Document of
The World Bank Group

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Report No: 103305-SL

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED IDA GUARANTEE
IN THE AMOUNT OF UP TO US$40 MILLION
TO THE
REPUBLIC OF SIERRA LEONE
IN SUPPORT OF
CECA SL GENERATION LIMITED

AND ON A

PROPOSED IFC FINANCING CONSISTING OF
AN A-LOAN IN THE AMOUNT OF UP TO US$30 MILLION AND
AN INTEREST RATE SWAP REPRESENTING A LOAN-EQUIVALENT EXPOSURE OF
UP TO US$3 MILLION
TO CECA SL GENERATION LIMITED

AND ON A

PROPOSED MIGA GUARANTEE
IN THE AMOUNT OF UP TO US$60 MILLION
TO CEC AFRICA (SIERRA LEONE) LIMITED

FOR THE

WESTERN AREA POWER GENERATION PROJECT (WAPGP)

June 16, 2016

Energy and Extractives Global Practice
Africa Region

Infrastructure Department
International Finance Corporation

Multilateral Investment Guarantee Agency

CURRENCY EQUIVALENTS

(Exchange Rate Effective: April 30, 2016)

Currency Unit	=	Sierra Leonean Leone (SLL)
SLL 5,600.00	=	US$1.00

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AfDB	African Development Bank
ARAP	Abbreviated Resettlement Action Plan
ATAF	Automatic Tariff Adjustment Formula
BOT	Build-Operate-Transfer
CAFEF	Conflict Affected and Fragile Economies Facility
CAO	Compliance Advisor Ombudsman
CAS	Country Assistance Strategy
CDC	Commonwealth Development Community
CEC	Copperbelt Energy Corporation
CECA SL	CEC Africa SL Generation Limited
COD	Commercial Operation Date
CPI	Consumer Price Index (US)
CPIA	Country Policy and Institutional Assessment
CRCC	China Road Construction Corporation
CSSL	Conservation Society of Sierra Leone
DFIs	Development Finance Institutions
DSCR	Debt Service Coverage Ratio
DSF	Debt Sustainability Framework
EAIF	Emerging Africa Infrastructure Fund
EAP	Energy Access Project
ECOWAS	Economic Community of West African States
EDSA	Electricity Distribution and Supply Authority
EGTC	Electricity Generation and Transmission Company
ESURP	Energy Sector Utility Reform Project
EPA	Environment Protection Agency
EPC	Engineering, Procurement and Construction
EIRR	Economic Internal Rate of Return
EGTC	Electricity Generation and Transmission Company
ESIA	Environmental and Social Impact Assessment
ESHIA	Environmental, Social and Health Impact Assessment
ESMP	Environmental and Social Management Plan
EVD	Ebola Virus Disease
EWRC	Electricity and Water Regulatory Commission
FDI	Foreign Direct Investment
FIRR	Financial Internal Rate of Return

FMO	The Netherlands Development Finance Company
FSA	Fuel Supply Agreement
GDP	Gross Domestic Product
GNI	Gross National Income
GHG	Greenhouse Gas
GoSL	Government of Sierra Leone
GRS	World Bank Grievance Redress Services
HFO	Heavy Fuel Oil
HSE	Health, Safety and Environment
IDA	International Development Association
IFC	International Finance Corporation
IMF	International Monetary Fund
INDC	Intended Nationally Determined Contribution
IPP	Independent Power Producer
IRP	Integrated Resource Plan
ISDB	Islamic Development Bank
JICA	Japan International Cooperation Agency
kV	Kilovolt
kWh	Kilowatt Hours
LC	Letter of Credit
MAFFS	Ministry of Agriculture, Forestry and Food Security
MIGA	Multilateral Investment Guarantee Agency
MoE	Ministry of Energy
MoFED	Ministry of Finance and Economic Development
MW	Megawatt
NPA	National Power Authority
NPV	Net Present Value
OEM	Original Equipment Supplier
OFC	Offshore Financial Center
O&M	Operations and Maintenance
OPs	Operational Policies
PAD	Project Appraisal Document
PDO	Project Development Objective
PPA	Power Purchase Agreement
PPP	Purchasing Power Parity
PS	Performance Standards
RCA	Reimbursement and Credit Agreement
SCADA	Supervisory Control and Data Acquisition
SL	Sierra Leone
SL-EPA	Sierra Leone Environment Protection Agency
SLRA	Sierra Leone Road Authority
TCQ	Tempus Constant Qualitas Power Ltd
UAE	United Arab Emirates
UN	United Nations
WAPGP	Western Area Power Generation Project
WBG	World Bank Group

International Development Association (IDA)

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Acting Senior Global Practice Director:	Anna M. Bjerde
Acting Practice Manager:	Sameer Shukla
Practice Manager, Guarantees:	Pankaj Gupta
Task Team Leader:	Carol Litwin
Task Team Leader, Guarantees:	Katharine Baragona

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Regional Director:	Vera Songwe
Transaction Manager:	David Tinel
Regional Industry Head:	Bertrand Heysch De la Borde
Global Industry Manager:	Sumeet Thakur
Regional Portfolio Manager:	Linda Munyengeterwa
Investment Officers:	Lorentz Nwachuku, Lamine Lo, Weifeng Lu, Nancy Lu Wang
Principal Counsel	Helen Ibbotson

Multilateral Investment Guarantee Agency (MIGA)

Vice President and Chief Operating Officer:	Karin Finkelston
Acting Director, Operations:	Muhamet Bamba Fall
Acting Sector Manager:	Marcus Williams
Senior Underwriter:	Jaeyoung Jin

REPUBLIC OF SIERRA LEONE
Western Area Power Generation Project

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PAD DATA SHEET

SIERRA LEONE

WESTERN AREA POWER GENERATION (P153805)

PROJECT APPRAISAL DOCUMENT

AFRICA
GEEDR

Report No: 103305-SL

<table>
<tr><th colspan="2">Basic Information</th></tr>
<tr><td>Project ID:</td><td>Sectors: Power generation
Themes: Private Sector Development
EA Category: B – Partial Assessment</td></tr>
<tr><td>IDA Project ID: P153805
IFC Project ID : 34971
MIGA Project ID: 12971</td><td>Team Leader(s): Carol Litwin / Katharine Baragona
IFC Investment Officers: Lorentz Nwachuku, Lamine Lo, Weifeng Lu, Nancy Lu Wang
MIGA Underwriter: Jaeyoung Jin</td></tr>
<tr><td rowspan="3">Lending Instrument:
IDA Guarantee (Payment), IFC A Loan and IFC interest rate swap, MIGA Guarantee</td><td>Fragile and/or Capacity Constraints [ ]</td></tr>
<tr><td>Financial Intermediaries [ ]</td></tr>
<tr><td>Series of Projects [ ]</td></tr>
<tr><td>Expected Effectiveness Date: September 15, 2016</td><td>Expected Closing Date: January 31, 2018</td></tr>
<tr><td>Expected IDA Guarantees Expiry Date:
March 31, 2039</td><td></td></tr>
<tr><td colspan="2">Joint IFC: Yes
Joint MIGA: Yes</td></tr>
</table>

(Acting) Practice Managers/Manager	**Acting Senior Global Practice Director**	**Country Director**	**Regional Vice President**
Pankaj Gupta / Sameer Shukla	Anna M. Bjerde	Henry G.R. Kerali	Makhtar Diop

Global Industry Directors	**Regional Director**	**Transaction Manager**	**Regional Industry Head**	**Global Industry Manager**	**Regional Portfolio Manager**
Bernard E. Sheahan / Sujoy Bose	Vera Songwe	David Tinel	Bertrand Heysch De la Borde	Sumeet Thakur	Linda Munyengeterwa

Acting Director	**Acting Sector Manager**
Muhamet Bamba Fall	Marcus Williams

Country: Republic of Sierra Leone	
Guarantors: IDA and MIGA	

Beneficiaries of the Guarantees: CECA SL Generation Limited Letter of Credit Bank Lenders CEC Africa (Sierra Leone) Limited **Lender:** IFC **Beneficiary of the Loan:** CECA SL Generation Limited
Project Financing Data (in USD Million)
[X] Loan [ ] Credit [ ] Grant [X] Guarantee [ ] Other **IDA Guarantee:** Up to US$40 million for a period of up to 20 years **MIGA Guarantee:** Up to US$60 million for a period of up to 15 years **IFC A-Loan:** IFC will be providing an A loan of up to US$30 million for a period of up to 14 years **IFC Swap**: IFC will provide the Project Company with an interest rate swap with a Loan Equivalent Exposure of up to US$3 million

Financing Plan (US$ million)

Source	Total
Total Capital Cost	**138.0**
Financing requirements	**138.0**
Total Shareholder Equity	*34.5*
Debt (DFI's)	*103.5*
Total:	**138.0**

Content

For IDA Guarantees:	**[X] Project Based Payment Guarantee [] Project Based Loan Guarantee [ ] Both Policy and Project Based**
Proposed Coverage:	Guarantee of the Government of Sierra Leone (GoSL) and Electricity Distribution and Supply Authority's (EDSA) payment security obligations under the power purchase agreement by guaranteeing repayment of a commercial standby revolving Letter of Credit that GoSL and EDSA will make available to the Project Company
Nature of Underlying Financing:	Letter of credit from commercial bank
Financing available without Guarantee:	**[ ] Yes [x] No**
If Yes, estimated Cost or Maturity:	N/A
Estimated Financing Cost or Maturity with Guarantee:	N/A
World Bank Group Participation:	**[X] IFC [X] MIGA**

Estimated disbursements (US$ million)			
FY	2016	2017	2018
Annual	N/A	N/A	N/A
Cumulative	N/A	N/A	N/A

Institutional Data

Practice Area / Cross Cutting Solution Area

Energy and Extractives

Cross Cutting Areas

[ ] Climate Change
[X] Fragile, Conflict & Violence
[ ] Gender
[ ] Jobs
[X] Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Energy and mining	Energy	100		

☑ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Finance and Private Sector Development	Infrastructure Services for Private Sector Development	100
Total		100

Project Development Objective(s)

The Project Development Objective is to increase the power generated by independent power producers and to mobilize private capital

Project Description

The proposed Project is a key component of the Government of Sierra Leone's (GoSL) recovery plan to help support economic growth post-Ebola and create jobs by providing reliable electricity services to the Freetown Capital Western Area. The Project is responding to an urgent need for additional generation capacity in Sierra Leone and is the most advanced power generation project currently under development in the country. The Project comprises the development, financing, construction and operation by CECA SL Generation Limited (CECA SL) of a 57 MW green-field thermal power plant running on heavy fuel oil (HFO) on a build-operate-transfer (BOT) basis. CECA SL, the Project Company, was established in Sierra Leone by private sponsors comprising CEC Africa Investments Ltd (CEC Africa, 50.1 percent equity) and Tempus Constant Qualitas Power Ltd (TCQ, 49.9 percent equity) through CEC Africa (Sierra Leone) Limited. The combined World Bank Group (WBG) support for the Project will leverage US$138 million in investments into the power sector in Sierra Leone, and serve as an important signal for investment opportunities at a time when the country is in a fragile recovery from Ebola.

Systematic Operations Risk Rating Tool (SORT)	
Risk Category	**Rating**
1. Political and Governance	High
2. Macroeconomic	High
3. Sector Strategies and Policies	High
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	High
6. Fiduciary	High
7. Environment and Social	Substantial
8. Stakeholders	High
9. Other	N/A
Overall	**High**

Compliance	
Policy	
Does the project depart from the CAS in content or other significant respects?	[ ]Yes [X] No
Does the project require any exceptions from World Bank policies?	[ ]Yes [X] No
Have these been approved by World Bank management?	[ ]Yes [ ] No
Is approval for any policy exception sought from the Board?	[ ]Yes [X] No
Does the project include any critical risks rated "substantial" or "high"?	[X] Yes [ ] No
Does the project meet the Regional criteria for readiness for implementation?	[X]Yes [ ] No
Safeguard Policies	**Triggered**
PS 1: Social and Environmental Assessment and Management Systems	**YES**
PS 2: Labor and Working Conditions	**YES**
PS 3: Resource Efficiency and Pollution Prevention	**YES**
PS 4: Community Health, Safety & Security	**YES**
PS 5: Land Acquisition and Involuntary Resettlement	**YES**
PS 6: Biodiversity Conservation & Sustainable Natural Resource Management	**NO**
PS 7: Indigenous People	**NO**
PS 8: Cultural Heritage	**NO**

Legal Covenants

Name	Recurrent	Due Date	Frequency
Indemnity Agreement	No	TBD	Once

Description of Covenants

Standard conditions of effectiveness, covenants, and representations and warranties for a guarantee operation of this type will be included in the legal documentation.

In particular, the guarantee agreement will require, as an effectiveness condition, that all of the conditions precedent to the first disbursement under the credit agreement between the lenders and the Project company in respect of the Project (including conditions relating to the sector collection account) have been satisfied in manner acceptable to IDA (other than the effectiveness of the guarantee agreement, to avoid circularity).

In addition, the indemnity agreement will include covenants which provide that the Government of Sierra Leone shall (i) act (and cause all relevant Public Sector Entities to act) in a

manner consistent with the terms of, or achievement of the objectives expressed in, the Sector Policy Letter; (ii) keep (and cause all relevant Public Sector Entities to keep) the Association informed on the progress of any actions or measures set out in the Policy Letter, and discuss and agree with the Association any remedial measures to be taken in the event of delay or failure to comply with, or achieve the objective of, the Policy Letter; (iii) consult (and cause all relevant Public Sector Entities to consult) with the Association prior to taking any action that is contrary to, or otherwise inconsistent with, the terms and overall objectives of the Sector Policy Letter, if such action would or could materially affect the Project or the rights or obligations of the Association under the Guarantee Agreement or any Transaction Documents; and (iv) upon request, promptly provide (and cause all relevant Public Sector Entities to provide) the Association with all information necessary, in the reasonable opinion of the Association, for the Association's review of the Member Country's performance of its obligations under this Schedule, including in respect of the Sector Policy Letter.			
Team Composition			
Bank Staff			
Name	**Role**	**Title**	**Unit**
Carol Litwin	Task Team Leader	Senior Energy Specialist	GEE07
Katharine Baragona	Co-Task Team Leader, Guarantees	Senior Infrastructure Finance Specialist	GEEFS
Nash Eyison	Team Member	Energy Specialist	GEE07
Anthony Molle	Legal	Senior Counsel	LEGSG
Teuta Kaçaniku	Team Member	Infrastructure Finance Specialist	GEEFS
Insoo Kim	Team Member	Infrastructure Finance Specialist	GEEFS
Demba Balde	Safeguards Specialist	Senior Social Development Specialist	GSURR
Raima Oyeneyin	Team Member	Senior Program Assistant	GEE07
Non-Bank Staff			
Name	**Role**	**Title**	**Office Phone**
Robert Robelus	Safeguards Specialist	Environmental Specialist	
Cephas Gapko	Engineer	Engineer	
IFC Staff			
Name	**Role**	**Title**	**Unit**
Lorentz Nwachuku	Team Leader	Senior Investment Officer	CNGSI
Lamine Lo	Transaction Leader	Senior Investment Officer	CNGFV
Weifeng Lu	Team Member	Investment Officer	CNGS6
Nancy Lu Wang	Team Member	Associate Investment Officer	CNGS6
Rimas Puskorius	Credit Officer	Chief Credit Officer	CRKIC
Roy Kroese	Engineer	Senior Power Engineer	CNGS6
Helen Ibbotson	Legal	Principal Counsel	CLEAF
Paolo Lombardo	Safeguards Specialist	Principal Environment Specialist	CRK14
Mi Hyun Miriam Bae	Safeguards Specialist	Senior Social Development Specialist	CRK14
Eusoph Deriza Kanyenda	Insurance Specialist	Senior Insurance Officer	CRKIN

Setprumea So, Ndeye Sassoume Sylla	Team assistants	Program Assistants	CNGS6/C AFW3
MIGA Staff			
Name	**Role**	**Title**	**Unit**
Jaeyoung Jin	Team Leader	Senior Underwriter	MIGOP
Franciscus Linden	Team Member	Senior Risk Management Officer	MIGEC
John G. Henderson	Legal	Legal Consultant	MIGLC
Debra Zanewich	Safeguards Specialist	Senior Environmental and Social Development Specialist	MIGEI
Golota Isaac Lamah	Safeguards Specialist	Environmental and Social Development Specialist	MIGEI
Judith Pearce	Team Member	Lead Integrity Officer	MIGEI
Asenath Mutumbi	Team Member	Program Officer	MIGOP
Janice Moskowiz	Team Member	Legal Analyst	MIGLC
Zinash G. Hanna	Team Member	Program Assistant	MIGOP

[redacted]

Country	**First Administrative Division**	**Location**	**Planned**	**Actual**	**Comments**
Sierra Leone		Freetown	X		

I. STRATEGIC CONTEXT

A. Country Context

1. **Sierra Leone is one of the world's poorest countries**. Despite a decade of peace and strong economic growth since 2002 when the civil war ended, living conditions in Sierra Leone continue to be a challenge. During the period of unrest (1991-2001), Sierra Leone's physical and human capital was severely damaged. Physical infrastructure, particularly electricity, water, and sanitation, suffered widespread destruction and lack of maintenance. As of 2014, Sierra Leone ranked 181 out of 188 countries in the United Nations (UN) Human Development Index and had an estimated gross national income per capita of US$700 (current prices), placing it in the bottom third of countries in Sub-Saharan Africa. Despite the challenges, the Government of Sierra Leone (GoSL) has maintained peace, and conducted three successful elections since the end of the conflict, most recently in 2012.

2. **Prior to the Ebola Virus Disease (EVD) epidemic, post-conflict recovery was sustained, characterized by strong economic growth, infrastructure development, improvements in governance and public sector capacity building, and improved delivery of basic services**. Sierra Leone's economic recovery had gathered strength since the global economic downturn**.** Large inflows of Foreign Direct Investment (FDI) and the onset of iron ore production and exports in 2011 lifted GDP growth rates to an annual average of 17.6 percent during the period 2010-2013. The start-up of two large scale iron-ore mines and a recovery in other mining subsectors, including bauxite, gold and rutile, drove growth in the industrial sector. With a World Bank Country Policy and Institutional Assessment score of 3.3 in 2012, the country moved beyond the fragile state classification threshold. Despite being identified among the top ten global reformers in the 2012 Doing Business Report, Sierra Leone ranked 147 out of 189 countries in the 2016 Doing Business Report.

3. **The EVD combined with the closure of the two largest iron ore mines have placed extreme stress on the economy.** In the near term the economy faces a sharp contraction in economic growth. This is the direct impact of the epidemic which has been exacerbated by the closure of the two largest iron ore mines combined with a decline in the world price of iron ore. The combination of these factors has severely affected the country's fiscal position, as well as the inflow of foreign exchange. While Sierra Leone made significant progress over the last decade, reducing the share of people living below the national poverty line from above 64 percent in 2003 to just below 53 percent by 2011, the impact of EVD is expected to result in a sharp reversal of this progress.

4. **The pace of recovery will depend heavily on adequate financing, broadening of the economy, and effective implementation of the recovery plans.** The most immediate priority is the enhancement of health care systems to prevent re-emergence of EVD. Equally important is the need to facilitate an effective and sustainable resumption of broad-based economic growth, which needs to be underpinned by the energy sector. Effective use of the World Bank Group (WBG) instruments would play an important role in improving the performance of the sector, and attracting private finance, accelerating economic recovery and broadening economic activities to support job creation.

B. Sectoral and Institutional Context

5. **The electricity access rate in Sierra Leone is among the lowest in the world at less than 15 percent**. Sierra Leone's limited and dilapidated power infrastructure base in generation, transmission and distribution poses a major constraint to expanding electricity access in the country. Tariffs are high, electricity services are of poor quality, and sector management is weak leading to inefficient operations. Public electricity services are limited to select areas and sparse coverage and unreliable service exacerbate poverty conditions. The main distribution network extends to Freetown and the surrounding Western Area (Freetown Capital Western Area), covering only about 40 percent of the residents. Isolated systems (Bo-Kenema, Lungi, Lunsar, Kono, and Makeni) provide limited services in delimited areas in other parts of the country. In rural areas, where the bulk of the population resides, electricity access is practically non-existent.

6. **Poor and unreliable electricity services is a barrier to economic diversification and job creation.** The industrial and commercial business has to rely on, to a significant degree, expensive diesel-fired back-up generators. During the dry season, when the available hydropower drops to extremely low levels, this situation is particularly severe and imposes high cost of production and lost economic opportunities. Additional generation that provides all year round electricity services is critical for economic growth, diversification and job creation.

7. **The electricity sector is undergoing a fundamental change.** The National Electricity Act, 2011 (the Electricity Act)[1] repealed the National Power Authority Act, 1982, and unbundled the National Power Authority (NPA) into (i) the Electricity Generation and Transmission Company (EGTC); and (ii) the Electricity Distribution and Supply Authority (EDSA). Implementation of the unbundling was delayed until January 2015 when EGTC and EDSA became operational. EGTC is in charge of generation and transmission at high voltage levels (161kV) whilst EDSA is responsible for sub-transmission and electricity distribution (33kV and below). EDSA supplies about 75,000 customers mainly located in the Freetown Capital Western Area. About 800 staff have been transferred from NPA to the two new utilities but the transfer of assets and obligations, while ongoing, is yet to be completed.

8. **Institutional arrangements for the sector lack capacity for effective oversight and tariff setting.** Oversight of the sector falls under the Ministry of Energy (MoE). Tariff setting is governed by the Electricity and Water Regulatory Commission Act 2011 that also established the regulatory authority, the Electricity and Water Regulatory Commission (EWRC) with the mandate to determine and review tariffs. However, currently EWRC lacks the human capacity to undertake its functions. Licensing procedures for potential developers, technical regulation, and regular tariff review processes are yet to be established. The Millennium Challenge Corporation is providing capacity building to EWRC to undertake its mandated tariff function. Prior to 2011 NPA had the power to determine tariffs for consumers. The last tariff revision was done in 2008. The 2016 Doing Business Report ranks Sierra Leone 178 out of 189 countries for the getting electricity indicator. Weak oversight of the sector is identified as the main cause of this ranking.

