equivalent to numberof days of annual sales (Text)		150 days	90 days
<b>Management and planning enhancement</b>			
Annual ratio of ECG revenues over its costs (Text)		0.95	>1
<b>Electricity Distribution Improvement</b>			
Electricity losses per year in the project area (Percentage)		26.00	20.00
Total net injected generation (Megawatt hour(MWh))		8,370,000.00	11,570,000.00
Electricity losses per year in the project area- Technical (Percentage)		10.20	10.20



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Indicator Name	DLI	Baseline	End Target
Electricity losses per year in the project area- Non-Technical (Percentage)		13.90	9.80
Average annual hours of unplanned power outages per consumer in ECG system (Hours)		200.00	90.00

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