9. **Current power generation capacity is inadequate to meet power demand**. Installed system capacity serving the Freetown Capital Western Area totals 84 MW, predominantly hydroelectric. This includes the 50 MW Bumbuna hydroelectric power plant (Bumbuna), the two

[1] Electricity Act 2011, Supplement to the Sierra Leone Gazette CXLII, No. 62, dated 22nd September 2011.

thermal power plants at Kingtom (9 MW) and Blackhall Road (15 MW) and containerized generation units installed at Kingtom. An additional 35 MW feeds the isolated Bo-Kenema, Lungi, Lunsar, Kono, and Makeni systems. The mining sector relies entirely on captive generation to meet its power needs. Hydropower from Bumbuna is highly seasonal with the production fluctuation from about 30-40 MW in the rainy season to 15 MW in the dry season. High costs of imported fuel and poor management of the existing thermal plants significantly reduce available generation capacity at Kingtom and Blackhall road to 7 MW and 11 MW, respectively. Of the 10 MW installed containerized generation units, only 5 MW is available. Unsuppressed demand for 2015 is estimated at 110 MW for the Freetown Capital Western Area, whereas the current available generation capacity in the rainy and dry seasons are approximately 53 MW and 38 MW, respectively. Most commercial and industrial customers are currently not connected to the grid because of inadequate and unreliable electricity supply. Demand growth, which is mainly driven by the development of new industrial and residential areas, is projected to reach 174 MW by 2020. The turnaround of the sector towards sustainability depends, in part, on the ability to serve a greater share of commercial and industrial customers with reliable year-round power.

10. **The electricity sector is expected to remain dependent on government subsidies in the medium term.** Despite relatively high average tariffs of US$0.22 per kWh (estimated for 2015), the electricity sector is not recovering its costs and both EDSA and EGTC remain heavily dependent on government subsidies.[2] With high energy losses and collections at around 72 percent of total sales the sector has a projected estimated annual cash shortfall of about US$14 million, equivalent to 47 percent of EDSA's total revenue, for 2015. To support the GoSL's objectives of increasing power supply to industrial and residential consumers, the Ministry of Finance and Economic Development (MOFED) is expected to continue providing subsidies to support the sector until a full recovery of the sector is achieved.

11. **Enhanced service delivery depends critically on the financial viability of the distribution utility.** EDSA is the sole off-taker of power in Sierra Leone and is responsible for delivering electricity to customers, as well as collections on behalf of the energy sector. Its performance impacts the entire value chain. To improve EDSA's performance and build capacity, IDA, through the Energy Sector Utility Reform Project (ESURP, P120304) approved in December 2013, is supporting the GoSL in the recruitment of a management contractor for EDSA who will be responsible for implementing a business plan for EDSA, improving collections, re-organizing the utility to focus on commercial performance, and building capacity for a period of three years. The bidding process for the management contractor commenced in August 2015 and evaluation of bidders has been completed. It is expected that award of the management contract will take place during the third quarter of CY2016.

12. **Addressing the energy sector crisis will require parallel action on various fronts.** Additional generation capacity, investments in transmission and distribution to address system losses, and reforms and capacity building of EDSA and EGTC are all necessary to turn around the performance of the energy sector. However, none of these actions by itself will be able to improve service delivery and increase the financial viability of the sector. The proposed operation is part of a suite of interrelated interventions by the WBG and other donors.

[2] As a comparison the average tariffs in Ghana and Cote D'Ivoire are US$0.09 and US$0.11 per kWh, respectively.

13. **Service delivery is hampered by inadequate transmission and distribution infrastructure and high system losses**. Total system losses have ranged from 38 to 43 percent over the past 10 years. Of the 38 percent total system losses, 18 percent is estimated to be technical losses and 20 percent is estimated to be non-technical losses resulting from theft and pilferage of electricity; representing approximately US$9 million in lost revenue in 2015. In addition, billing losses are estimated to reduce revenue by 10 to 15 percent, representing another US$3-5 million in lost revenue. These combined losses are near equivalent of the estimated sector cash shortfall for 2015. The Energy Access Project (EAP, P126180), approved in January 2013, and the ESURP, provide financing for enhancement and upgrade of the sub-transmission and distribution network, and for technical loss reduction to increase energy efficiency and to improve the operational performance of EDSA. Strengthening of the network will also help to increase the future capacity to absorb and integrate new generation, including from renewable sources.

14. **Investments in the network will substantially improve transmission capacity, increase energy efficiency and reduce technical losses.** The investments in the Freetown network financed by EAP and ESURP, totaling US$33.7 million, combined with investments financed by the Japan International Cooperation Agency (JICA, US$3.8 million), the Islamic Development Bank (ISDB, US$11.1 million), and ECOWAS (US$6 million), are estimated to reduce technical losses from 18 percent in 2015 to about 10 percent by 2020. These measures help Sierra Leone towards meeting its desired outcome for Strategy 4, which aims to promote energy efficiency, in the Country's Intended Nationally Determined Contribution (INDC). Strengthening of the network through these ongoing and planned investments is a prerequisite to being able to absorb renewable energy. The Millennium Challenge Corporation is providing support to build capacity of EWRC for tariff setting that will take into account generation sources, including renewable energy.

15. **Given Sierra Leone's high reliance on seasonal hydropower, heavy fuel oil (HFO) based generation has been identified as the only feasible alternative for delivering reliable, all-year around electricity services in the short to medium term.** A two-step analysis of alternative sources of generation, including solar, wind, biomass, gas, coal and HFO, under the Integrated Resource Plan (IRP) for the energy sector confirmed that HFO-fired generation would be the only feasible least cost option for supplying much needed all year around electricity for the Freetown Western Capital Area (Annex 5).[3] The WBG expanded the analysis in the IRP to include diesel and hydropower. The first step of the analysis included a wider screening of alternatives to determine the feasible generation sources for the Freetown network. The second step included a least cost analysis of the feasible alternatives for supplying all year around firm power supply to the network. Generation sources were considered feasible in the context of (i) providing firm all year-around power supply, (ii) reasonably sized capacity to meet demand for electricity in the medium term; and (iii) available fuel sources. In addition, the ability of the network to integrate alternative generation sources and distance of available resources to the network was also considered. Based on the screening renewable resources, including solar, wind, biomass and hydro. Solar and wind would not be able to provide the reliable firm power needed to stabilize the network in the Freetown Western Capital Area. Further studies would also be needed to confirm the wind potential in Sierra Leone. Sourcing of a reliable source of domestic biomass was also

[3] Funded under EAP and completed in 2014. The IRP included screening of various generation options, including renewables, for the Freetown Western Capital Area as well as for the rest of country.

considered as challenging in the short to medium term.[4] Given the existing poor state of the network integration of renewables with variable production, such as solar and wind, would pose a significant technical challenge. Gas-turbines were excluded from the cost analysis because of gas being unavailable in the country.[5] The small size of the power market in Sierra Leone combined with no existing infrastructure for gas makes both piped gas and LNG unfeasible in the short to medium term. Management of gas would also require expertise currently not available in the country. Sierra Leone has hydropower resources. The main potential hydropower site comprises about 200 MW and is estimated to take at least another five to six years to develop and the current indicative cost estimates of US$900 million would be prohibitive both for the domestic power market and for exports through WAPP, when this becomes available in 2019. 200 MW is also considered as too large to be absorb by the network and result in increased losses without significant investments. Demand forecasts also confirm that the capacity would be too large in the medium term even if the network would be strengthened to absorb such a capacity addition. Thus, the screening analysis confirmed that the feasible generation would be HFO, diesel and possibly coal.

16. **The least cost analysis (Annex 5) confirms that both coal and diesel would be more expensive than HFO.** The minimum size of a power plant using coal is considered to be 125 MW, which is estimated to be too large for the current demand and capacity of the network. Coal was concluded as more expensive than HFO for the relatively small size of the market in Sierra Leone.[6] Diesel-fired generation was also concluded as more expensive than HFO.

17. **The proposed Project is consistent with the WBG's *"Toward a Sustainable Energy Future for All – Directions for the World Bank Group's Energy Sector"* in that it provides an energy solution that is tailored to the specific circumstances and needs of Sierra Leone.** The proposed Project is an example of a "low cost, moderate to high emissions" project (scenario 2) in the Energy Directions Paper's Framework for assessing climate impacts. The Project is expected to generate modest net greenhouse gas (GHG) emissions of 100,011 tonnes of CO_2 per year. Overall, Sierra Leone accounts for less than 0.03 percent of global GHG emissions coming from fossil fuel combustion.

18. **The proposed Project, along with complementary transmission and distribution investments, will help stabilize power supply and strengthen the network.** This will help to pave the way for integration of renewable energy sources. The short to medium term need of the sector is for reliable year-round energy. Lower emission options such as hydropower, solar, and cross-border trade may not be able to meet this need, and remain infeasible in the current timeframe, mainly because the system is predominantly hydro-based, and because the grid is very small and of a poor quality. The GoSL is considering developing further hydropower capacity, but this will take time. The provision of firm power combined with the ongoing strengthening of the network will increase system efficiency and help stabilize the network to pave the way for integration of less carbon-intensive power generation options. These combined investments

[4] There is an existing bio-energy project in Sierra Leone. However, this project is facing a number of difficulties in sourcing biomass, and to date this project has not produced power into the network.
[5] Should gas become available existing diesel units as well as the proposed Project can be converted to work on gas.
[6] The air emissions of SO_x, mercury, and CO_2 associated with coal were noted as substantially higher than with HFO.

facilitate the conditions for absorption of renewable energy sources in line with the Sierra Leone INDC and the WBG Climate Change Action Plan (2016).

19. **The energy sector will continue to suffer supply shortages in the medium term.** The GoSL's post-EVD recovery plan for the energy sector targets a doubling of the generation capacity to about 200 MW, much of which comprises renewable energy. However, the realization of these targets will critically depend on the performance of the sector, size and stability of the network, availability of fiscal resources to supplement sector cash flows, and investor appetite for the energy sector in Sierra Leone as well as lead time for the commissioning of projects. In the short to medium term the Project is the only generation project that can be realized, together with about 27 MW from the West Africa Power Pool transmission line from Cote d'Ivoire estimated to be commissioned in 2019. The additional firm power will add resilience to the power sector in the context of highly seasonal climate and hydrological variability in Sierra Leone and pave the way for adding additional renewable generation, such as solar and hydropower. Together, imports from Cote d'Ivoire and the proposed Project will provide 84 MW of firm capacity to the network, which will still leave a supply shortfall in excess of 40 MW during the wet season and more than 60 MW during the dry season by 2019. This shortfall is expected to grow over time, leaving space for additional renewable generation both on the grid, as well as off-grid. The United Kingdom's Department for International Development for instance, is looking to support the GoSL in the development of off-grid renewable energy through their Africa Clean Energy Business Program.

C. Higher Level Objectives to which the Project Contributes

20. **Electricity supply has been identified as a key factor for supporting a post-EVD recovery of economic activity and job creation.** The WAPGP is a key component of the GoSL's strategy to improve the power supply in the Freetown Capital Western Area and reduce the high economic costs, and negative environmental impacts, of diesel-based self-generation for the country. Poor quality and insufficient electricity supply combined with the high cost of self-generation is a key constraint for private sector development and employment generation, which is ultimately a bottleneck for shared economic growth, and disproportionally affects poorer households who cannot afford to generate their own electricity. The Project is expected to provide electricity to about 578,000 beneficiaries at the time of commissioning in 2018 (Annex 1a). The Project supports the WBG's Twin Goals to the extent that it will improve power supply to promote shared prosperity and help reduce poverty by supporting economic activities and job creation in the commercial and industrial sectors. The Project has received the highest priority by the GoSL in its commitment to implement a robust post-EVD economic recovery plan (President's speech in July 2015) and is identified as a key deliverable in a recent 24-month recovery program to improve electricity supply. The Project will also serve as an important signal to other private sector investors.

21. **The Project is consistent with the most recent IDA, IFC, MIGA, and African Development Bank "*Joint Country Assistance Strategy (CAS) FY10-FY13 for Sierra Leone*".** It will contribute to Pillar 2: *"Promoting Inclusive Growth*" by focusing on results area 7: *"improving the standing of Sierra Leone as an investment destination, supporting job creation"* and results area 8: *"broadening electricity supply throughout the country"*. Efforts to expand electricity supply in Sierra Leone will only translate into improved electricity services if there is sufficient electricity generation, transmission and distribution capacity. The CAS identified

insufficient and unreliable electricity supply as a key barrier to improving the country's investment climate and as a binding constraint to economic growth.

22. The proposed operation is aligned with the Growth Pillar of the World Bank's *"Africa Strategy*" by contributing to reliable supply of electricity for growth and private investment as well as with the guiding principles outlined in the WBG's Directions for the energy sector *"Toward a Sustainable Energy Future for All"* in particular by seeking market solutions to leverage financial resources and help governments to foster private sector participation and investments.

23. **The proposed operation is part of a suite of WBG support and policy dialogue for the energy sector that is focused on improving the operational and commercial performance of the distribution utility.** Two energy projects, totaling, US$56 million, supported by the World Bank are currently under implementation in Sierra Leone. The EAP comprises US$16 million financed by the United Kingdom and Ireland through the Sierra Leone Infrastructure Development Fund. The EAP, which was approved in January 2013, is focused on capacity building, reducing losses in the Freetown Capital Western Area, and improving the commercial operations of the distribution utility. The ESURP, approved in December 2013, supports the operational performance of the distribution utility. As part of the commitment to improving the performance of the sector, the GoSL is in the process of appointing a management contractor for EDSA. ESURP will finance the management contract for a period of three years, as well as investments targeted at reducing network losses, enhancing evacuation capacity and improving quality of supply. The generation from the proposed Project will complement these ongoing efforts.

II. PROJECT DEVELOPMENT OBJECTIVES

A. Project Development Objectives

24. The Project Development Objective is to increase the power generated by independent power producers (IPPs) and mobilize private capital.

B. Project Beneficiaries

25. The beneficiaries of the Project are: (i) electricity consumers in the Freetown Capital Western Area, who will see improved reliability and increased availability of electricity services; and (ii) the GoSL, who will benefit from reduced imports of expensive diesel through the replacement of inefficient self-generation with an efficient heavy fuel oil (HFO) thermal plant. The proposed Project will displace less efficient fossil fuel thermal capacity and other residential fuels such as kerosene, and will contribute to greater energy sector resilience by supplementing highly variable and seasonal hydropower generation.

C. PDO Level Results Indicators

26. The PDO indicators are:

(a) Amount of electricity generated by the Project (MWh/year);
(b) Private sector capital mobilized (US$); and
(c) Indirect project beneficiaries/of which female (number/percentage).

III. PROJECT DESCRIPTION

27. **The Project is responding to an urgent need for generation capacity in Sierra Leone and is the most advanced power project currently under development in the country.** Diesel based generation is considerably more expensive, and renewable energy sources, such as solar or hydropower, require a stable network and are often variable during the day or over seasons. HFO based generation provides much needed reliable all year around base load power supply, and diversifies the current energy mix, which is mainly hydropower. The proposed Project combined with parallel investments to upgrade and stabilize the network will pave the way to adding additional generation, including renewables, to the network. The combined WBG instruments will leverage US$138 million of investment for the development of the proposed Project comprising a 57 MW thermal power plant, which is expected to reduce the supply-demand deficit in the Freetown Capital Western Area. Successful commissioning of the Project is expected to improve the availability of electricity services in the Freetown Capital Western Area.

A. Project Design

28. **The Project comprises the development, financing, design, construction and operation of a green-field thermal power plant running on HFO on a build- operate-transfer (BOT) basis.** CECA SL Generation Limited is the Project Company established in Sierra Leone by private sponsors, namely CEC Africa Investments Ltd (CEC Africa, 50.1 percent equity) and Tempus Constant Qualitas Power Ltd (TCQ, 49.9 percent equity) through CEC Africa (Sierra Leone) Limited, a Mauritius entity. The proposed investment was subject to the policy on the use of intermediate jurisdiction in WBG operations approved by the Board (IFC/R2014-0206), and was found to be acceptable (Annex 6).

29. **The Project Company is responsible for the implementation and operations of the Project under a 20-year Power Purchase Agreement (PPA).** While the PPA provides provisions for the possibility of expanding the capacity of the Project up to 128 MW at a later stage, the proposed WBG support is limited to the initial phase of 57 MW.

30. **The power plant will be located at the Kissy Industrial site to the east of Freetown and is expected to serve consumers in the Freetown Capital Western Area.** The land at the Kissy Industrial site, which is owned by the GoSL, is leased to the Project Company under a plant site lease agreement signed in March 2015 with a tenor of 26 years. The Project comprises:

(a) The installation of six reciprocating Wärtsilä engines (type Wärtsilä W20V32) using HFO, each rated at 9.5 MW nominal output;
(b) HFO storage tanks and water treatment facilities at the Kissy site;
(c) A new 33 kV indoor substation at the Kissy site;
(d) A reinforcement of the 8 km 33 kV transmission from Blackhall road to the Wellington substation to enhance evacuation capacity from the generation facility;
(e) Installation of additional 33/11kV transformers at the Blackhall road, Ropotee, and Wellington substations; and
(f) Construction of an approximately 1.3 km fuel pipeline and associated pumping station from a new jetty for the landing of the HFO to the Kissy site. The jetty is operated as a joint venture between GoSL and Addax.

31. **Construction of the Project will be undertaken under a turn-key Engineering, Procurement and Construction (EPC) contract and the commercial operation date (COD) is expected 18 months after the start of construction.** Wärtsilä, one of the largest and most reputable power equipment manufacturers globally, has been awarded the EPC contract and a 15-year operation and maintenance (O&M) contract for the Project (under negotiation) through an international tendering process.

32. **Fuel costs are a pass-through under the PPA, and BB Energy has been selected as the fuel supplier.** The Fuel Supply Agreement (FSA) will be entered into by the Project Company and BB Energy. The initial FSA term is expected to be five years and will be renewable for an additional five years. The Project Company, with agreement from GoSL, can elect to extend the FSA or undertake a new tendering process. Fuel for the Project will be transported via a 1.3 km pipeline from the landing jetty to the Project site. The pipeline will be constructed under the Project. The land lease and right-of-way agreements between the GoSL and the Project Company are being negotiated.

33. **The off-taker payment obligations under the PPA provide for a two-part tariff structure.** The capacity charge, which is based on available capacity, comprises: (a) a fixed rate set to cover the capital costs of the Project; and (b) a fixed O&M charge (subject to escalation for lube oil, as well as US and local Consumer Price Index (CPI) to cover operation and maintenance expenses of the Project. The Output Charge covers a variable fuel charge that will be passed through to the GoSL and EDSA.

B. Power Sector Reform Agenda

34. **The GoSL has committed to implementing a number of measures to improve the performance of the power sector, as described in the GoSL's Policy Letter to IDA dated June 1, 2016 (Annex 11).** The measures are designed to improve transparency and predictability of cash flows in the sector and to reduce the sector's subsidy requirements from the fiscal budget. Implementation of these measures will help EDSA, as the off-taker, meet the payment obligations under the PPA for the Project. The Bank will include a covenant in the Project Indemnity Agreement, between IDA and the GoSL, on the Policy Letter. The measures outlined in the GoSL Policy Letter to IDA comprise the following:

(i) **Reduction of system losses**. Reduction of technical and commercial losses will take place as a result of implementation of investments in the network and through the installation of automated metering infrastructure targeting EDSA's largest customers. The combined investments are estimated to reduce losses from the current level of 38 percent to about 26 percent by 2020 and maintain this level to 2022;[7]

(ii) **Management contract.** The management contract for EDSA will provide management, operational and capacity services for a duration of three years to improve the operational and commercial performance of the utility. The procurement process for the management contract has been completed and the contract is expected to be signed in the third quarter of CY2016;

[7] Losses are expected to be maintained at 26 percent until further investments can be confirmed.

(iii) **Exemption of HFO taxes for power generation within the electricity sector.** The exemption would apply to electricity generators who have a ratified PPA with EDSA and/or the GoSL. Implementation of such a fuel tax exemption would reduce the need for tariff increases and encourage large customers to switch from self-generation to EDSA supply;[8]

(iv) **Tariff adjustment to reflect the true cost of electricity to end consumers.** The GoSL has embarked on a process to assess the tariff structure that allows EDSA to recover its reasonable costs while creating incentives to reduce losses. Implementation of a tariff restructuring would allow the sector revenues to cover the costs, while at the same time improving the operational efficiency in the sector. The GoSL recognizes that the effective implementation of tariff increases can only be done once the power supply is improved and therefore aims to commence tariff increases for EDSA's larger customers once the Project is commissioned in early 2018. A simplified tariff structure is needed to help EDSA to reduce, and eventually eliminate, billing losses, costing about US$3-5 million annually in lost revenue. As part of a new tariff policy the GoSL has also committed to the implementation of an automatic tariff adjustment formula (ATAF) to allow EDSA to pass on changes in fuel prices and exchange rates to the electricity customers. Implementation of ATAF will require significantly improved capacity of EWRC and EDSA.

(v) **Electricity sector Collection Account arrangements.** The GoSL is committed to the establishment of a sector-wide Collection Account for all of EDSA's cash collections from electricity sales managed by an Independent Agent. The arrangements will include a pre-determined cash waterfall for prioritized payment obligations to ensure transparency and predictability in cash flows and subsidy requirements. The Collection Account is expected to be established by March 31, 2017.

(vi) **Availability of Foreign Exchange.** A large portion of EDSA's payment obligations will be denominated in foreign exchange by the time the Project is commissioned. In the event that foreign exchange is not available on the Sierra Leone commercial market, the GoSL is committed to making up for the shortfall to enable EDSA to honor its foreign exchange obligations.

(vii) **Budgetary support for the electricity sector.** The GoSL is committed to providing liquidity support to meet any cash shortfall to the sector-wide Collection Account in line with the design of the pre-determined cash waterfall.[9] The GoSL acknowledges that the uncertainties with respect to the price of fuel, foreign exchange rates and demand for electricity would affect the magnitude of the sector cash shortfall. The short fall would be addressed through allocations to a dedicated budget line item in the national budget.

35. The **Collection Account will be managed by an independent agent.** The principles for the Collection Account, and the cash waterfall arrangement thereunder, which have been agreed

[8] The MOFED is currently reviewing the requirements for legislative amendments to ensure that the fuel tax exemption can be made effective prior to the commissioning of the Project.
[9] The Collection Account was developed by the GoSL and its advisors, in consultation with existing stakeholders in the sector, including the WBG and lenders to the Project.

between GoSL and EDSA, are reflected in the Collection Account term sheet attached to the Policy Letter. The Project, which forms part of the cash waterfall identified under the Collection Account, will sell its entire power capacity and output to EDSA under a 20-year PPA, under which the GoSL and EDSA are jointly and severally liable for off-taker performance. The GoSL will at the beginning of each annual budgetary period contribute funds sufficient to cover any estimated annual sector shortfall directly into the Collection Account, including any amounts required to meet EDSA and GoSL's payments obligations under the Project PPA. During each such budgetary period, GoSL contributions are expected to be adjusted in accordance with actual payment obligations under the Collection Account's defined cash waterfall.

C. Project Costs and Financing

36. **The total financing requirements of the Project are estimated at US$138 million** which includes EPC cost, contingencies for over-runs, development fees, owner's costs, financing costs, and pre-funded reserve accounts as required under the financing documents. The estimation for breakdown of the Project cost and financing plan is shown in Table 1 below.

Table 1: Project Costs and Financing Sources[1]

Project Cost	US$ Millions	%	Financing Plan	US$ Million	%
EPC	69.7	50.5%	Equity	34.5	25%
Contingencies	5.2	3.8%			
Development Costs[2]	23.9	17.3%			
Development Fee	5.5	4.0%			
Generator's Costs[3]	4.8	3.5%	Debt (from DFIs)	103.5	75%
O&M Mobilization	1.2	0.9%			
Financing Costs	9.3	6.7%			
Reserve Accounts	18.4	13.4%			
Total	**138.0**	**100%**	**Total**	**138.0**	**100%**

[1] Project costs are finalized at financial close.
[2.] IFC has conducted due diligence on the development cost spent by the sponsors until June 2014, for the preceding three years. These costs have been audited, and ongoing costs are being monitored by IFC.
[3] Generators costs are Project Company costs that are not included in the EPC. This would include engineering (staff paid by owner to give third party advice and to oversee/evaluate the work of the EPC contractor).

37. **The Project will be financed on a limited recourse basis and the proposed debt to equity ratio is 75:25.** This debt to equity ratio is consistent with similar projects in the region. The private sponsors will provide US$34.5 million of equity to the Project Company which will be injected into the Project prior to senior debt. It is envisaged that the Project's senior debt will be solely from Development Finance Institutions (DFIs) due to the high risks perceived by private lenders towards this first sizable IPP Project in Sierra Leone. The debt will be arranged by IFC in its capacity as the Project Mandated Lead Arranger (MLA). The other DFIs involved include African Development Bank (AfDB), Commonwealth Development Community (CDC), Emerging Africa Infrastructure Fund (EAIF) and Netherlands Development Finance Company (FMO). All lenders have received approval from their credit committees.

D. World Bank Group Instruments

38. **The proposed Project will be supported by the WBG through an IDA Guarantee, IFC Investment Loan, and a Multilateral Investment Guarantee Agency (MIGA) Guarantee.** It is proposed that IDA provide a payment guarantee of up to US$40 million, to support certain payment security obligations of EDSA and the GoSL under the PPA. The proposed IDA Guarantee is designed to mitigate the perceived low creditworthiness and lack of timely payment track-record risks of the newly established state-owned power off-taker, EDSA, as well as the risk of non-performance by GoSL of its joint and several contractual obligations, as the co-signer, under the PPA. IFC will extend an A Loan of up to US$30 million and serve as MLA to help mobilize the balance of the senior debt (estimated to be US$73.5 million) from other DFIs for the Project. Additionally, IFC will also provide the Company with an interest rate swap with a notional amount of up to US$112 million (100 percent principal value of the senior loan to be provided by IFC and other lenders) representing a Loan Equivalent Exposure of up to US$3 million.[10] Such interest rate swap transaction would allow the Project Company to hedge the interest rate risk associated with the floating rate US$ denominated loans. MIGA would provide a guarantee of up to US$60 million covering equity, the shareholder loan, and future retained earnings against the risk of Transfer Restriction, Expropriation, War and Civil Disturbance, and Breach of Contract.

IDA Guarantee

39. The proposed IDA Guarantee will support EDSA and GoSL's payment security obligations under the PPA by guaranteeing repayment of a commercial standby revolving Letter of Credit (LC) that EDSA and GoSL will make available to the Project Company. The proposed IDA Guarantee and payment security LC are designed to: (i) provide liquidity to the Project; (ii) help the Project avoid premature termination in case of non-payment of the off-taker's periodic payment obligations under the PPA; and (iii) provide credit enhancement if certain off-taker/GoSL termination events occur. The LC will be issued by a sufficiently credit-worthy, qualified, commercial bank, on behalf of EDSA and GoSL, for the benefit of the Project Company. The LC may only be drawn by the Project Company upon the occurrence of certain pre-agreed events under the PPA. The 15-year term of the LC is expected to match the loan tenor under the Project's debt financing.

40. **The proposed IDA Guarantee is a "payment guarantee" to protect the commercial LC bank against the risk of non-payment by EDSA/GoSL under the LC Reimbursement and Credit Agreement (RCA).** The US$40 million was sized to approximate capacity and output charges for a six-month period. The Project sponsors, lenders, and the commercial LC bank consider the proposed IDA Guarantee coverage indispensable to reaching successful financial closure of the Project.

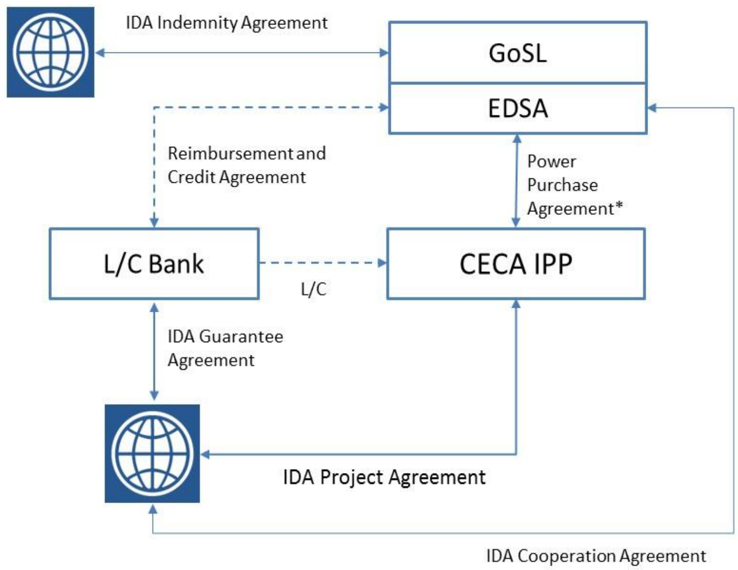
41. **In the event there is a draw under the LC, the amounts drawn will be converted into a loan by the LC bank, to EDSA/GoSL, subject to repayment in accordance with the terms of the RCA to be concluded between EDSA, GoSL, and the LC bank**. Under the RCA, EDSA/GoSL will be obligated to repay the LC bank loan, plus accrued interest, within 12 months (the reimbursement period). The proposed IDA Guarantee will guarantee repayment of the LC bank loan, plus accrued interest, by EDSA/GoSL. If EDSA/GoSL repay the LC bank loan within

[10] The Loan Equivalent Exposure is an estimate of the average future market-to-market exposure of the swaps.

the reimbursement period, the amounts drawn under the LC will be reinstated. If EDSA/GoSL fail to repay the loan within the reimbursement period, the LC bank would have direct recourse to the IDA, under the IDA Guarantee Agreement, for the LC bank loan amount, plus accrued interest. Any amount paid by IDA to the LC bank under the IDA Guarantee would be deducted from the available LC amount and not reinstated. The event of a drawdown on the LC would result in an equivalent amount being counted against the debt ceiling agreed with the International Monetary Fund (IMF) under the Low Income Country Debt Sustainability Framework (DSF).

42. **EDSA/GoSL conducted a competitive bidding process to receive proposals from interested qualified LC banks**. Two proposals were received and following evaluation Société Générale selected as the LC bank for the transaction. The LC bank selection was based on (i) a minimum credit rating criteria; (ii) willingness to offer the required 15-year tenor; (iii) a pricing proposal; as well as experience in (iv) African structured finance; and (v) World Bank guarantee operations. All applicable LC fees and IDA Guarantee fees are payable by the Project Company, as the LC beneficiary. The proposed IDA Guarantee Structure is shown in Figure 1.

Figure 1: Guarantee Structure



*PPA will also include provisions on the Support Agreement

43. The indicative terms for the proposed IDA Guarantee are in Annex 8.

IFC Investments

44. The proposed IFC investment consists of an A Loan of up to US$30 million to CECA SL and an interest rate swap with an estimated Loan Equivalent Exposure of up to US$3 million.

IFC Economic Capital

45. The economic capital exposure for the proposed IFC investment is US$6.6 million. IFC's economic capital exposure in Sierra Leone, as of May 2016, is US$5.5 million. Prior to this Project, IFC's exposures to the sponsors, CEC and TCQ, was nil.

MIGA Guarantee

46. **The proposed MIGA Guarantee will cover 90 percent of the equity investment into, shareholder loan to, and future retained earnings in CECA SL for a period of up to 15 years.** The MIGA Guarantee will cover the risks of Transfer Restrictions, Expropriation, War and Civil Disturbance, and Breach of Contract covering certain GoSL's contractual obligations under the PPA. MIGA's gross and net exposure under this Project would be up to US$60 million and US$55 million, respectively. US$5 million of the gross exposure will be borne by MIGA's Conflict Affected and Fragile Economies Facility (CAFEF).[11]

[11] The CAFEF is a MIGA-administered donor supported trust fund that seeks to catalyze FDI into fragile and conflict situations. The Facility was presented to the MIGA Board on April 4th, 2013 (MIGA/R2013-0022 and MIGA/R2013-0022/1).

47. A summary of the coverage and underwriting structure is provided in Table 2 below.

Table 2: MIGA Coverage and Underwriting Structure

US$ million	Term of Contract (years)	Transfer Restriction	Expropriation	War & Civil Disturbance	Breach of Contract
Equity, shareholder loans and future retained earnings[1]	Up to 15	Up to 67	Up to 67	Up to 67	Up to 67
Total MIGA (gross)		Up to 60	Up to 60	Up to 60	Up to 60
Facultative reinsurance		N/A	N/A	N/A	N/A
Treaty reinsurance		N/A	N/A	N/A	N/A
CAFEF		5	5	5	5
Total MIGA (net)		Up to 55	Up to 55	Up to 55	Up to 55

[1] MIGA coverage will extend to principal only.

48. **The proposed equity investment (including future retained earnings) is eligible for coverage as a cross-border investment pursuant to Articles 12(a) of the MIGA Convention (Convention) and Paragraph 1.04(i) of MIGA's Operational Policies (OPs).** The proposed shareholder loans are eligible for coverage pursuant to Article 12(a) of the Convention and Paragraph 1.05 of the OPs since the loans will have a tenor of more than one year. Since the structure of the proposed shareholding loans is still being negotiated, MIGA requests approval by the Board pursuant to Paragraph 1.04(vi) of the OPs to obtain the flexibility to cover the shareholder loans as quasi-equity, as the Board has approved for previous transactions in the Democratic Republic of Congo, the Federal Republic of Nigeria, the Republic of Honduras, and the Republic of Turkey.[12] Coverage of the proposed equity investment, shareholder loans, and future retained earnings are all eligible for coverage as new and existing investments pursuant to Article 12(d) of the Convention and Paragraph 1.13(a)(i) of the OPs since a substantial portion of the investment will have been disbursed after MIGA's receipt of the definitive applications dated April 22, 2015.

49. CECA Africa (Sierra Leone) Limited is an eligible foreign investor (as a limited liability company formed under Mauritius law and based in Mauritius) pursuant to Article 13(a)(ii) of the Convention and Paragraph 1.17(b)(i) of the OPs.

50. MIGA has reviewed the Project and concluded that it is expected to comply with MIGA's Performance Standards and other relevant guidelines.

Risk Allocation

51. The allocation of commercial, technical and political risks between EDSA/GoSL and the Project Company under the PPA is consistent with industry standards in a limited recourse project financing in similar challenging countries and sector environments, whereby risks are allocated to the party best able to mitigate them (i.e. project development, financing, construction delays/cost overrun, plant availability, and O&M are under the responsibility of the Project Company).

[12] MIGA/R2015-0102, MIGA/R2014-0023 MIGA/R2014-0098, MIGA/R2014-0093 and MIGA/R2015-0045.

52. The allocation of key risks among the Project sponsors, lenders, EDSA and GoSL is summarized in Table 3 below, including the risks that are expected to be mitigated by the proposed IDA guaranteed payment security LC, and the MIGA Guarantee. The Project sponsors and lenders will assume the pre-construction, and most of the construction, and O&M risks. The construction and operation risks will be mitigated by securing a fixed price, turnkey EPC contract, and O&M contract with a reputable, experienced contractor (Wärtsilä). Fuel supply is the responsibility of the Project Company, which bears the risk of non-performance of its obligations with respect to procurement and delivery of fuel. However the fuel price is passed-through to EDSA and GoSL who also bears the risk of fuel unavailability not caused by a failure of the Project Company to perform its obligations. The off-taker will also bear the risk of political force majeure events and other off-taker Risk Events (e.g., unavailability of the grid). If any such event occurs, net dependable capacity will be deemed available, but the off-taker will not be required to pay the Output Charge for output which is not actually delivered. The PPA includes customary termination provisions, with termination compensation amounts that differ depending on the termination trigger event. GoSL, as co-signer of the PPA with EDSA, effectively backstops the performance of EDSA. MIGA will cover GoSL's obligations under the PPA with the Breach of Contract, provided that a final and binding arbitration award or judicial decision has been rendered in favor of the Project Company and cannot be enforced against GoSL. MIGA also covers the risks of currency transfer restriction, war, and civil disturbance as well as expropriation for the Project Company.

Table 3: Risk Allocation

Phase	**Risk***	**Contractual Responsibilities**			
		Sponsor and Lenders	**EDSA/GoSL**	**IDA**	**MIGA**
Pre-construction	Project design	X			
	Debt and Equity Funding	X			
Construction	Cost Overrun	X			
	Delays in Construction	X			
Operation	Operation & Maintenance	X			
	Fuel supply	X	X		X
	PPA payments (capacity, output, and other invoiced amounts)		X	X	X
During PPA	Currency depreciation		X		
	Convertibility and Transfer		X	(X)	X
	Political Force Majeure		X	X	X
	Change in Law		X	X	X
	Expropriation		X	X	X
	Natural Force Majeure	X	X	(X)	(X)

*Risks in parenthesis is subject to negotiation.

Summary Key Milestones

53. Key agreements under the Proposed Project are at advanced stages of negotiation. The term sheet for the Collection Account has been agreed in principle and the work on the operations manual is at an advanced stage. The GoSL expects to have the operations manual adopted by the

independent agent in August 2016, and have entered into agreement with the Collection Account Bank by end of March 2017. Table 4 shows the current status of the key milestones under the Project.

Table 4: Project Key Milestones

Key Milestones	Responsible Parties	Current Status
Signing of revised PPA	GoSL, Sponsor	In final draft
Signing of EPC & O&M Agreement	Sponsor	In final draft
Signing of Fuel Supply Agreement	Sponsor	In final draft
Signing of Sponsors Share Purchase and Retention Agreement	Sponsor	Advanced draft
Signing of Jetty Usage Agreement	GoSL	Ongoing negotiation
Signing of Core Finance Documents	Lenders, Sponsor	Final negotiation
Commencement of Construction	Sponsor	Commencement in Q3/Q4 2016
Establishment of Sector Collection Account	GoSL	Term sheet agreed
Start of Commercial Operation (COD)	Sponsor, GoSL	Q1 2018

Project Additionality

54. **The Project is responding to an urgent need for increased generation capacity in Sierra Leone**. To source the Project's debt component, the Project sponsors have sought risk mitigation and credit support from IDA, to leverage financing from DFIs. This is primarily due to the lack of interest expressed from international commercial banks to fund a limited recourse infrastructure project with long gestation time in a challenging country environment such as Sierra Leone. IDA has extensive support funding Sierra Leone's power sector, as such was able to provide comfort to DFIs (e.g., AfDB, CDC, EAIF, and FMO) with recent experience of funding the Addax project in Sierra Leone (i.e., a captive power plant with a portion of available power production made available for the grid). MIGA's Guarantee together with IDA enables the project sponsors' investment in the sector, and in a country where long term political risk insurance is not available in the private market. As such, IDA, together with IFC and MIGA, are playing an active leadership role, sharing their expertise in the country and in the sector.

55. The WBG's expected forms of additionality in the Project, their timing, and indicators are summarized in Table 5.

Table 5: World Bank Group Expected Additionality

Type of Additionality	Expected Role	Description	Indicator	Timing
Financial	Provision of Long Term Investments and Financing	IFC will provide long term financing, which will improve the viability of the Project by matching its long term nature while maintaining a reasonable impact on tariff levels. The 14 years tenor is expected to create a precedent in the market and "set the bar" for following transactions. MIGA will cover long-term investments for the Project.	IFC provides 14-year door to door tenor senior loan with a 2 year grace period. MIGA provides equity and shareholder loans cover.	At Disbursement
	Mobilization	In addition to its own investments and guarantees, WBG is playing an anchor role in mobilizing long term financing from other DFIs.	US$40 million IDA guarantee and IFC A Loans and parallel loans for the balance of the senior debt.	At Disbursement
	Arranging and implementation of a bankable structure	WBG is best placed to help the Project Sponsors fast track the implementation of a bankable structure and address GoSL's timing expectation.	Compliance of the Project with industry practices.	At Financial Close
	IDA Guarantee Cover Support	IDA will provide a "payment guarantee" to enable the establishment of the LC by a commercial bank. The IDA guarantee will protect the LC commercial bank against the risk of non-payment by EDSA/GoSL.	IDA Guarantee of up to US$40 million backstopping the liquidity payment from EDSA, fuel payments and certain termination events under the PPA.	Over the life of the senior loan
Non-Financial	Power Sector expertise	WBG brings extensive knowledge and expertise of power IPPs following its long time involvement in the sector in Sub-Saharan Africa. WBG will ensure that the contractual structure allows for optimal risk sharing among stakeholders.	IFC is Documentation and Technical Bank in the transaction. IDA and MIGA provide risk mitigation and guarantees. IDA is leveraging its longer term engagement in the sector.	Over the Life of the Project
	Environmental and Social expertise	WBG supports the Project Company in its adoption and compliance with WBG's Performance Standards.	Compliance with WBG Performance Standards.	Over the Life of the Project

E. Lessons Learned and Reflected in the Project Design

56. **Lessons learned from the ongoing IDA operations in Sierra Leone have been incorporated into Project design**. This particularly concerns ensuring that all involved parties fully appreciate the requirements, the impact and the risks of the proposed operation in advance of Project approval. The EAP provided support for transaction advisors to the GoSL and EDSA to

ensure that there is adequate representation in the preparation and negotiations of the Project, and assisted the GoSL in the preparation of the sector financial forecasts, and the design of the sector-wide Collection Account to allow the GoSL and EDSA time to address projected sector cash shortfalls.

57. **Generation facilities require robust operations and maintenance capacity.** The current capacity for operations and maintenance of power plants in Sierra Leone is weak resulting in high losses, operational inefficiencies, and high cost operations. The Project will be managed and operated by an experienced O&M contractor, Wärtsilä. The Project's PPA ensures that there is sufficient discipline for the Project Company to deliver the stipulated capacity and output.

58. **Lessons learned from the World Bank Group's experience with IPP projects, in particular those in challenging IDA countries, have been incorporated into Project design**. Deploying WBG instruments in an optimal manner can mobilize project financing even in difficult and high risk countries. Recent WBG supported projects include IPPs in Senegal, Nigeria, and Kenya. In these operations, the IDA payment guarantees de-risked the projects through the covering of the off-taker risk, helped the country attract investors and lenders, and facilitated participation of IFC and MIGA. The proposed IDA guarantee operation has incorporated experience from these joint operations, and further built on this experience through the harmonization of respective instruments and due diligence activities to enhance efficient WBG collaboration.

59. **IPPs require a robust utility with an established track-record – or risk mitigation for off-taker risks.** The proposed IDA guarantee operation and payment security LC will help mitigate risks associated with EDSA being a new off-taker without a history of successful operations. It will also form the basis of ongoing sector dialogue to support other private sector investment through sector reform and utility turn-around. The power sector in Sierra Leone has undergone a process of unbundling and EDSA is yet to achieve a track-record of contractual performance. To assist EDSA in establishing a credible track-record, the GoSL has committed to providing liquidity support to EDSA, through a sector-wide Collection Account, designed with the support of the WBG to cover estimated sector cash short falls expected to occur for the foreseeable future.

60. **Project sponsors need to have a long term perspective for the success of an IPP.** Successful Project sponsors need to have technical and financial strength, as well as a longer term perspective of their engagement in the sector. CEC Africa was established to develop and operate power infrastructure projects across Sub-Sahara Africa and covers the full value chain of the power sector (generation, transmission and distribution) with investment experience in other countries in Africa. Although, TCQ is a relatively new company with the objective of acquiring, building, developing and operating power projects in Africa, it has a senior management team with extensive EPC experience and strong local knowledge owing to three to four years of engagement in Sierra Leone. The proposed Project will be the first power project developed by TCQ.

61. **The proposed IDA payment guarantee structure has a proven track record of mobilizing private investments and is an efficient mitigant of the payment risks associated with state-owned off-takers and governments which have yet to establish a track record of contractual performance towards private sector projects.** The IDA-guarantee LC has been a cost efficient risk mitigation instrument for IDA countries wanting to mitigate contractual counter-

party risk perceived by project financiers. In the case of a payment delay, the IDA-guaranteed LC would provide valuable time for the off-taker and the Government to resolve any liquidity issues while avoiding payment default and early termination. Thus, the IDA-guaranteed LC is designed to ensure the continuous operation of the power plant during what would otherwise be a disruption period.

62. **Guarantees constitute an efficient and leveraged use of limited IDA resources in light of limited donor financing for infrastructure investments compared to the large investment needs.** The proposed IDA guarantee of up to US$40 million is offered by using an allocation of only US$10 million from Sierra Leone's IDA country envelope. The proposed IDA guarantee operation will leverage approximately US$138 million in investments from development finance institutions and private project sponsors.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

63. **The Project is being developed by CECA SL, the Project Company, established by the private sponsors.** The CECA SL will have overall responsibility for the development, design, financing, construction and operation of the power plant and will sell its entire power capacity and output to EDSA. The Project Company will enter into an EPC contract and an O&M contract with Wärtsilä, and a FSA with BB Energy. The selection of the fuel supplier has been concurred by the GoSL/EDSA. The Project Company will be responsible for managing logistics for fuel arrangement, and taking limited fuel supply risk as fuel price will be charged back to the off-taker on a pass-through basis and fuel delivery risk is allocated to fuel supplier.

64. **There are ongoing discussions with respect to the Project Company's shareholdings. It is expected that the CEC Africa Investment Ltd equity shareholding in the Project Company will be transferred to a new investor of equal or greater credit quality.** Negotiations are currently taking place between TCQ, CEC Africa and an identified, potential new sponsor with whom the Bank and IFC has previous experience. Prior to effectiveness of the proposed IDA guarantee, the proposed IFC investments, and the proposed MIGA guarantee, the exact sponsor shareholding will be confirmed and appropriate due diligence undertaken.

65. **EDSA, as off-taker, and the GoSL, as co-signer of the PPA, are jointly and severally liable for off-taker performance.** EDSA was legally established by the Electricity Act (2011) when the vertical integrated utility, National Power Authority, was unbundled. However, delays in the reform process resulted in EDSA not becoming operational until January 2015. EDSA has a Board of Directors whose members are appointed by Parliament and represent both the private and the public sector in Sierra Leone. EDSA currently has about 500 staff that were transferred from the NPA. The utility is not financially sustainable and relies heavily on subsidies from the GoSL. It is expected that the management contractor will help make the utility more independent in its day-to-day operations and improve the operational and commercial performance.

66. **The GoSL has committed to the establishment of a sector-wide Collection Account, including an established cash waterfall for prioritized payments.** To ensure that contractual payment obligations are prioritized by EDSA in accordance with the established cash waterfall, the Collection Account will be managed by an independent agent, to be procured and appointed

by the GoSL. All EDSA's revenue collections from electricity sales, and GoSL's liquidity support for sector cash flow shortfalls will be deposited into, and managed through, the Collection Account. The GoSL is in the process of drafting and agreeing on a term sheet for the Collection Account, outlining the principles for the cash waterfall as well as the timing for establishment and operationalization of the Collection Account. It is expected that the Collection Account, and cash waterfall priorities set forth therein, will be approved by Parliament through an addendum to the existing Electricity Act (2011) during 2016. The Collection Account is expected to be operationalized by no later than December 2017.

B. Results Monitoring and Evaluation

67. Monitoring of project outcomes and results indicators will be undertaken by the private Project sponsors. The private sponsors and the GoSL, through the Ministry of Energy, will be responsible for preparing and submitting progress reports to IDA, IFC, and MIGA, as required under the IDA Project and Indemnity Agreements as well as those reports and materials required under the IFC Loan Agreement and the MIGA Contract of Guarantee respectively. Annex 1 presents the results frameworks for the Project.

C. Sustainability

68. **Long-term, efficient operation of the power plant under the 20-year PPA is ensured by the private project sponsors.** With an international credible and experienced O&M contractor, the risks to maintenance are considered small. Fuel supply is expected to be covered for an initial FSA period of five years and is renewable for an additional five years. Thereafter, the Project Company, with agreement from GoSL, can elect to extend the FSA, or undertake a new tendering process.

69. **The financial sustainability of the Project is exposed to a high risk country and a newly established off-taker, EDSA, with limited capacity and no track record of successful contract performance.** EDSA's weak capacity is expected to be mitigated by the engagement of a management contractor who will build capacity for the operations and commercial functions of the distribution utility. A financing gap for the sector is projected for the foreseeable future. The GoSL has committed to providing fiscal liquidity support through the sector-wide Collection Account, to be established by GoSL in accordance with its Policy Letter to the World Bank (Annex 11).

70. **The sustainability of the Project will depend on a combination of measures to improve sector performance and the fiscal space available to provide liquidity support to the sector.** The measures to improve sector performance includes investments aimed at reducing technical and commercial losses, tariff increases once reliable power has been restored, and improvements in the management of EDSA. The GoSL has also confirmed that it will waive fuel taxes on HFO generation to help reduce the financing gap. The fiscal position of the GoSL is expected to remain fragile and highly dependent on concessional borrowing from the International Monetary Fund (IMF), IDA, and donor budget support in the foreseeable future. The outlook for the economy is uncertain and highly dependent on iron ore prices.

71. **The IDA Guarantee is designed to provide mitigation for risks.** As the off-taker is currently not allowed to pass on changes in fuel prices and exchange rates to the retail tariff an

increase in fuel prices, or a depreciation of the Leone, will deepen the sector's financing gap, and increase the magnitude of GoSL liquidity support required. In the event that EDSA and the GoSL are temporarily unable to meet their joint and several, ongoing, periodic payment obligations under the PPA, the IDA-guaranteed LC, provided as payment security under the PPA, functions as a buffer and provides needed liquidity and time to resolve possible payment issues.

72. **Access to reliable power supply from the network will reduce the cost of expensive and inefficient diesel generation.** This will be achieved through the replacement of self-generation, which will reduce cost of power for consumers.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

Table 6: Risk Ratings

Risk Category	**Rating**
1. Political and Governance	High
2. Macroeconomic	High
3. Sector Strategies and Policies	High
4. Technical Design of Project	Substantial
5. Institutional Capacity for Implementation and Sustainability	High
6. Fiduciary	High
7. Environment and Social	Substantial
8. Stakeholders	High
9. Other	N/A
OVERALL	**High**

B. Overall Risk Rating Explanation

73. The overall risk of the proposed operation (Table 6) is rated high for reasons explained in the following paragraphs.

74. **Political, governance, and stakeholder risks**. The Project will be operated in a complex stakeholder environment. While Sierra Leone has experienced political stability since the end of the civil war, the country faces major challenges of weak governance, widespread poverty and systemic corruption. While there has been some indications of positive political will to tackle the governance challenges in recent years, Sierra Leone still ranks 119 of 175 countries on the Transparency International Corruption Perception Index. In this environment, the roles, responsibilities and relationships between the MoE, MOFED, other ministries, and the President's Office are often not clear. In addition, the relationship between the MoE and EDSA is particularly complex at a time when reforms are being implemented to increase EDSA's autonomy. The dependence of EDSA on the GoSL for subsidies enforces the complex relationships. The strong relationship between the Project sponsors and the GoSL will serve to mitigate some of these risks.

With expected commissioning of the Project in early 2018 all major construction activities are expected to be completed well in advance of the elections scheduled for 2018. However, the elections may impact on the political will to increase tariffs or undertake other reforms at the time of commissioning of the Project, with resulting impact on the cash shortfall for the sector.

75. **Macroeconomic risks**. The Project will operate during a fragile recovery from EVD with uncertain short and medium term growth prospects. The country's debt sustainability situation is projected to remain within moderate risk of debt distress. The fiscal budget is expected to remain heavily dependent on commitments by development partners. The proposed Project would not be subjected to the DSF, and will therefore not be contributing to the external debt ceiling under the IMF's Debt Limits Policy. However, in the event of a payment default of the PPA obligations and a draw on the LC established for the Project, the equivalent amount would be counted against the external debt ceiling. The current weak economic outlook for Sierra Leone combined with the fact that EDSA's revenue is in SLL while over 75 percent of its costs will be denominated in foreign exchange highlights the sector's exposure to local currency depreciation. Fuel price hikes also constitute a major risk as these costs are transferred to the off-taker. The risk of foreign exchange and fuel price changes can be mitigated through an automatic tariff adjustment mechanism that normally implies that the tariff would be adjusted every quarter based on transparent formulae laid down in regulation. Through such a mechanism EDSA would pass through currency depreciation and fuel price risks to the consumer, normally within pre-determined ranges. While there is currently no mechanism in place for EDSA to recover cost increases associated with currency depreciation and fuel price changes through the retail tariffs, the GoSL has in its Policy Letter committed to establish an ATAF to allow EDSA to pass changes in fuel prices and exchange rates to electricity consumers. In order to set up an ATAF, a broader tariff methodology would need to be put in place, and the capacity of the EWRC would have to be strengthened. Donors such as the Millennium Challenge Corporation are preparing to support capacity building of EWRC for tariff setting.

76. **Sector risks**. While there is strong political commitment to the Project, the Project faces high sector risks. The sector is already heavily dependent on GoSL subsidies, and the need for subsidies is likely to grow over time, particularly if urgent policy reforms and investments are not undertaken. As the financial analysis shows (Section VI), depending on the various scenarios of policy reform implementation, the annual cash deficit for the sector may range between US$3 million and US$39 million over the medium term. A first set of risks is related to the timely and comprehensive implementation of the measures to address the performance of the power sector, and in particular, the financial sustainability of the off-taker, EDSA. In its Policy Letter to the Bank, the GoSL has identified the following measures to address the performance of the sector: tariff restructuring, introduction of an ATAF, introduction of a fuel tax exemption for HFO generation, the establishment of a sector-wide Collection Account, and the appointment of a management contractor for EDSA to improve the performance of EDSA. These measures would be combined with investments to reduce overall distribution losses. The GoSL also commits to provide liquidity support for any cash shortfall in the Collection Account. While the proposed measures will help improve the sector performance and the sustainability there is a significant risk that there will be delays in implementation or that measures will not be fully implemented due to a capacity constraints and the complex stakeholder environment in Sierra Leone. Such delays will lead to increases in the cash shortfall for the sector and thus places an increased burden on the fiscal budget. As the financial analysis shows (Section VI), depending on the various scenarios of

policy reform implementation, the annual cash deficit for the sector may range between US$3 million and US$39 million over the medium term. The financial projections show a sharp increase in the cash shortfall at the time when the Project is commissioned. Assuming timely implementation of all planned policy measures, the shortfall will reduce up to 2020, when it will start increasing again if no further reform measures are taken and losses remain stagnant at 26 percent.

77. **Project risks.** A second set of risks is related to the timely implementation of investments to ensure that fuel can be received by the Project, and the energy produced by the Project can be transmitted and distributed to paying customers. The GoSL is responsible for securing access to a new fuel jetty to receive timely delivery of fuel. The 11 kV lines in the greater Freetown grid are currently overloaded. Ongoing and planned investments in the distribution network financed by IDA and development partners, particularly the completion of a 33 kV loop in Freetown, will help mitigate the risk that the additional energy produced by the Project would result in additional network losses. Investments have been identified to target technical and commercial loss reduction to reduce the cost of supply. However, the implementation capacity of EDSA is weak, and while capacity constraints would be addressed under the proposed management contract, there is still a significant risk planned investments in the network would face delays. Delays in the completion of the transmission line from the plant to the electricity grid and ongoing distribution upgrade works along the Blackhall road undertaken by the GoSL with IDA financing poses an interface risk impacting the evacuation of power to the network. In the event that the network is unable to absorb all the power generation from the Project, EDSA and GoSL would have to pay for capacity charges but only be able to deliver a portion of the energy produced. A second interface risks relates to the fuel usage agreement between the Project sponsors and concessionaire for the new jetty. Discussions are ongoing on an agreement of the use of the new jetty, which was completed in January 2016 for fuel imports. Timely agreement on the use of the jetty is critical for the delivery of fuel at the Project site. Even though there are alternatives, these would incur additional costs to the GoSL and EDSA.

78. **Climate and disaster risk**. The Project has been screened for climate and disaster risks, and is not expected to contribute to increasing such risks or be affected by climate risks that Sierra Leone may be prone to. The "Climate Change Potential Review", included in the Environmental, Social, and Health Impact Assessment (ESHIA) scoping report, concluded that there will be no significant climate change effects. The plant site is located >15 meters above sea level and 500 meters inland. Climate change effects for the Project are therefore limited to lesser implications such as changes in rainfall frequency/intensity and minor temperature change implications for engine efficiency. The Project design included adaptation measures to address this risk, such as additional capacity for the drainage design in addition to appropriate engine selection. The Project is expected to generate a modest net GHG emissions of 100,011 tonnes per CO_2 per year.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analyses

79. **The Project will be financed through a combination of private sector equity investment, and debt financing from DFIs.** This will be the first sizable IPP for the power sector in Sierra Leone. The country is regarded as high risk by commercial lenders and the absence of a credible off-taker with an established track record of contract performance, combined with a sector

that is not financially sustainable for the foreseeable future, is not conducive to attracting commercial lending. DFI's lenders have advised that they would not be able to support the proposed Project without the proposed IDA guarantee, and have stipulated it as a required feature under the PPA between the Project Company, the GoSL, and EDSA. The economic and financial analyses uses HFO and diesel prices calculated based on the World Bank's January 2016 oil forecast for the period 2015 to 2025, after which the oil prices have been kept constant. The cost estimates for the Project have been provided by the Project sponsors and assessed by IFC. Relevant connection costs to the network related to the Project as well as new customer connections are based on World Bank estimates.

Project Economic Analysis

80. **The economic analysis yields a Net Present Value (NPV) of US$492 million and an Economic Internal Rate of Return (EIRR) of 39.3 percent using a discount rate of six percent.** This high EIRR results mainly from the high economic cost of self-generation that will be displaced by the Project. In the absence of any viable alternatives, the social cost of carbon was not applied to the economic analysis. GHG emissions of the Project have been assessed, consistent with the Guidance Manual for Greenhouse Gas Accounting for Energy Investment Operations of the World Bank, which uses a net GHG accounting approach harmonized with other International Financial Institutions. The net GHG emissions of the Project are estimated at 100,011 tonnes CO_2 per year.

81. **The EIRR is robust with respect to changes in key assumptions and risks.** An increase in the price of crude oil would increase the EIRR as it increases costs of self-generation (diesel) more than it affects the energy charges (HFO) of the IPP. A 10 percent reduction in benefits reduces the EIRR to 32.8 percent and a 12-month delay of the Project would bring the EIRR to 32.7 percent, and a reduction in the load factor from 82.4 percent to 50 percent for the initial two years of operation would reduce the EIRR to 33.4 percent. A combination of all these adverse events would reduce the EIRR to 25.7 percent.

Project and Sector Financial Analysis

Project

82. **Provided that the Project Company manages construction and operation risks so as to make the plant dependable at the agreed firm availability level under the PPA, the forecasted cash flow of the Project is adequate to cover debt service payments to the lenders and allow equity returns to the private project sponsors, commensurate to the Project risks as assessed below.** The debt service coverage ratios over the life of the Project required by the lenders are relatively high and reflect the lenders concerns for the lack of track record of the EDSA/GoSL as the off-taker, even with the proposed IDA-guaranteed LC arrangement. The level of sponsor FIRR is considered in line with recent projects of similar nature in the region.

Sector

83. **The power sector in Sierra Leone is fragile and suffers from capacity constraints and unpredictable and inadequate financing.** Despite relatively high average tariffs of US$0.22 per kWh in 2015, the electricity sector is not recovering its costs and both EDSA and EGTC remain heavily dependent on GoSL subsidies for operational expenses. The sector cash flow projections depend largely on the assumptions used for the pace of sector reforms and network investments.

Given the risks and uncertainties facing the sector, a range of scenarios were developed to assess the financial performance. The financial projections show that the sector will require substantial subsidies to meet its ongoing payment obligations and maintain the network in the coming years. The magnitude of the shortfalls for the sector and the requirement for GoSL subsidies will largely depend on the implementation of the policy measures outlined in the GoSL Policy Letter.

84. **Three sets of scenarios have been used to estimate the cash flow projections over time with varying (a) pace of policy reforms; (b) pace of investments; and (c) currency depreciation and increase in oil prices.** The scenarios show the sensitivity of the sector's cash flow to the pace of reforms and investments, as well as external factors such as oil prices and, in particular, exchange rates.

85. **All scenarios but the "without policy measures" and "without Project scenarios" assume that the Project is commissioned with either full or partial implementation of the policy measures outlined in the GoSL Policy Letter.** The "policy measures implemented" scenario includes the following assumptions: (i) total system losses will be reduced to from the current 38 percent to 26 percent by 2020 and maintain this level to 2022 per the EDSA Revenue Enhancement Plan (2015); (ii) the introduction of a fuel tax exemption for grid-based generation; (iii) continued implementation of pre-payment meters to enable EDSA to improve its collection performance from 75 percent to 95 percent; and (iv) implementation of tariff adjustments to enable EDSA to improve cost recovery. It was assumed that the tariffs would be adjusted by 10 percent in 2018, when the Project is commissioned and by 2020 another 10 percent increase would be applied. Thereafter, a 2.5 percent tariff indexation was applied. As EWRC would need to have considerable capacity for tariff setting all scenarios exclude implementation of ATAF that would mitigate against fuel price increases and currency depreciation. More information on the various scenarios is presented in Annex 5.

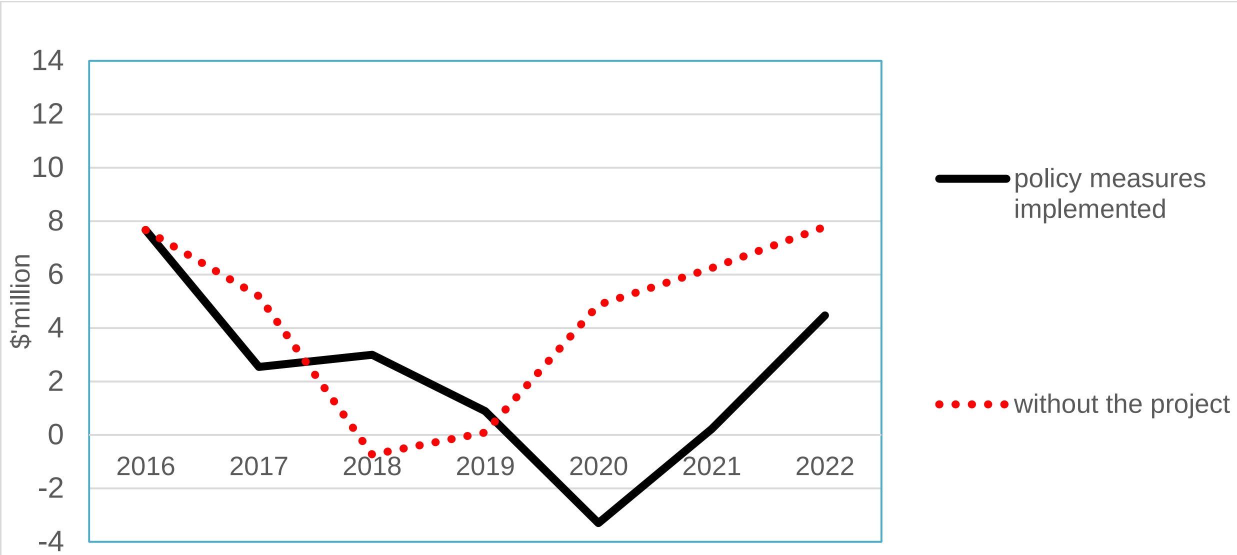
86. **Currently more than 50 percent of EDSA's sales are by pre-pay meters.** As long as EDSA continues to implement the program for pre-payment meters, collections of current and past receivables are expected to improve. However, if collections do not improve as envisaged, the impact of the cash shortfall may be significant. A one percent reduction in collections corresponds to US$1.2 million in lost revenue annually.

87. **The "without" Project scenario assumes that the loss reduction target of 26 percent would be achieved through existing confirmed investments.** However, it is assumed that tariff increases would not take place as EDSA would not be able to supply its largest customers who could afford to pay higher tariffs. Figure 2 shows that without the Project the deficit would initially be reduced significantly as a result of reductions in losses. By 2019 the cash shortfall would rapidly increase due to the absence of increased revenue that would otherwise be achievable if the Project was implemented to make up for cost increases.

88. **If all policy measures and investments outlined in the policy letter would be implemented on time the sector would still require subsidies for the foreseeable future.** If the GoSL implements the tariff increases these increases combined with loss reductions would significantly bring down the shortfall. However, by 2020 it would be critical for EDSA to continue to implement further loss reductions in combination with other efficiency improvements to reduce costs and further tariff increases. The projected increases in the cash shortfall beyond 2020 are mainly due to fuel price increases as per WB projections (January 2016) and inflation, while at the

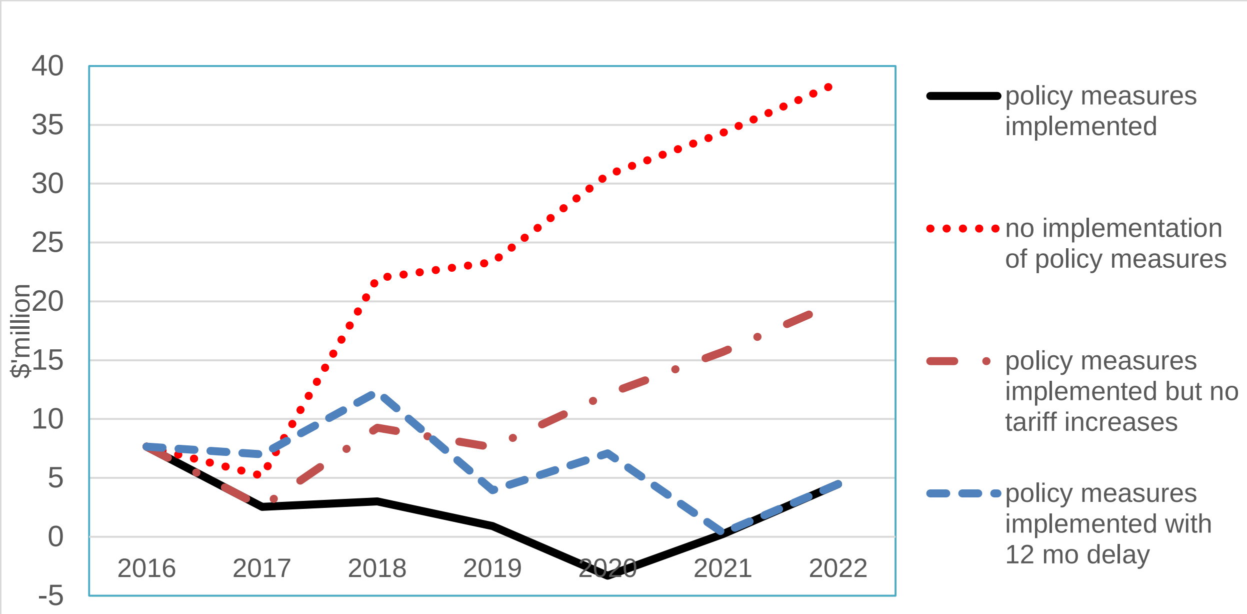
EDSA has no confirmed financing for investments to achieve further loss reductions to offset these cost increases.

Figure 2: Cash deficit projections – with and without the proposed Project



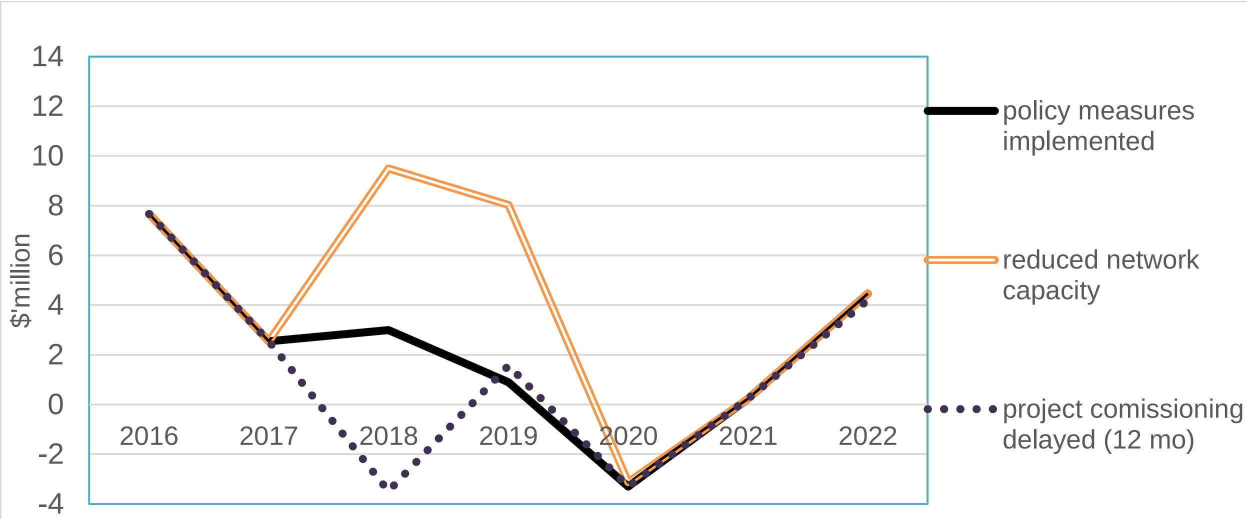
89. ***Pace of policy reforms*** - Even with timely implementation of all policy measures, the sector requires subsidies in the years to come. Any delays in implementation of policy measures and investments would have significant adverse impacts on the cash flow projections. Figure 3 shows the cash shortfalls under different policy scenarios. The downside scenario would be if no policy measures are implemented, where the cash shortfall would reach about US$39 million in 2022. The 'no tariff increases' scenario, which assumes all policy measures to be timely implemented except tariff increases, shows an increasing shortfall from 2019 onwards. If the implementation of policy measures is delayed, the cash shortfall will increase sharply and peak at the time of Project commissioning as the additional generation would largely be lost in system losses. This suggests that the timeliness of the implementation of policy measures and investments have major impacts on the cash shortfall.

Figure 3: Cash deficit projections – pace of policy reform scenarios



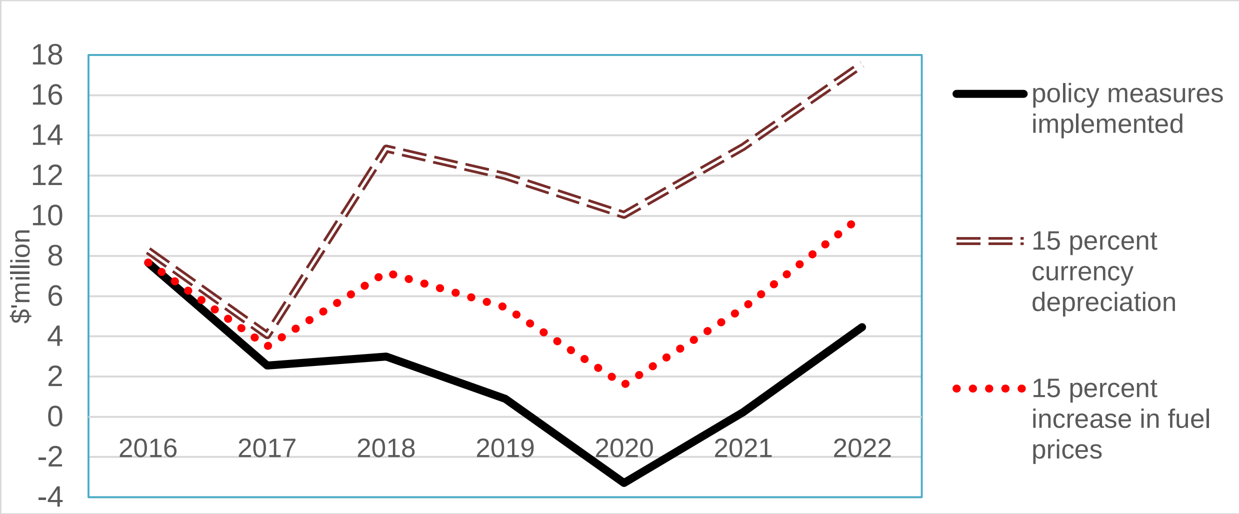
90. ***Pace of investments*** – The scenarios above assume timely commissioning of the proposed Project, as well as timely investments to increase the capacity of the grid. Figure 4 shows the impact of delays in implementation of investments. A two-year implementation delay for network investments would have a direct bearing on the ability of the network to sell the additional generation to consumers. In the event of delayed network investments EDSA and GoSL would still need to pay capacity charges. If only 60 percent of the forecast load is dispatched, the fixed charges from the Project would increase by USc3/kWh. Such delays would have a large but relatively short-lived impact on the cash flow projections. A delay in Project commissioning would have limited impact on the financial position of the sector in the medium term.

Figure 4: Cash deficit projections – pace of investments scenarios



91. **Currency depreciation and oil prices.** Once the Project is commissioned in 2018, the foreign exchange rate will represent a substantial risk as EDSA's revenue is in local currency while 75 percent of its costs will be denominated in US$. The current economic outlook for Sierra Leone and recent currency depreciation suggests that further depreciation is likely. Given current low international oil prices and historical volatility, changes in fuel prices remain a significant risk for the sector. A US$1/bbl increase in crude oil prices with a constant exchange rate would increase the cash shortfall by US$0.55 million annually. Figure 5 shows the impact of depreciation and fuel price increases.

Figure 5: Cash deficit projections – currency depreciation and oil price scenarios

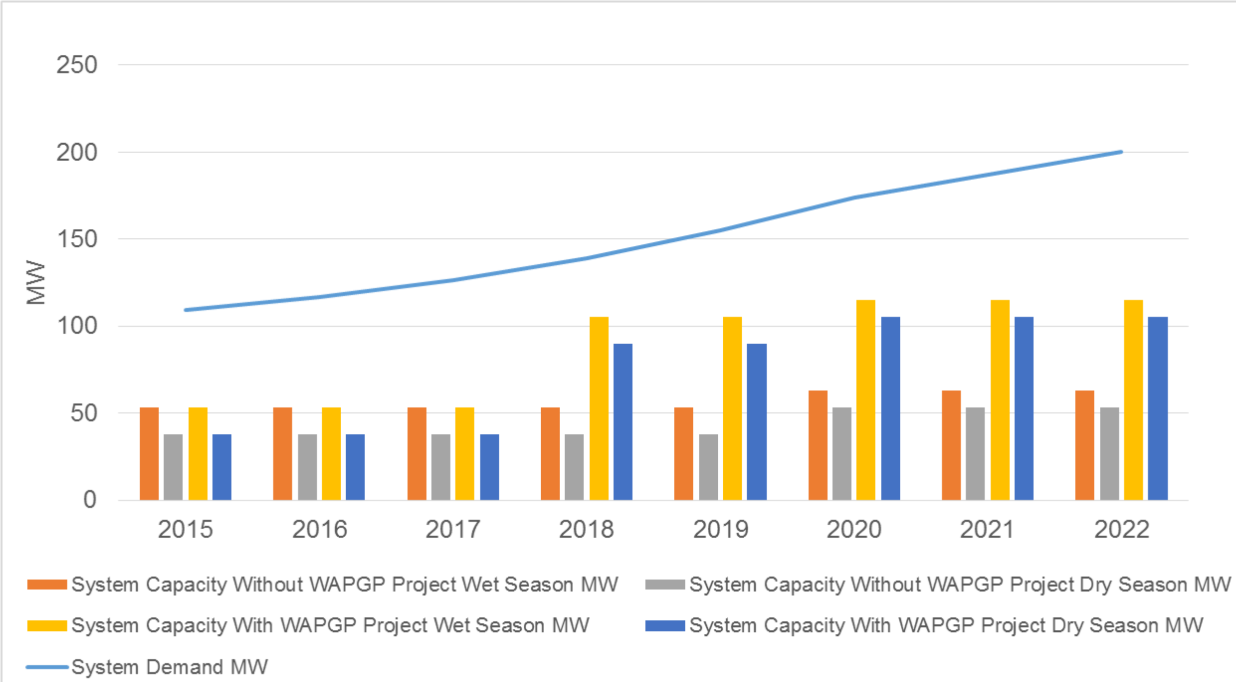


B. Technical

92. **The PPA provided for a maximum capacity charge based on an average availability of 91.5 percent and an effective load factor of 82.4 percent for the first four years of operation.** Thereafter, availability is assumed to increase to 92.5 percent based on the PPA.[13] A supply-demand forecast for the Freetown Capital Western Area shows that the power produced by the Project can be readily absorbed and that the sector will continue to operate with a supply constrained environment even with the Project (Figure 6). However, EDSA will need to ensure that necessary reinforcements in the network are undertaken on a timely basis and that it connects the larger commercial and industrial consumers to ensure that additional supply from the Project can be absorbed by the network. A series of load flow analyses were undertaken to simulate confirmed reinforcements and the additional load on the network. The results of these analyses demonstrate the network's ability to absorb the additional capacity from the Project taking into account confirmed investments in the network. With these reinforcements the current evacuation capacity of about 45 MW is expected to reach 106 MW by the end of 2016, and 127 MW by 2019.

[13] Availability in the PPA indicates the maximum capacity charges.

Figure 6: Freetown Western Capital Area Supply-Demand Balance 2015-2025



93. **The technical design and layout of the Project is appropriate and in accordance with international norms and standards.** The configuration is complete for a well-functioning system and the power plant would have the capacity to supply 57 MW at 33 kV. The Project is comprised of the power generation equipment with six engine generators, a fuel pipeline from the jetty, fuel storage facility at the Kissy site, and a 33 kV substation. The selected engine type has a well-proven service record in stationary power generation and provides for the stability and performance suitable for baseload generation. The engine has dual fuel capacity (diesel and HFO) and can be converted to be fueled by natural gas. The EPC contractor is the main equipment provider and is a proven contractor with a credible international track record.

94. **The proposed electrical system is equipped with proven technology**. This includes the (i) supervisory control and data acquisition (SCADA) system; (ii) automated equipment for managing among others start/stop sequence interlocking function, parallel operation, fast decoupling in case of grid failure to ensure safe power plant operation; and (iii) uninterruptible power supply to secure the voltage supply for control and protection system. The proposed substation would be equipped with two 15/33kV step-up transformers. The installation would also include appropriate civil works and structures, necessary lifting equipment such as overhead crane and the power plant is secured by fire, water and earthing systems.

95. **The proposed arrangement for operations and maintenance of the power plant is deemed to be appropriate to ensure reliability.** Wärtsilä, the O&M contractor, has a proven track record of operating a large portfolio of similar plants.

96. **The EPC costs for the project are considered reasonable.** The total cost of the proposed Project, at US$2.4 million per MW, is significantly higher than similar projects in the region due to high fixed development costs for a relatively small project, as well as the perceived country

risks and risks related to the weak financial position of the off-taker, EDSA. IFC has conducted due diligence on the development costs spent by the sponsors until 2014, for the three preceding years. These costs have been audited, and ongoing costs are being monitored by IFC. The EPC cost of US$69.7 million (US$1.2 million per MW) is considered reasonable and in line with industry practice for the scope of work required for similar benchmark HFO IPP projects in challenging countries such as Senegal (Tobene, 96 MW, US$1.1 million per MW), Kenya (Thika Power, 87.5 MW, US$ 1.4 million per MW) and Togo (CG Togo, 100 MW, US$ 1.4 million per MW).

C. Financial Management

97. **There are no traditional financial management issues as there will be no IDA-financed procurement, or procurement-related disbursements, under the Project.** Should the proposed IDA Guarantee be called, IDA would disburse to the LC bank, and the GoSL would then be obligated to repay IDA, in accordance with the terms of the Indemnity Agreement between GoSL and IDA. CECA SL will be the primary responsible party for managing the finances of the Project. It will install and maintain adequate financial management systems, including the system of accounting, reporting, auditing, and internal controls, and relevantly qualified staff. The annual financial statements will be prepared in accordance with internationally accepted accounting principles. In addition, they will be audited in accordance with international auditing standards. The performance of the Project will be monitored through, inter alia, regular progress reports and audited annual financial statements to be submitted by CECA SL to IDA, IFC, and MIGA.

D. Procurement

98. **In September 2009 the GoSL received a report prepared by JICA which detailed investment requirements to address the existing deficit in the power sector.** Based on this report, the GoSL requested offers from potential investors for the supply of 125 MW. In December 2010 the GoSL received three bids and the bid evaluation report was finalized in May 2011. The bid evaluation report recommended the proposal that detailed a power project on a build-operate-transfer (BOT) basis with an associated PPA for the sale and purchase of electricity. The proposal also included a grid development and management agreement that recognized the need to improve the network for evacuation and distribution of power. The proposal documents were tabled in Cabinet in July 2011 and an approval was issued for the Ministry of Energy and Water Resources to proceed to sign the documents on behalf of the GoSL. On July 21, 2011 the proposal documents were signed by the GoSL and have evolved into the current PPA being negotiated by the Sponsors and GoSL.

99. **The procurement guidelines applicable to guarantees are defined in *"World Bank's Guidelines: Procurement of Goods, Works and Non-consulting services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers"* dated January 2011 and revised July 2014, para 3.18.** This requires that goods and services must be procured with due regard to economy and efficiency. The EPC and O&M contracts have been selected on a competitive basis. The EPC cost estimated at US$69.7 million is considered in line with industry practice for the scope of work required under the Project. The O&M contract was tendered alongside the EPC package, and will cover a period of 15 years. An international tender for fuel supply for the Project was launched in March 2015, and four fuel suppliers showed interest and three were shortlisted.

Following the bid evaluation and negotiations involving GoSL with bidders, the fuel supply contract was awarded to BB Energy. The MoE issued its conditional no-objection letter on the award on February 11, 2016. All three contracts are at the final stages of negotiation.

E. Environmental and Social (including Safeguards)

100. **The Project is a Category B project according to the screening criteria in IDA's Operational Policy 4.03 and IFC's and MIGA's respective Policies on Environmental and Social Sustainability. The Project was assessed against the Performance Standards applicable to each of the IDA, IFC and MIGA.** Five of the eight Performance Standards (PS) are applicable to the Project: PS1 Assessment and Management of Environmental and Social Risks and Impacts; PS2 Labor and Working Conditions; PS3 Resource Efficiency and Pollution Prevention; PS4 Community Health, Safety and Security; and PS5 Land Acquisition and Involuntary Resettlement. Other PS are not triggered as the Project site is in a brownfield industrial/commercial area within an urban location.

101. **Mitigation measures have been prepared that address potential risks and impacts of the Project.** The ESHIA and the Environmental Management Plan (ESMP) – which includes the WBG's Environmental and Social Review Summary (ESRS); and Abbreviated Resettlement Action Plan (ARAP) - were disclosed in-country on November 17, 2015 and on the WBG's website on December 18, 2015. The ESMP will be reviewed and updated with detailed mitigation developed as part of the detailed design phase, and disclosed prior to commencement of construction. The ESHIA identifies and addresses the potential risks and impacts from the Project, including the power plant, the fuel pipeline, connection to the transmission line, and the access road, and outlines proposed mitigation measures. An Environmental and Social Impact Assessment (ESIA) for the petroleum jetty at the Kissy oil terminal was prepared by the Project sponsor. Quantitative studies were carried out involving numerical modelling of emissions to atmosphere and noise during plant operations, and quantification of water consumption and discharges. An Environmental and Social Action Plan (ESAP) has been prepared by the Project Company and disclosed on the WBG's website. Through its implementation, the Project is expected to be designed and operated in accordance with Performance Standards.

102. **The public review and public hearing, in accordance with Sierra Leonean regulations, took place on November 26 and 27, 2015 with the involvement of the affected community at Kissy**. The ESHIA was made available in relevant government offices and public places in the Project region and non-technical summaries were distributed in the Project's area of influence.

103. **The Project site will not involve physical displacement as there are no inhabitants (legal residents or squatters), but will result in limited economic displacement and livelihood impacts on artisanal farmers.** The zone of impact is restricted to the Project site. Initially, 16 farmers were identified as having been farming small areas within the Project site during the two consultative meetings held in early February 2014 and early May 2014. A follow-up meeting was held with the artisanal farmers in September 2015, when updated data on the farmers (10 instead of 16 as initially identified) were collected and details of compensation were further discussed. The Project has prepared and disclosed an Abbreviated Resettlement Action Plan (ARAP) to manage the economic displacement of the 10 artisanal farmers. The ARAP includes details on the farm plots referred to as "heaps" and each ranging between 20 to 25 square meters in size. An initial estimated number of 32 heaps were identified within the Project site and estimated

compensation amounts were calculated based on the crops grown: potato leaf, cassava leaf, green, sour and krain-krain. The farmers are all women from around the area utilizing the heaps to supplement their subsistence and household income by selling the remainder crops at the nearby market. The ARAP will be finalized and implemented in consultation with the artisanal farmers prior to commencement of construction activities in accordance with PS5.

104. **Extensive consultations with stakeholders were undertaken as part of project preparation.** Consultations were undertaken during the ESHIA scoping phase (January 2014 to May 2014) and during the ESHIA assessment phase (February 2015 to March 2015) despite challenging conditions related to the EVD outbreak. A number of informal and formal meetings were also held with key stakeholders from January 2014 to May 2014: SL-EPA) including JICA, Sierra Leone Roads Authority (SLRA), Sierra Leone Non- Governmental Organizations (SLANGO), Conservation Society of Sierra Leone (CSSL), China Road Construction Corporation (CRCC), Ministry of Agriculture Forestry and Food Security (MAFFS), EDSA, and the local community members and residents around the Project site as well as with the Islamic school and the Sir Winston Churchill School. A public community consultation workshop took place on May 15, 2014, indicating broad support for the Project, but also showing local people's high expectations for job opportunities, electricity supply and economic and community development. Ongoing consultation with the artisanal farmers at the Project site was highlighted as being of particular importance.

105. **A Project grievance mechanism will be established.** As a result and as part of the agreed Environmental and Social Action Plan, the Project Company has committed to develop and implement a Stakeholder Engagement Plan (SEP) to continuously inform the public throughout the Project cycle. As part of the SEP, a grievance mechanism will be established by Project Company. The Project Company will also ensure that a grievance mechanism is established under the EPC and O&M contractor.

F. Grievance Redress

106. **World Bank Grievance Redress.** Communities and individuals who believe they are adversely affected by a World Bank supported project may submit complaints to the project-level grievance redress mechanism or the World Bank Grievance Redress Services (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaints to the World Bank's independent Inspection Panel which determines whether harm has occurred, or could occur, as a result of non-compliance with World Bank policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and the Bank management has been given an opportunity to respond. For information on how to submit complaints to GRS, please visit www.worldbank.org/grs. For information on how to submit complaints to the Inspection Panel please visit www.inspectionpanel.org.

107. **IFC/MIGA Grievance Redress.** Complaints can be made by any individual, group, community, entity, or other party affected or likely to be affected by the environmental or social impacts of an IFC- and/or MIGA-supported business activity can submit complaints in writing to the Compliance Advisor Ombudsman (CAO). The CAO receives and addresses complaints in accordance with the criteria set out in its Operational Guidelines which are available at: www.cao-ombudsman.org.

Annex 1a: Results Framework and Monitoring

Sierra Leone: Western Area Power Generation Project

Project Development Objective

The Project Development Objective is to increase the power generated by independent power producers and mobilize private capital.

Project Development Objective Indicators

		Cumulative Target Values						
Indicator Name	**Baseline**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**End Target**
Amount of electricity generated by the Project (MWh/year)	0	0	0	411,087	411,087	412,248	411,087	415,581
Private capital mobilized (US$ million)	0	34.5	34.5	34.5	34.5	34.5	34.5	34.5
Indirect Project beneficiaries (number) [of which percentage female - %]	413,000 (50.5%)	0	0	578,200 (50.5%)	634,250 (50.5%)	637,200 (50.5%)	637,250 (50.5%)	637,250 (50.5%)

Intermediate Results Indicators

Indicator Name	Baseline	Cumulative Target Value						
		2018	**2019**	**2020**	**2021**	**2022**	**2023**	**End Target**
Generation capacity of the facility constructed under the Project (MW)	0	57	57	57	57	57	57	57

Indicator Description				
Project Development Objective Indicators				
Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Amount of electricity generated by the Project	MWh generated will be measured at the main output meter located at the Kissy Substation.	Monthly	Monthly bills	CECA SL
Private capital mobilized	Equity and shareholder loans financed by sponsors and commercial banks	Once	Progress reports	CECA SL
Indirect Project beneficiaries (of which percentage female)	Direct Project beneficiaries have been substituted with indirect Project beneficiaries based on the nature of the Project, Indirect Project Beneficiaries are estimated based on the number of EDSA residential service connections times an average household size of 5.9, plus the number of non-residential connections. The female share of 50.5% is based on the share of females in the total population as per World Development Indicators 2014.	Annual	EDSA annual reports	EDSA
Intermediate Results Indicators				
Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Generation capacity of the facility constructed under the Project	Guaranteed generation capacity: MW constructed	Once	Progress reports	CECA SL

Annex 1b: IFC/MIGA Development Impact Indicators

Sierra Leone: Western Area Power Generation Project

The project will track the following development impact indicators for the Project within IFC's DOTS system (Development Outcome Tracking System) and MIGA's DEIS system (Development Effectiveness Indicator System).

	Detailed Impact Description	**Impact Indicators**	**Target and Year**
Financial Performance	Returns to all capital providers	Annual Return on Invested Capital (ROIC)	Annual US$ ROIC to exceed Annual US$ WACC over the life of the investment
	Project Completion	Project completion on time and within budget	Project to be completed within +/- 10% of budget of US$138 million; to reach Commercial Operations within 18 months from Financial Close
Economic Performance	Returns to capital providers and to society	Annual Economic Return on Invested Capital (EROIC)	Annual US$ EROIC to exceed annual US$ WACC over the life of the Project
	Power produced	GWh produced p.a.	300 - 400 GWh/year on average over the project life (20 years) which corresponds to approximately 224,250 residential individuals reached.
	Employees: Job creation	• Construction jobs • Permanent operational jobs including women	• 185 jobs created during construction (at peak) – subject to review of EPC Contractor staffing plan • 45 incremental permanent jobs expected during the project operations phase (starting from commercial operation date), of which 10 women
Environmental & Social Performance	Environmental Sustainability	• Occupational injury frequency per million man-hours • Tonnes of CO2 emissions • Water consumption & efficiency	• The plan is to maintain zero. • 278,000 tonnes CO_2/year (gross emissions) when operating • Estimated water consumption of $24m^3$ per day
Private Sector Development	Demonstration effect	Emergence of IPPs in the Sierra Leone power market.	2 additional IPP transactions financed in Sierra Leone within 5 years after the Project's commercial operation date.

Annex 2: Detailed Project Description

Sierra Leone: Western Area Power Generation Project

1. The proposed operation will be supported by the WBG through an IDA Guarantee, IFC Investment Loan, and MIGA Guarantee. IDA will provide a payment guarantee of up to US$40 million supporting certain ongoing, periodic, joint and several payment security obligations of EDSA and GoSL under a PPA between the EDSA/GoSL and CECA SL, the Project Company, responsible for implementing the WAPGP. The proposed IDA Guarantee is designed to mitigate the low creditworthiness risk of the newly established state-owned power off-taker, as well as the risk of GoSL non-performance of its joint and several obligations, as the co-signer of the PPA. IFC will provide an A loan of up to US$30 million, serve as lead arranger to help mobilize the balance of senior debt (estimated to be US$73.5 million) from other DFIs, and provide an interest rate swap with a Loan Equivalent Exposure of up to US$3 million. MIGA would provide a MIGA Guarantee of up to US$60 million to cover the investment of equity, shareholder loans, and future retained earnings for up to 15 years against the risks of Transfer Restriction, Expropriation, War and Civil Disturbance, and Breach of Contract.

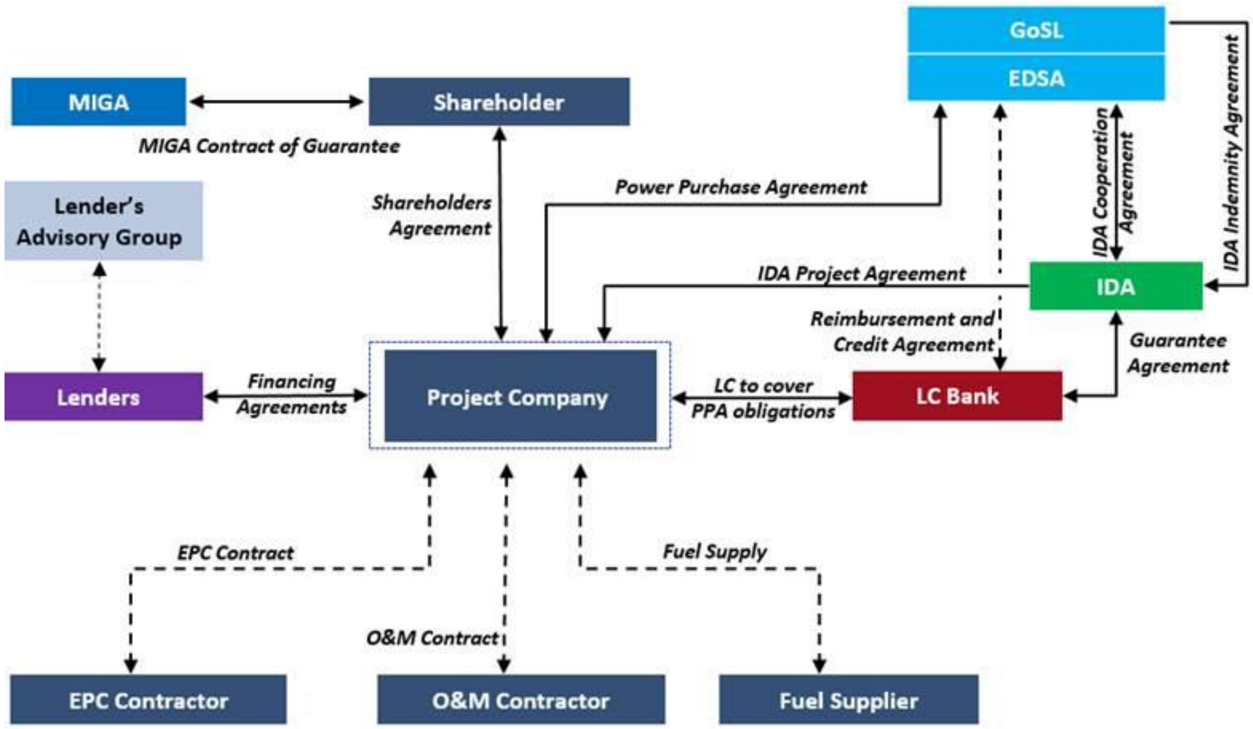
The Western Area Power Generation Project

2. The Project comprises the design, development, financing, construction and operation by CECA SL of a green-field thermal power plant running on HFO with 57 MW installed capacity on a BOT basis. CECA SL was established as a special purpose company by CEC Africa (Sierra Leon) Limited which is owned by CEC Africa (50.1 percent equity) and TCQ (49.9 percent equity). The contractual structure is shown in Figure 2.1. The Project might be extended at a later stage to reach a total capacity of 128 MW, but the proposed operation is limited to the initial phase of 57 MW.

3. The Project will sell its entire power capacity and output to EDSA under a 20-year PPA, initially signed on May 14, 2014, which will cease to apply by the execution of a deed of termination on the same date that the new successor PPA is entered into. Under the new PPA the GoSL and the grid operator, EDSA, are jointly and severally liable for off-taker performance. The amended and restated PPA is being negotiated to reflect the finalization of project contracts (including the EPC and O&M contracts), lenders' requirements for bankability, and the incorporation of provisions to operationalize the IDA-guaranteed LC that will serve as payment security under the PPA.

4. The PPA provides for a two-part tariff structure: (A) a fixed capacity charge comprising: (a) a fixed rate to cover the capital costs of the Project; and (b) a fixed O&M charge (subject to escalation for lube oil, as well as US and local CPI to cover O&M costs; and (B) Output Charge covering a fuel charge on a pass-through basis. The PPA obligations are denominated in US dollars.

Figure 2.1: Contractual Structure



5. The Project will be located nearly 4 km east from the center of Freetown, about 500 meters south of the sea, on existing industrial land with refinery tank farm (Figure 2.2). Land for the Project site is owned by the GoSL and is leased to the Project Company under the Plant Site Lease signed in March 2015, with a tenor of 26 years.

Figure 2.2: Project Site Map

6. **The power plant will be located at the Kissy Industrial site to the east of Freetown and is expected to serve consumers in the Freetown Capital Western Area.** The land at the Kissy Industrial site, which is owned by the GoSL, is leased to the Project Company under a plant site lease agreement signed in March 2015 with a tenor of 26 years. The Project comprises:

(i) The installation of six reciprocating Wärtsilä engines (type Wärtsilä W20V32) using HFO, each rated at 9.5 MW nominal output;
(ii) HFO storage tanks and water treatment facilities at the Kissy site;
(iii) A new 33 kV indoor substation at the Kissy site;
(iv) A reinforcement of the 8 km 33 kV transmission from Blackhall road to the Wellington substation to enhance evacuation capacity from the generation facility;
(v) Installation of additional 33/11kV transformers at the Blackhall road, Ropotee, and Wellington substations; and
(vi) Construction of an approximately 1.3 km fuel pipeline and associated pumping station from a new jetty for the landing of the HFO to the Kissy site. The jetty is operated as a joint venture between GoSL and Addax.

7. Construction and commissioning of the Project will be undertaken under a turn-key EPC contract and the commercial operation date (COD) is expected to be achieved 18 months after the start of construction. Wärtsilä, the main equipment supplier with a proven track-record, has been awarded the EPC contract and a 15-year operation and maintenance (O&M) contract for the Project (being negotiated).

8. Fuel costs are a pass-through under the PPA, and the GoSL has selected BB Energy as the fuel supplier. The Fuel Supply Agreement (FSA) will be entered between the Project Company and BB Energy. The FSA term is expected to be fifteen years with the provision of two price reviews during the term years. Fuel for the Project will be transported by a 1.3 km pipeline from the landing jetty to the Project site, which will be constructed under the EPC contractor. The land leases necessary for the construction of the fuel pipeline is expected to be concluded prior to financial close.

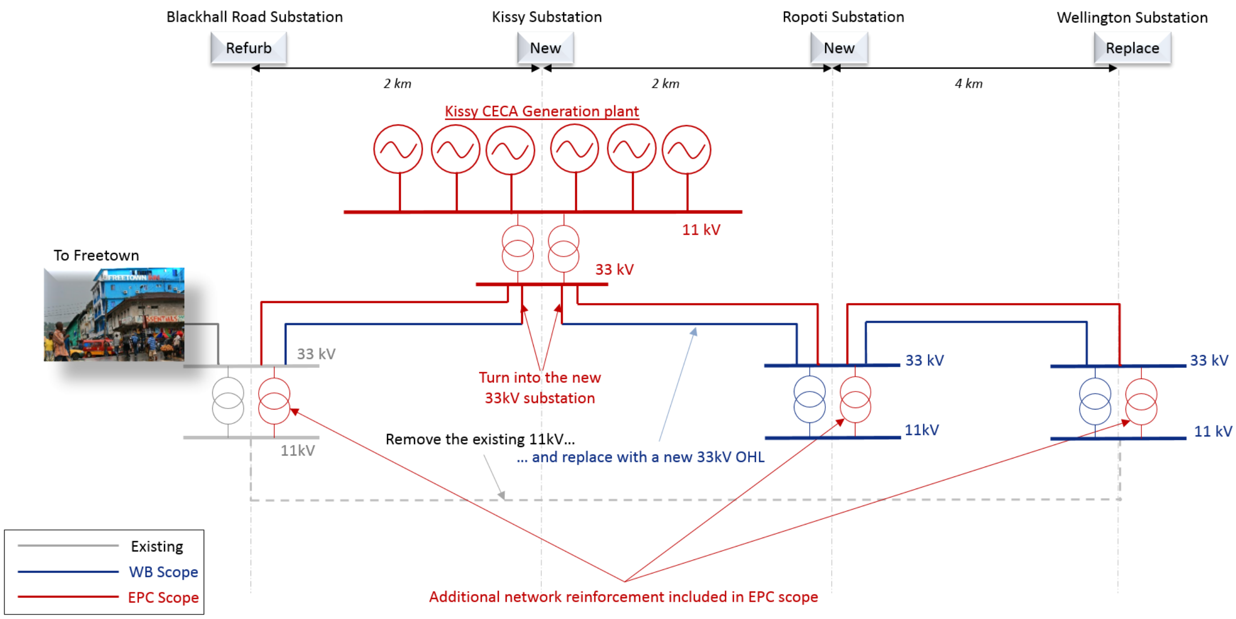
Power Evacuation

9. Availability of grid for electricity transmission and distribution under the PPA is the responsibility of EDSA. Major bottlenecks in the Freetown network currently limit the evacuation of power. However, select parts of the 33kV network have recently been rehabilitated and further work is being undertaken to restore the remaining part of the 33kV system. The scope of works under the ongoing EAP includes critical components for the evacuation of power from the Project, including:

(i) construction of about 8 km single circuit 265 AAC 33kV- 40MVA overhead line, from Blackhall Road to Wellington substations. The 33kV "Blackhall-Wellington" line will loop in and out at the proposed Kissy substation to evacuate power from the generation facility with a total capacity of 80MVA;
(ii) upgrades of the existing Wellington and Wilberforce substations to 15/20MVA 33/11kV to ensure the full operation of the 33kV network in Freetown. The upgrades will serve to reinforce the general transmission capacity of the network; and
(iii) construction of new a 15/20 MVA 33/11kV substation at Ropoti, which is a high load density area located in close proximity to the Project site.

10. Load flow studies carried out have confirmed the envisaged network's robustness to evacuate power from the Project.

Figure 2.3: Interconnection



11. All network upgrades under the Project will be owned and operated by EDSA. An interconnection agreement between EDSA and the Project Company has been included in the PPA that governs the ownership of assets and responsibilities of the two parties. The delivery point of power from the generation facility will be at the 33kV busbar at the Kissy substation where all 33kV overhead line circuits are connected (Figure 2.3). The busbar will be owned, operated, maintained and controlled by EDSA and links to a second 33kV busbar of the 15/33kV step-up transformers. The circuit breakers at the step-up transformer 33kV busbar, and the 33kV busbar at the grid connection point, are the isolation points for the Project, and EDSA, respectively.

12. The total financing requirements of the Project is expected to be US$138 million. The breakdown of Project costs is presented in the Table 1. The EPC cost of US$69.7 million, proposed by Wärtsilä, is considered in line with industry practice for the scope of work required under the Project. Given the relatively small scale of this power project (57 MW), the development fees of the Project are sizable compared with the MW of the plant. However, these transaction costs are typically of a fixed nature, regardless of the project size. The challenging nature of developing a first private power project in a high risk country such as Sierra Leone has also contributed to the higher Project cost. IFC has conducted a due diligence on the development fees spent by the sponsors until June 2014, for the preceding three years. These costs have been audited, and ongoing costs are being carefully monitored by IFC.

Table 2.1: Project Costs and Financing Sources[1]

Project Cost	US$ Millions	%	Financing Plan	US$ Million	%
EPC	69.7	50.5%	Equity	34.5	25%
Contingencies	5.2	3.8%			
Development Costs[2]	23.9	17.3%			
Development Fee	5.5	4.0%			
Generator's Costs[3]	4.8	3.5%	Debt (from DFIs)	103.5	75%
O&M Mobilization	1.2	0.9%			
Financing Costs	9.3	6.7%			
Reserve Accounts	18.4	13.4%			
Total	**138.0**	**100%**	**Total**	**138.0**	**100%**

[1] Project costs are finalized at financial close.
[2.] IFC has conducted due diligence on the development cost spent by the sponsors until June 2014, for the preceding three years. These costs have been audited, and ongoing costs are being monitored by IFC.
[3] Generators costs are Project Company costs that are not included in the EPC. This would include engineering (staff paid by owner to give third party advice and to oversee/evaluate the work of the EPC contractor).

13. The Project will be financed on a limited recourse basis and the proposed debt to equity ratio is expected to be 75:25. The Project sponsors will provide US$34.5 million to the Project Company, which will be injected into the Project before senior debt.

14. IFC has been mandated by the Project sponsors as a lead arranger for debt financing. It is envisaged that due to the high risks associated with this first sizable IPP project in Sierra Leone, the senior debt will be solely financed from DFIs. FMO, EAIF, CDC and AfDB are expected to join IFC to provide 14-year long-term loans. Lenders and sponsors are working to reach financial close in the third quarter of CY2016.[14]

15. The proposed IDA Guarantee is a "payment guarantee" to protect the commercial LC bank against the risk of non-payment by EDSA/GoSL under the LC Reimbursement and Credit Agreement (RCA). The US$40 million was sized to approximate capacity and output charges for a six month period. The Project sponsors, lenders, and commercial LC bank consider the proposed IDA Guarantee coverage indispensable to reaching successful financial closure of the Project.

16. In the event there is a draw under the LC, the amounts drawn will be converted into a loan by the LC bank, to EDSA/GoSL, subject to repayment in accordance with the terms of a Reimbursement and Credit Agreement (RCA) to be concluded between EDSA, GoSL, and the LC bank. Under the RCA, EDSA/GoSL will be obligated to repay the LC bank loan, plus accrued interest, within 12 months (the reimbursement period). The proposed IDA Guarantee will guarantee repayment of the LC bank loan, plus accrued interest, by EDSA/GoSL. If EDSA/GoSL repay the LC bank loan within the reimbursement period, the amounts drawn under the LC will be reinstated. If EDSA/GoSL fail to repay the loan within the reimbursement period, the LC bank would have direct recourse to the IDA, under the IDA Guarantee Agreement, for the LC bank loan

[14] All lenders have received approval from their respective credit committees.

amount, plus accrued interest. Any amount paid by IDA to the LC bank under the IDA Guarantee would be deducted from the IDA Guaranteed Amount, and thus, from the available LC amount and not reinstated. The proposed Project would not be subjected to the DSF, and will therefore not be contributing to the external debt ceiling under the IMF's Debt Limits Policy. However, in the event of a payment default of the PPA obligations and a draw on the IDA guaranteed LC payment security, the equivalent amount would be counted against the external debt ceiling. [15]

17. EDSA/GoSL conducted a competitive bidding process to receive proposals from interested qualified LC banks. Two proposals were received with Société Générale competitively selected as the LC bank for the transaction. The LC bank selection was based on a minimum credit rating criteria, willingness to offer the required 15-year tenor, a pricing proposal, as well as experience in African structured finance, and World Bank guarantee operations. All applicable LC fees and IDA Guarantee fees are payable by the Project Company, as the LC beneficiary.

18. MIGA Guarantee will be provided to CEC Africa (Sierra Leone) Limited, as sponsors' joint vehicle established in Mauritius, covering 90 percent of investment of equity, shareholder loan, and future retained earnings to CECA SL, for a period of up to 15 years. MIGA Guarantee would be against the risks of Transfer Restriction, Expropriation, War and Civil Disturbance, and Breach of Contract, covering GoSL's contractual obligations under the PPA. MIGA's gross, and net, exposure under this Project would be up to US$60 million, and US$55 million, respectively. US$5 million of the gross exposure will be borne by MIGA's CAFEF.

[15] The team met with the IMF on March 8, 2016. Following this meeting the IMF concluded that neither the payment obligations under the PPA nor the IDA guaranteed LC payment security would contribute towards the external debt ceiling under the IMF Debt Limits Policy provided there is no draw on the LC.

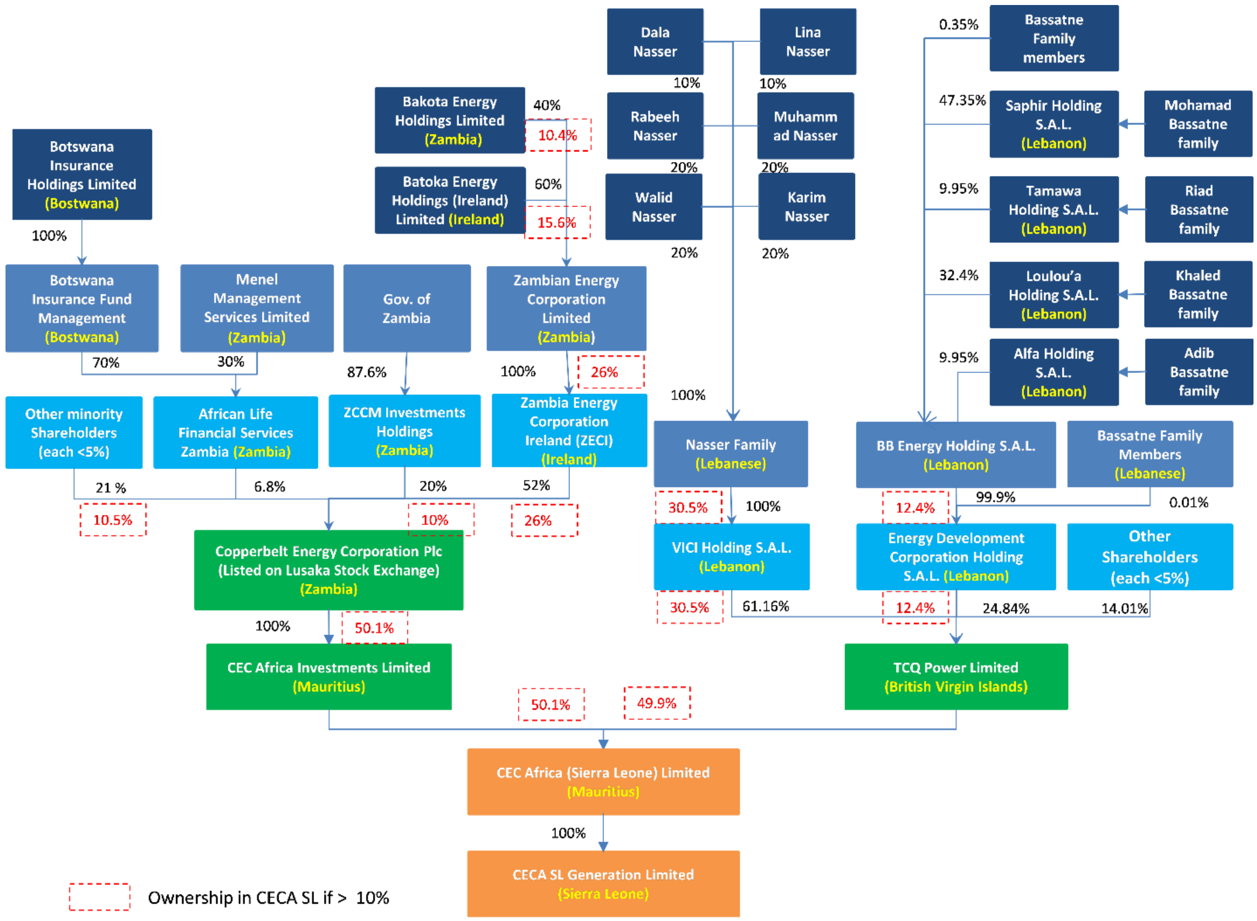
Annex 3: Implementation Arrangements

Sierra Leone: Western Area Power Generation Project

IPP's implementation arrangement

1. **Project Sponsors:** The Project will be implemented by CECA SL, the Project Company, established as a special purpose vehicle by the private sponsors. CECA SL will have overall responsibility for development, design, financing, construction and operation of the power plant for the 20-year duration of the PPA. The Project sponsors are CEC Africa Investment Ltd (CEC Africa) and TCQ Power Ltd. CEC Africa is a wholly owned subsidiary of CEC, an independent private power generation, transmission and distribution company based in Zambia. It is an investments holding company established to develop, finance and operate power infrastructure projects across sub-Saharan Africa. TCQ is a company established in 2011 by the Nasser family of UAE/Lebanon to acquire, build and develop and operate power projects in Africa. CEC will hold 50.1 percent via its subsidiary CEC Africa Investments Ltd, and TCQ Ltd will hold 49.9 percent. The shareholding structure is described in Figure 3.1. CEC has a track record of power plant operations in Africa while TCQ has a senior management team with extensive EPC experience from the energy sector and a strong local knowledge of Sierra Leone. There are, however, ongoing discussions with respect to the Project Company's shareholdings, wherein it is expected that the CEC Africa Investment Ltd equity shareholding will be transferred to a new investor with equal or better financial and technical capacity. Negotiations are currently taking place between TCQ, CEC Africa and an identified, potential new sponsor with whom the Bank and IFC have previous experience. Prior to effectiveness of the proposed IDA guarantee, the proposed IFC investments, and the proposed MIGA guarantee, the exact sponsor shareholding will be confirmed and appropriate due diligence undertaken.

Figure 3.1: Shareholding Structure of the Project Company



2. **Power Purchase Agreement**: The Project will sell its entire power capacity and output to EDSA under a 20-year PPA, initially signed in May 2014. This PPA will cease to apply by the execution of a deed of termination on the same date that the new successor PPA is entered into. Under the terms of the new PPA, the GoSL and EDSA will be jointly and severally liable for off-taker performance. The PPA will also incorporate provisions to operationalize the IDA-guaranteed LC. Following a competitive international tendering process BB Energy has been selected as the fuel supplier in concurrence by GoSL and EDSA given the nature of the pass-through of fuel costs under the PPA. The EPC, O&M, and fuel supply contracts, which are currently being negotiated, will be finalized, prior to the finalization of the PPA and financial close of the Project. The key highlight of the PPA are presented in Table 3.1.

Table 3.1: Key Highlights of the PPA

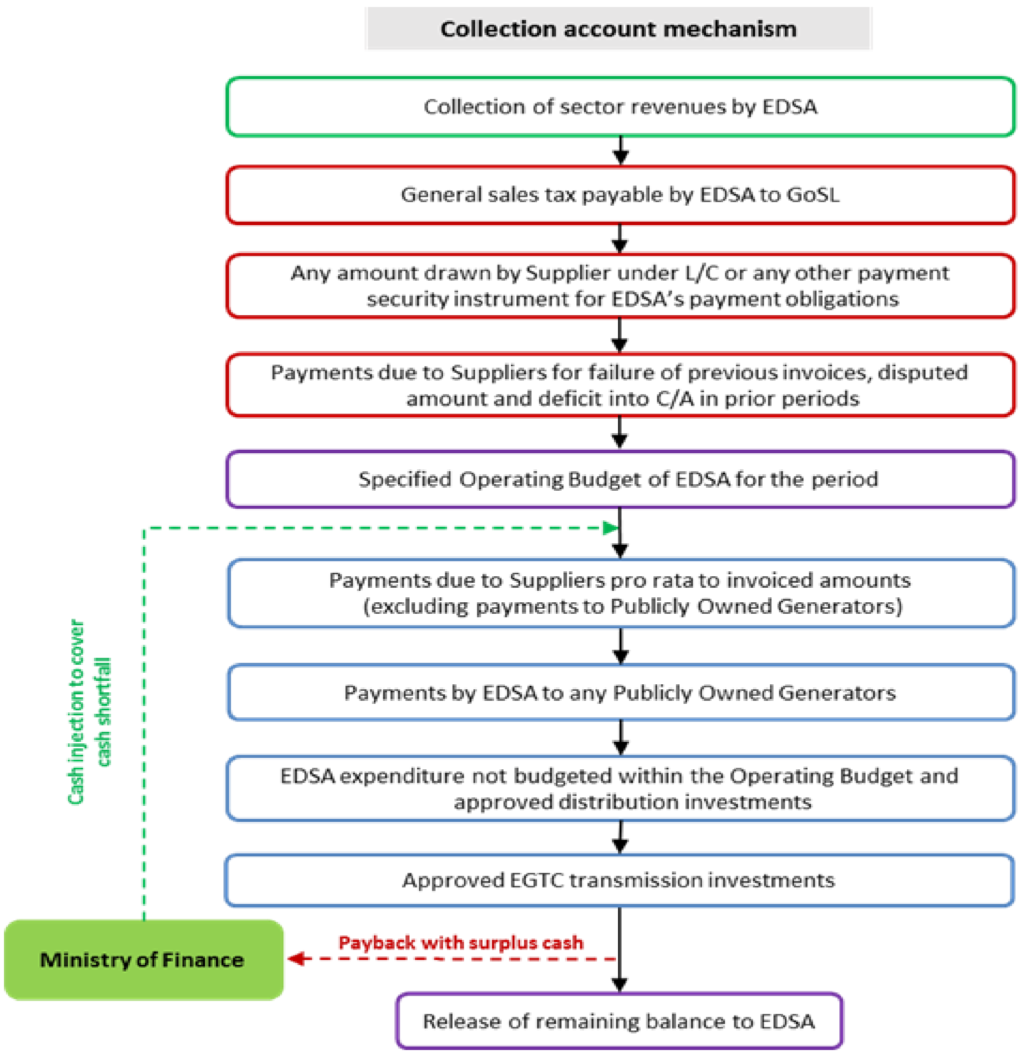
Item	Key Highlights
Parties	GoSL (Government), EDSA (Off-taker) CEC AFRICA (SIERRA LEONE) Limited (Shareholder) CECA SL Generation Limited (Generator)
PPA Term	20 years from COD
Contract Capacity	Phase 1 – 57 MW
Capital Cost Recovery Charge (CCR)	Based on the actual capacity available for generation (Non-escalated)
Fixed O&M Recovery Charge (FOMR)	Based on the actual capacity available for generation (escalated along with local, foreign or industrial indexes)
Variable O&M Charge (VOMR)	None (variable O&M costs are covered by the Fixed O&M Recovery Charge)
Fuel Charge	Fully recovered from the off-taker on a pass-through basis
Currency	All payment will be made in US$
Credit Enhancement	LC backstopped by IDA Guarantee
Termination Payments	Standard termination payment to the Project Company

3. **EPC and O&M Contract**s: Construction of the power plant will be undertaken under a turn-key EPC contract and COD is expected 18 months from the start of construction. O&M of the Project has been outsourced to the Original Equipment Supplier (OEM). Following a competitive tendering process, the sponsor received nine bids and conducted a combined evaluation for the EPC and O&M, leading to the award to Wärtsilä for both the EPC and the O&M contracts. Respective contracts are currently being finalized. EPC is a lump-sum turnkey contract of US$69.7 million with guaranteed completion in 18 months, output performance guarantee of 57,297kW (at 100 percent) load and heat rate guarantee of 8,472kj/kWh. The O&M contract has a term of 15 years.

4. **Fuel Supply Agreement**: Fuel will be imported and a FSA will be entered into between the Project Company and BB Energy for an initial term of five years, which is renewable for an additional five years. Thereafter, the Project Company, with agreement from GoSL/EDSA, can elect to extend the FSA, or undertake a new tendering process. The Project Sponsor and the GoSL are currently in the process of finalizing a land lease agreement and the right-of-way (ROW) for the fuel pipeline. A new petroleum jetty, owned and operated by a joint venture between GoSL and Addax, will be used for the landing of HFO, has been completed. The Usage Agreement, being negotiated between the joint venture and the Project Company, will be finalized prior to financial close of the Project.

5. **Sector-wide Collection Account**: EDSA and GoSL are committed to perform under their joint and several contractual obligations under the PPA. GoSL will establish a sector-wide Collection Account with a pre-defined cash water fall arrangement to ensure financial liquidity to meet the payment obligations for the power sector, including EDSA's payment obligations under the PPA. The Collection Account comprising all EDSA's cash collections from electricity sales will be managed by an independent agent to be procured and appointed by the GoSL. Payments will be made in accordance with the established cash flow water fall described in Figure 3.2. The Collection Account with the cash waterfall priorities (Figure 3.2) will be approved by Parliament through and addendum to the existing Electricity Act (2011). Any future changes to these arrangements would require Parliamentary approval and a legal opinion. The GoSL will provide liquidity support to cover any deficit in forecasted payment obligations. Financing requirements for investment in the power sector are expected to be treated outside the Collection Account. The GoSL commitments and the term-sheet for the Collection Account together with timelines are included in the Policy Letter (Annex 11). The GoSL is currently in the process of preparing an operation manual for the management and operations of the Collection Account.

Figure 3.2: Cash Waterfall Arrangement



Procurement

6. In September 2009, the GoSL received a report prepared by JICA which detailed investment requirements to address the existing deficit in the power sector. Based on this report, the GoSL requested offers from potential investors for the supply of 125 MW. In December 2010, the GoSL received three bids and the bid evaluation report was finalized in May 2011. The bid evaluation report recommended the proposal that detailed a power project on a BOT basis with an associated PPA for the sale and purchase of electricity. The proposal also included a grid development and management agreement that recognized the need to improve the network for evacuation and distribution of power. The proposal documents were tabled in Cabinet in July 2011 and an approval was issued for the Ministry of Energy and Water Resources to proceed to sign the documents on behalf of the GoSL. On July 21, 2011, the proposal documents were signed by the GoSL and have evolved into the current PPA being negotiated by the Sponsors and GoSL.

7. The procurement guidelines applicable to guarantees are defined in “World Bank’s Guidelines: Procurement under IBRD Loans and IDA Credits" dated January 2011, para 3.18. These require that goods and services must be procured with due regard to economy and efficiency. The EPC and O&M contracts have been selected on a competitive basis. The EPC cost estimated at US$69.7 million is considered in line with industry practice for the scope of work required under the Project. The O&M contract was tendered alongside the EPC package, and will cover a period of 15 years. An international tender for fuel supply for the Project was launched in March 2015, and four fuel suppliers showed interest and three were shortlisted. Following the bid evaluation and negotiations involving GoSL with bidders, the fuel supply contract was awarded to BB Energy. The MoE issued its conditional no-objection letter on the award on February 11, 2016. All three contracts are at the final stages of negotiation.

Financial Management

8. There are no traditional financial management issues as there will be no IDA-financed procurement or procurement-related disbursements under the Project. Should the IDA Guarantee be called, IDA would disburse to the LC bank and the GoSL would then be obligated to repay IDA in accordance with the terms of the Indemnity Agreement between GoSL and IDA. CECA SL will be the primary responsible party for managing the finances of the Project. It will install and maintain adequate financial management systems, including the system of accounting, reporting, auditing, and internal controls, and relevantly qualified staff. The annual financial statements will be prepared using internationally accepted accounting principles. In addition, they will be audited in accordance with international auditing standards. Performance of the Project will be monitored through, inter alia, regular progress reports and audited annual financial statements to be submitted by CECA SL to IDA, IFC, and MIGA.

Environment and Social

9. The Project is subject to the IDA, IFC, and MIGA Performance Standards. The following applicable Performance Standards are triggered by the Project:

(i) PS1 Assessment and Management of Environmental and Social Risks and Impacts
(ii) PS2 Labor and Working Conditions
(iii) PS3 Resource Efficiency and Pollution Prevention
(iv) PS4 Community Health, Safety and Security
(v) PS5 Land Acquisition and Involuntary Resettlement

10. Since the project site is in a brownfield industrial/commercial area within an urban location, PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources, PS7: Indigenous Peoples and PS8: Cultural Heritage are not triggered.

11. This Project is rated as an environmental assessment Category B in accordance to the screening criteria in IDA's *Operational Policy 4.03* and IFC’s *Policy on Environmental and Social Sustainability*. Categorization has been assigned because: (i) the Project is located in a brownfield industrial/commercial area where there are few environmentally important and vulnerable receptors; (ii) identified potential environmental and social risks and impacts are site-specific and either readily managed through design or addressed through mitigation measures; and (iii) most of the infrastructure needed for the construction and operation of the Project is already in place.

12. Despite the industrial and commercial land use zoning, a number of residential and educational receptors (formal and informal residential dwellings including two shanty areas, and a few schools, including an Islamic compound) are located in the Project's area of influence. The key environmental and social risks and impacts therefore include air quality, noise, occupational health and safety, traffic management, hazardous material and waste management, fuel transport, economic displacement of a small number of artisanal farmers, and community health and safety.

13. The ESHIA and ESMP – which includes the WBG's Environmental and Social Review Summary (ESRS) and the Abbreviated Resettlement Action Plan (ARAP) - were disclosed in-country on November 17, 2015 and on the WBG's website on December 18, 2015The ESMP, which will be reviewed and updated with detailed mitigation developed as part of the detailed design phase, will be re-disclosed prior to commencement of construction. This approach has been agreed to by the WBG and the Environmental Protection Agency (EPA) in Sierra Leone, and included in the Project's ESAP.

14. The ESHIA identifies and addresses the potential risks and impacts from the Project, including the power plant, the fuel pipeline, the connection to the transmission line and the access road, and outlines proposed mitigation measures. An Environmental and Social Impact Assessment for the petroleum jetty project was prepared by the third party project developer for the jetty. Quantitative studies were carried out involving numerical modelling of emissions to atmosphere and noise during plant operations, and quantification of water consumption and discharges. The exhaust gas emissions are not expected to exceed the applicable and relevant guideline levels set out in the WBG's EHS Guidelines for Thermal Power Plants (2008) with the exception of Particulate Matters, which the contractor guarantees will not exceed 100 mg/Nm3. A full and detailed justification for the proposed alternative maximum emission level was adequately developed as part of the site-specific environmental assessment, and the justification supports the required demonstration that the choice for the alternate performance level is protective of human health and the environment. The public review and public hearing, in accordance with Sierra Leonean regulations, took place on November 26-27, 2015 with the involvement of the affected community at Kissy. The ESHIA was made available in relevant government offices and public places in the Project region and non-technical summaries will be distributed in the Project's area of influence.

15. The ESMP will be the basis of developing detailed construction and operation phase management plans. The ESMP describes the structure and processes that will be applied to construction and operation activities to assess and monitor compliance and effectiveness of the mitigation measures. The elements of the ESMP will be incorporated into detailed construction and operation phase E&S management plans, including: (i) Construction Management Plan; (ii) Health and Safety Plan including Fire Safety and Emergency Preparedness and Response Plan; (iii) Ambient Air Quality Monitoring Plan; (iv) Noise Management Plan; (v) Construction Vibration Management Plan (including structure survey and vibration monitoring during construction); (vi) Livelihood Restoration Plan/ Abbreviated Resettlement Action Plan; (vii) Traffic Management Plan; (viii) Monitoring and Reporting Plan; and (ix) Waste Management Plan.

16. Currently E&S expertise is being provided by external consultants and thus the Project Company will be hiring qualified E&S specialists to oversee and monitor performance. In

addition, the Project Company will require that the EPC and O&M contractor develops its own specific implementation plans demonstrating how it intends to comply with Project requirements. All contractor plans will be reviewed and approved by the Project Company. The EPC and O&M contractor will be responsible to ensure that any sub-contractors will comply with the relevant health, safety, environment, and social (HSES) requirements, and its compliance will be monitored by the Project Company.

17. The Project Company will employ a full time HSES manager responsible to develop and implement CECA SL's HSES Management System and other relevant programs and plans, and to review and supervise implementation of those of the EPC and O&M contractor, ensuring compliance with the requirements of host country laws and the IDA, IFC, and MIGA Performance Standards. The EPC and O&M contractor will have a Health, Safety and Environment (HSE) supervisor on the site. The social and community liaison officer will be responsible for managing potential social impacts, implementing the Stakeholder Engagement Plan and its project grievance mechanism as well as supervising and coordinating with the contractor in all related matters.

18. Storage, handling and use of HFO at the facility can present potential hazard in relation to accidental spills and fire. The EPC and O&M contractor will develop an emergency preparedness and response plan for the construction and operational phase respectively. The plan will describe the procedures to follow when handling an emergency situation such as fire, hazardous material, waste or fuel spills, injuries, natural disasters. The Fire Safety and Emergency Preparedness and Response plan will be developed in close coordination with the community facilities (including the schools) and will be communicated to the affected community.

19. The ESHIA commitments include further survey work (supplemented by project consultations) to be conducted post-Ebola, including air quality, noise, groundwater and socio-economic aspects (with special focus on the nearby formal and informal shanty dwellings), as well as the development of a number of monitoring plans that will be needed for the Project. Monitoring will be conducted to ensure compliance with regulatory requirements and the World Bank, IFC, and MIGA Performance Standards, as well as to evaluate the effectiveness of operational controls and other measures intended to mitigate potential impacts, as identified in the ESHIA. The monitoring plans will describe the indicators to be measured and the frequency, and will define roles and responsibilities for monitoring and reporting.

20. Indicators to be monitored during construction include: vehicle accidents, noise and dust generation, water quality, waste disposal, occupational health and safety (including near misses, accidents, lost time incident, root cause analysis), and job creation within local communities. During operations, monitoring will include: air emissions and ambient air quality, noise, occupational health and safety, effluent discharge, water and fuel consumption, fuel characteristics (including sulfur, ash and conradson carbon residue content), greenhouse gas emissions, and job creation within the local communities.

21. The Project Company will perform a number of internal and external audits and inspections annually and will develop and implement an audit schedule. The contractor will be required to provide HSE performance reporting to the World Bank, IFC, and MIGA on a regular basis and include audits in their respective HSE Plans.

22. The development of the project site will not involve physical displacement as there are no inhabitants (legal residents or squatters), but will result in limited economic displacement and livelihood impacts on artisanal farmers. The zone of impact is restricted to the project site itself. Initially, 16 farmers were identified farming small areas within the project site during the two consultative meetings held in early February 2014 and early May 2014. A follow-up meeting was held with the artisanal farmers in September 2015, when updated data on the farmers (10 instead of 16 as initially identified) were collected and details of compensation were further discussed. The Project has prepared and disclosed an ARAP to manage the economic displacement of 10 artisanal farmers. The ARAP includes details on the farm plots referred as "heaps" and each ranging between 20 to 25 square meters in size. An initial estimated number of 32 heaps were identified within the project site and estimated compensation amounts were calculated based on the crops grown: potato leaf, cassava leaf, green, sour and krain-krain. The farmers are all women from around the area utilizing the heaps to supplement their subsistence and household income by selling the remainder crops at the nearby market. The ARAP will be finalized and implemented in consultation with the artisanal farmers prior to commencement of construction activities in accordance with PS5.

Monitoring and Evaluation

23. Information for the monitoring of results will be obtained from EDSA, and the Project Company. EDSA prepares detailed annual reports describing the supply and demand situation of its network, along with information regarding dispatching of individual power plants and their average costs of production. Key project performance indicators on the amount and costs of electricity generated by the Project will be provided as part of EDSA's normal reporting procedures. In addition, detailed information can be made available from both EDSA and the Project Company on the basis of PPA invoicing and payments records. The Project's intermediate outcomes will be monitored through project reports prepared by the Project Company during the construction and commissioning phases of the Project.

Role of Development Partners

24. Four additional DFIs, FMO, EAIF, CDC, and AfDB are expected to provide long term financing to the Project alongside IFC. They will share construction and operation/maintenance risk with IFC.

25. JICA together with the Islamic Development Bank and ECOWAS are providing support for the distribution and sub-transmission network. DFID is the main donor to the Sierra Leone Infrastructure Development Fund under which the Energy Access Project is funded. The African Development Bank together with DFID are planning to provide financing to network enhancement and grid extension in provincial towns. DFID is also considering support to off-grid rural electrification through its private sector window. The Millennium Challenge Corporation has approved a threshold program under which it provides support for enhancing the capacity of EWRC as well as for the financial management of EDSA.

Annex 4: Implementation Support Plan

Sierra Leone: Western Area Power Generation Project

1. The strategy for implementation support takes into account the nature of the Project and the complex environment which the Project will operate in. The IDA, IFC, and MIGA will jointly supervise the Project and coordinate on all matters affecting project performance. The proposed strategy ensures that the WBG's resources and staff are sufficient to supervise the Project and support its implementation.

Implementation Support Plan

2. Implementation support will first focus on ensuring timely completion of contractual milestones as per the PPA agreed between the GoSL and the Project Company. With the procurement processes for the EPC, O&M and fuel completed, the WBG will focus on monitoring the lender's requirements for disbursements to the Project and the construction process, environmental and social aspects, contract management, as well as establishment and operationalization of the sector-wide Collection Account.

3. In addition, the WBG will follow up on the implementation of EDSA's Revenue Enhancement Plan and outcomes and in ensuring that the budget process by the GoSL includes allocations for any subsidy requirements for the sector-wide Collection Account. The broader sector implementation support will be provided in close coordination with other Bank support to the energy sector in Sierra Leone, such as the supervision and implementation support for the Energy Access Project and the Energy Sector Utility Reform Project, and ongoing policy dialogue.

4. Appropriate covenants will be included under the Indemnity Agreement between the GoSL and IDA, and the Project Agreement between the Project Company and IDA. Compliance with these covenants will be monitored on a continuous basis.

Key Areas of Supervision

5. The implementation support plan is designed to suitably match the requirements of the project and the focus will be on anticipating and managing risks that could impact the project as noted in this PAD. During the early phase of the project implementation, more frequent supervision is envisaged in order to ensure that implementation of the project is being undertaken on a timely basis and the Collection Account is established. The period between Board approval and financial close will require intensive Bank involvement in the finalization of legal documentation. At least two implementation support missions will be undertaken in fiscal year 2017. Missions will include safeguards, sector expertise, and guarantee related expertise. Maximum utilization will be made of field-based staff. IDA and IFC will conduct joint technical implementation missions. IDA, IFC, and MIGA will coordinate supervision, subject to their respective involvement in the Project to ensure an efficient WBG approach to project supervision.

6. The Bank team will be composed of a mix of skills and experience for successful project implementation. The table below outlines the expected staff weeks and travel required to ensure the actions and schedule are appropriately resourced.

Table 4.1: Estimated Implementation Resources

Time	Focus	Skills Needed	Resource Estimate (Staff Weeks)
First 24 months	Compliance with the PPA and lender's requirements. Review construction progress of infrastructure. Implementation of environmental and social safeguard plans and mitigation measure. Establishment of the sector-wide Collection Account. Broader sector related matters impacting the Project	Guarantee Specialists, Task Management, Technical, Legal, and Safeguards	50 SWs per annum
24 months onwards	Overall Project progress and implementation support. Operationalization of the sector-wide Collection Account Progress on EDSA revenue enhancement and GoSL subsidy allocations. Social and environmental safeguard implementation support; M&E implementation support	Energy Specialists, Guarantee Specialists, Legal, Social Safeguard Specialist, Environmental Specialist, and M&E Specialist.	30 SWs per annum

7. The staff skill mix and focus in terms of implementation support is summarized in the table below.

Table 4.2: Skills Mix

Skills Needed	Number of Trips	Comments
Senior Energy Specialist (co-TTL)	2 per annum	HQ based
Senior Guarantee Specialist (co-TTL)	2 per annum	HQ based
Energy Specialist	Ongoing	Field based
Legal Specialist	2 per annum	HQ based
Social Safeguard Specialist	1 per annum	Field based
Environmental Specialist	1 per annum	HQ based
IFC team	1 per annum	Field based
MIGA team	1 per annum	HQ based

8. Based on the implementation support plan, the estimated budget from FY17 to FY19 for IDA is:

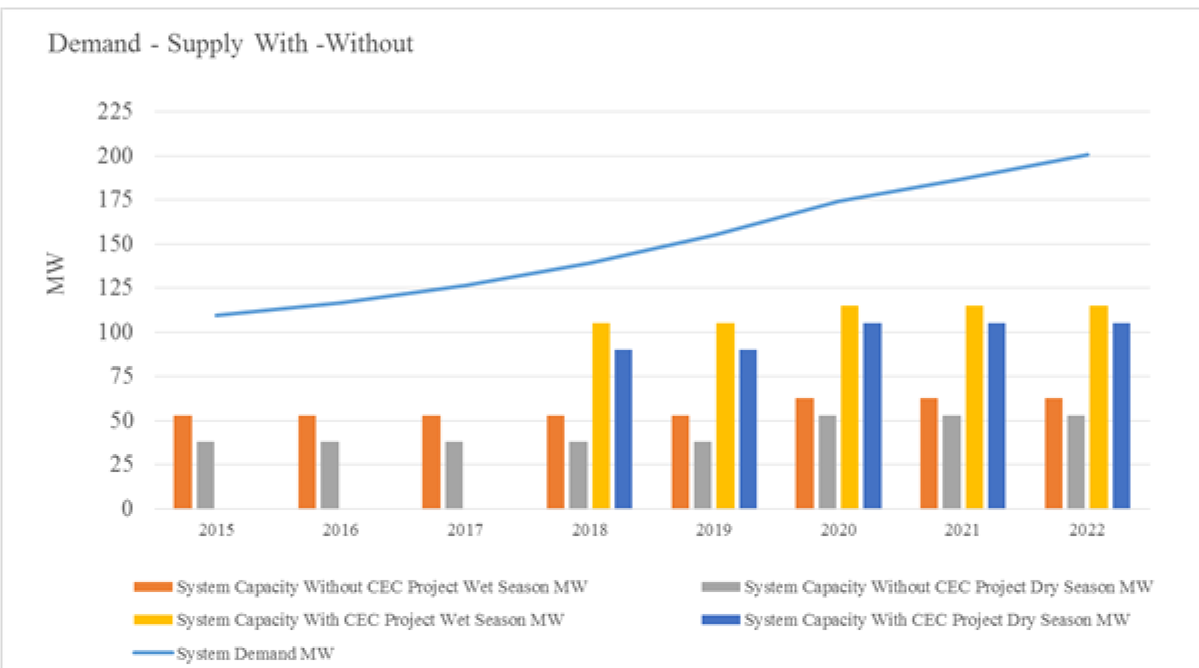
Fiscal Year	FY17	FY18	FY19
Amount of Resources Required (US$)	350,000	200,000	100,000

Annex 5: Economic and Financial Analysis

Sierra Leone: Western Area Power Generation Project

1. A demand and supply forecast was prepared to assess the amount of suppressed demand for the network in the Freetown Capital Western Area (Figure 5.1). Forecast demand was prepared as part of the IRP. The supply forecast is based on available capacity. The only additional generation capacity for the period 2015-2025 is assumed to be the proposed Project and imports through WAPP. There is uncertainty on when the existing Addax will commence power generation. Generation from Addax has been incorporated from 2020 and onwards. Currently, around 40 percent of the demand is being supplied by the network during the wet season. As most of the generation is supplied by the Bumbuna hydropower plant, dry season supply is considerably less. It is estimated that about 50-80 percent, depending on consumer category, of suppressed demand is provided by alternative sources of electricity supply, including mainly self-generation using diesel. The proposed Project will add considerable base load to the system for all season supply through the network which will reduce the amount of load shedding particularly during the dry season.

Figure 5.1: Available Supply and Demand Forecast for the Freetown Capital Western Area (MW), 2015-2025



2. **Analysis of alternatives.** An analysis of alternative generation under the IRP (2014) for the energy sector confirmed that HFO-fired generation would be the feasible least cost option for supplying much needed all year around electricity for the Freetown Western Capital Area in Sierra Leone in the short to medium term. This analysis included first a wider preliminary screening of alternatives to assess which options could provide all-year around firm power supply to the network in Freetown. The screening, which included different options of solar, wind, HFO, natural gas and coal, concluded that HFO and coal would be the two options for supplying year-round firm power in the near to medium term. The WB team extended the analysis of alternatives to

include hydropower and diesel. An economic least cost analysis was then conducted for the feasible options that would meet the needs for the Freetown network. The analysis concluded that HFO-fired plants would be the least cost option for providing year-round reliable electricity to the grid**.**

3. The screening of generation options concluded that lower emission options such as wind and solar would not be feasible options for supplying year-round firm power to the network in the medium term. Wind was also excluded for the short-to medium term due to the unavailability of wind velocities. More studies would be needed to assess the wind potential. Solar, while feasible, would not address the need for supplying firm energy to stabilize the network in the Freetown Western Capital Area. Solar was found to be more attractive for off-grid energy supply. Gas turbines were excluded in the screening process as natural gas is currently not available in Sierra Leone. An extended assessment of gas concluded that the size of the power market in Sierra Leone and distance to the market source in Europe would make the cost prohibitive, and would entail additional costs for associated infrastructure which would take considerable time to develop. Hydropower was excluded in the extended screening process based on the time it would take to develop such a project, known environmental issues, and indicative cost estimates. Furthermore, the size of the potential hydropower project was estimated at 200 MW, which was considered too large for the network capacity in the medium term. Smaller hydropower potential would need more in-depth analysis, and is currently considered as being located too far from the Freetown network to be economically feasible. The screening concluded that the feasible generation options to supply firm power in the short to medium term would be HFO, coal and diesel.

4. The economic least cost analysis, which was prepared as an indicative assessment of alternatives, does not include financing costs. A summary of the least cost analysis is provided in Table 5.1. The analysis concluded that coal would be a more expensive option than HFO. The minimum size of a coal plant was estimated as 125 MW, which is also considered too large for the size of the network. In addition, coal-fired generation is associated with significant adverse environmental impacts. Diesel would have similar capital costs as the HFO option but the fuel cost of diesel compared to HFO would be considerably higher.

Table 5.1: Indicative Least Cost Analysis[1]

	HFO (40 MW)	Coal (125 MW)	Diesel (40 MW)
Fixed annual Cost (US$/kW)	239	495	239
Variable cost (US$/MWh)[2]	105-119	40-46	115-135

[1] The economic least cost analysis excludes financing costs and taxes.
[2] Variable costs are presented in ranges and depends mainly on fuel prices and load

5. **For the purposes of the economic and financial analyses, the World Bank's January 2016 oil forecast covering the period 2015 to 2025 has been applied.** After 2026, oil prices are assumed to grow in line with U.S. consumer price index of two percent per year. Table 5.2 shows the oil forecast and the costs for HFO and diesel per tonne, including costs for transportation from the jetty to the Kissy site.

Table 5.2: Fuel Price Forecast and Costs

Year	World Bank forecast (real 2015 US dollars) $/bbl	HFO Delivery Price* $/tonne	Diesel Delivery Price* $/tonne
2018	46.2	395	508
2019	48.6	409	528
2020	51.2	424	550
2021	53.5	438	569
2022	55.9	452	589
2023	60.4	478	626
2024	65.8	510	671
2025	70.8	539	713

* Delivery cost at the Kissy site includes associated transportation from the jetty.

Economic Analysis

6. The analysis is undertaken comparing costs and benefits under "with" and "without" project scenarios and covers the 18 months construction period and the PPA term from 2018 to 2037. Under the "with" project scenario the Project will displace a portion of self-generation across all consumer categories. Increased availability combined with the lower cost of electricity supply from the network is also expected to lead to some induced demand even though this will still be limited by the prevailing supply constraints. In the absence of viable alternatives to the Project, the social cost of carbon was not applied to the economic analysis. GHG emissions of the project have been assessed, consistent with the Guidance Manual for Greenhouse Gas Accounting for Energy Investment Operations of the World Bank, which uses a net GHG accounting approach harmonized with other International Financial Institutions. The gross and net GHG emissions of the project are estimated at 278,000 and 100,011 tonnes of CO2 per year, respectively.

7. **Economic Costs.** The economic costs incurred include project capital cost, fixed annual Operations and Maintenance (O&M) costs, variable O&M, and variable fuel charges. The capital costs excludes financing costs, working capital and reserves. Fuel charges are estimated to increase from US$33.5 million in 2018 to US$44.4 million by 2025 and remain constant thereafter. In addition, the analysis includes investment costs of US$2.5 million associated with new connections to the network and an estimated at US$1.5 million for interconnection of the Project with the network. All other distribution costs are common for the "with" and "without" project scenarios. All costs exclude taxes and duties.

8. **Economic Benefits.** The economic benefits have been calculated based on cost savings associated with displaced self-generation and kerosene, and induced demand evaluated resulting from a combination of improved supply and lower costs of supply by EDSA at willingness to pay. Table 5.3 shows the allocation of electricity supply between consumer categories under the " with" and "without" scenarios.

Table 5.3: Electricity Supply Allocation by Consumer Category

Supply Allocation Without		2015	2016	2017	2018	2019	2020
Residential	MWh	50,978	52,149	54,008	54,008	56,300	56,893
Commercial	MWh	27,265	29,608	30,664	30,664	31,965	32,302
Industrial	MWh	88,416	91,396	94,654	94,654	98,672	99,712
Supply Allocation With							
Residential	MWh	50,978	52,149	54,008	130,183	138,010	141,708
Commercial	MWh	27,265	29,608	30,664	127,209	132,476	133,527
Industrial	MWh	88,416	91,396	94,654	259,992	269,964	271,328
Incremental Supply							
Residential	MWh				76,176	81,710	84,814
Commercial	MWh				96,545	100,511	101,225
Industrial	MWh				165,337	171,292	171,617
Displaced Thermal Generation	MWh				8,583	8,583	8,583
Allocation of the incremental supply in %							
Residential					22.0%	22.6%	23.2%
Commercial					27.9%	27.8%	27.6%
Industrial					47.7%	47.3%	46.9%
Displaced Thermal					2.5%	2.4%	2.3%

9. Cost savings for each consumer category have been calculated based on self-generation using a mix of different diesel generation units. Some displacement of generation of the existing thermal plants will take place during off-peak demand as they are more expensive and the project will have dispatch priority. For purposes of the analysis it was assumed that 80 percent of the supply from the Project would otherwise be met by self-generation for industrial and commercial consumers. For residential consumers it was assumed that 50 percent would be met by a combination of self-generation and kerosene. The remaining 20 percent and 50 percent have been defined as induced demand resulting from lower costs and improved supply, and the associated benefits have been evaluated at the calculated average willingness-to-pay (WTP). The average WTP was calculated based on a weighted mix of long run marginal costs (LRMC) for alternative electricity sources (Table 5.4) and EDSA supply.

Table 5.4: Willingness to Pay

	EDSA Supply	**Alternative Sources of Electricity**			
		5kW Genset	**110kW Genset**	**500kW Genset**	**Weighted Average WTP (2015)**
	At tariff level	**0.60$/kWh**	**0.46$/kWh**	**0.38$/kWh**	**$/kWh**
Residential	50%	30%			0.19*
Commercial	30%	14%	42%	14%	0.40
Industrial	30%		28%	42%	0.36

*A non-linear approach was applied to the calculation of the WTP for residential consumers to avoid over-estimation.

10. For the calculation of cost savings the calculated weighted average LRMC for the assumed combination of self-generation units were applied. As there is no evaluation of existing assets for generation, transmission and distribution the tariff has been used as a conservative proxy of the LRMC of supply from EDSA. The cost savings for each consumer category for 2015 is summarized in Table 5.5.

Table 5.5. Cost Savings by Consumer Category (2015)

	Self-Generation Weighted Average LRMC US$/kWh	EDSA Supply Tariff US$/kWh	Average Cost Savings US$/kWh
Residential	0.43	0.16	0.27
Commercial	0.33	0.22	0.11
Industrial	0.28	0.25	0.03

11. **Economic Results**. The economic analysis of the Project yields a NPV of US$492 million, a cost benefits ratio of 1.8, and an Economic Internal Rate of Return (EIRR) of 39.3 percent. These results are mainly driven by the substantial cost savings resulting from displacing inefficient self-generation and induced demand resulting from lower costs and improved reliability for consumers. Sensitivity analyses were conducted with respect to key assumptions and risks. The results of the sensitivity analyses, shown in Table 5.6, suggest that the results are robust with respect to changes in key risks and assumptions. These include reduction in benefits, project delays, and reduced capacity factor for the initial two years of operations of the project. An increase in the price of crude oil would increase the EIRR as it increases costs of self-generation (diesel) more than it affects the energy charges of the project which are passed through to the economy as the plant operates on HFO, with lower prices, and has a higher plant efficiency.

Table 5.6: Economic Results

	Base Case	**Sensitivity Analysis**			
		10% Benefit Reduction	**12 months Delay**	**Reduced Capacity Factor from 82.4% to 60% for the first 2 Years**	**Combination of Adverse Impacts**
Costs (US$ m)	(640)	(640)	(610)	(617)	(599)
System Costs (US$ m)	(4)	(4)	(4)	(4)	(4)
Benefits (US$ m)	1,136	1,022	1.074	1.079	937
Economic NPV (US$ m)	492	379	460	459	335
EIRR (%)	39.3	32.8	32.7	33.4	25.7
Benefit Cost Ratio	1.8	1.6	1.8	1.6	1.6

EDSA Financial Analysis

12. The financial condition of the electricity sector in Sierra Leone is weak, with a cash deficit estimated at around US$10 million for 2015. EDSA remains heavily dependent on GoSL subsidies for operational expenses. The sector critically needs policy reforms along with investments in generation and network upgrades, and will require continued fiscal support from the GoSL over the foreseeable future. With delays in implementing key policy measures and investments aimed at reducing system losses, improving governance and management of the distribution utility, EDSA, and expanding supply, the cash shortfall of the sector is likely to increase. The projections for the sector show a high degree of uncertainty and risk that have significant fiscal implications. These uncertainties are reflected in the various scenarios of policy reform implementation, where the annual cash deficit for the sector may range between US$3 million and US$39 million.

13. **Tariffs.** While tariffs have not been adjusted since 2008, these are amongst the highest in the region. The weighted average tariff is estimated at about US$0.22/kWh for 2015 (based on collections). The current tariff structure is in Table 5.7.

Table 5.7: Tariff Structure

Tariff Category	Current Le/kWh
Social 0-30kWh	560
Residential 30-150kWh	800
Residential >150kWh	1064
Commercial 0-30kWh	977
Commercial 30-150kWh	1172
Commercial >150kWh	1269
Institutions	1172
Industrial and Gov’t	1412
Street Lighting	1188
Welders	1490

14. Financial projections were prepared to assess the impact of the Project on EDSA as the off-taker, and to assess the need for fiscal support to the sector. Since EDSA became operational only in early 2015 and has yet to finalize its financial statements for the first year of operation the projections are based on cash flow estimates. Audited financial statements for NPA, the former integrated utility, have not been prepared since 2011 when the utility was unbundled.

15. EDSA’s ability to reduce system losses is an important determinant of the magnitude of the need for GoSL subsidies to the sector. The analysis takes into account network losses that are deducted from purchases to calculate sales. The technical loss forecast at 33 kV and 11 KV, prepared as part of due diligence for the project, is based on load flow analyses that takes into account all confirmed network investments, existing generation and the additional generation by the proposed Project. Low voltage losses were estimated based on the status of the network and known investments. As part of due diligence for the Project, EDSA prepared a revenue enhancement plan where it identified specific measures needed to reduce commercial losses, including a revenue enhancement program whereby EDSA would install remote reading and monitoring (smart meters) of its largest customers. The forecast period for system losses was 2015 to 2020. Thereafter, losses were kept constant. EDSA expects total losses to be brought down from

38 percent in 2015 to around 26 percent by 2020. This level of losses are expected to be maintained until further investments can be confirmed. A substantial part of these reductions are due to ongoing investments in the 33 kV network. Technical losses are estimated to be brought down from about 18 percent in 2015 to about 10 percent in 2020. Conservative assumptions were made with respect to EDSA's ability to reduce commercial losses as part of the implementation of smart meter reading of larger customers.[16] The ability to reduce and maintain lower losses will require improved management of EDSA and political commitment to support EDSA in taking measures against electricity theft. It is assumed that commercial losses would be reduced from about 20 percent in 2015 to around 16 percent by 2019.

16. **Cash Flow Projections.** The cash projections were prepared based on O&M costs and existing payment obligations as well as those incurred by the Project, projected sales and losses. Investment costs are not included in the analysis, as these are assumed to be provided separately by the GoSL or by donors, for the period of analysis. Given the fragile financial position of EDSA a number of cash flow projections were prepared to simulate the impact of policy measures and investment scenarios. The World Bank (January 2016) oil price forecast was applied to the analyses.

17. EDSA currently incurs billing losses estimated at 10 percent of revenue. The collections are currently estimated at 75 percent of total billed electricity sales. With the application of new IT systems and the ongoing installation of prepay meters EDSA expects that it would be able to reduce billing losses, improve collections and reduce receivables. The projections include a 10 percent tariff increase in 2018 and another 10 percent in 2020 as a result of a combination of a tariff restructuring and change in consumer mix resulting from the project.[17] Thereafter, it is assumed that tariffs will be adjusted by inflation of 2.5 percent annually. The policy implementation scenario is based on the assumption that all confirmed investments and the policy measures as detailed in the GoSL Policy Letter to the Bank are implemented on a timely basis. The ATAF will take time to design for Sierra Leone's specific circumstances before it can be implemented. EWRC capacity needs to be significantly enhanced, and a tariff methodology will need to be developed, after which the ATAF can be designed and implemented. Therefore, the projections do not factor in the impact of an ATAF. The analysis assumes an exchange rate of 5,702 SLL per US$ for the period of analysis, and given the weak economic outlook for the country, and the fact that a significant portion of EDSA's costs will be in US$, exchange rate depreciation scenarios were also prepared. The Policy Letter also includes the waiver of fuel taxes for HFO generation, whereas the financial projections assume that the fuel taxes are waived for all fossil fuel-based generation. Waiving fuel taxes only for HFO plants could add a significant financial burden on the sector if existing grid-based diesel generation is not converted to HFO. While this would translate into higher budgetary support from the GoSL, it helps incentivize the sector to move away from more expensive diesel.

18. The financial cash flow projections depend on the assumptions used for the pace of sector reforms and grid investments and show that the sector requires substantial subsidies to meet its

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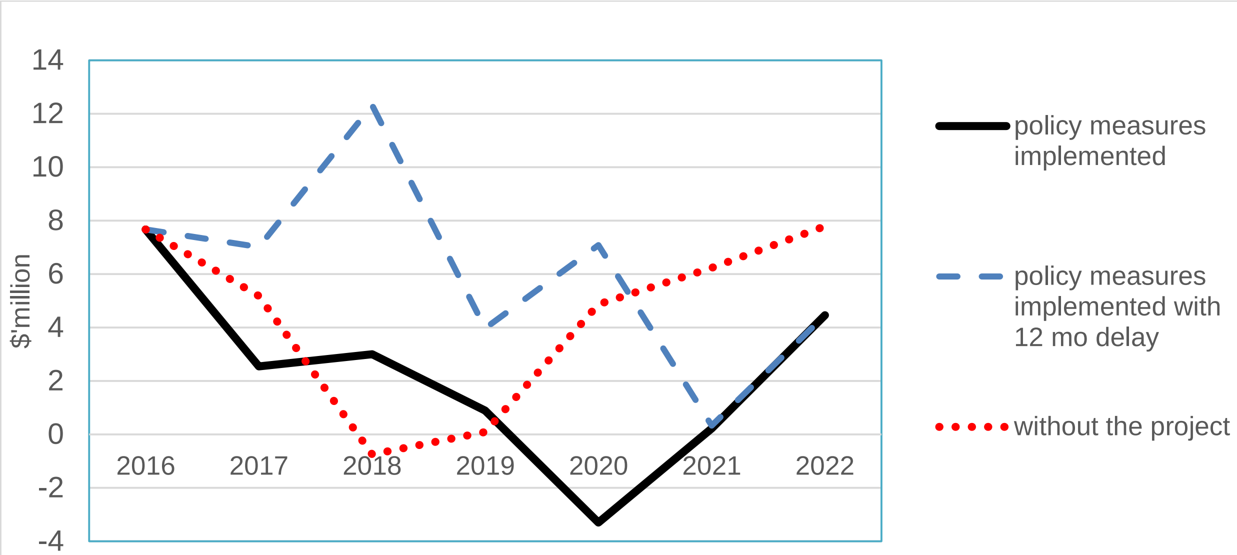
[16] Large customers are estimated to account for about 60 percent of total sales.

[17] The change in consumer mix would occur as a result of connecting the large customers who are currently not connected to the network combined with targeting smart meters to large customers that will reduce commercial losses in this sales segment. This change in consumer mix would increase the average tariff as large industrial and commercial customers pay a higher tariff than other customers.

ongoing payment obligations and maintain the network in the coming years. In all scenarios the cash shortfall is expected to increase if there are no further tariff increases or further loss reduction measures to compensate for forecast fuel price increases beyond 2020. Any delays in implementation of policy measures and investments would have significant adverse impacts on the cash flow projections. The 'policy measures implementation' scenario assumes implementation of all policy measures including improvements in collections, loss reduction, an average tariff increase of 10 percent in 2018, another increase of 10 percent in 2020, and annual tariff indexation of 2.5 percent thereafter, as well as a tax waiver on fuel for generation. Currently more than 50 percent of EDSA's sales are by pre-pay meters. As long as EDSA continues to implement program for pre-payment meters, collections of future, current and past receivables are expected to improve. However, if collections do not improve as envisaged, the impact of the cash shortfall may be significant. A one percent reduction in collections corresponds to US$1.2 million in lost revenue annually. The worst case scenario would be if no policy measures are implemented, where the cash shortfall would reach nearly US$39 million in 2022. The 'no tariff increases' scenario, which assumes all policy measures to be timely implemented except tariff increases, shows an increasing shortfall from 2019 onwards. If the implementation of policy measures is delayed by 12 months the cash shortfall will increase sharply and peak at the time of project commissioning. This suggests that the timely implementation of the policy measures has major impacts on the cash shortfall. All scenarios show a need for further tariff increases and loss reduction measures post 2020 to mitigate cost increases associated with fuel prices and inflation.

19. The various scenarios show the sensitivity of the sector cash flow projections to the pace of reforms and investments. A comparison between a with and a without project scenario (Figure 5.2) shows that cash flow projections without the project also will lead to a considerable cash deficit as EDSA would not be able to provide electricity supply to additional large customers and tariff increases are likely to be politically risky given poor service quality. In the event of delayed network investments EDSA and GoSL would still need to pay capacity charges. If only 60 percent of the forecast load is dispatched, the fixed charges from the Project would increase by USc3/kWh. Such delays would have a large but relatively short-lived impact on the cash flow projections. A delay in Project commissioning would have limited impact on the financial position of the sector in the medium term.

Figure 5.2: Cash deficit projections – with and without the Western Area Project



20. If all policy measures and investments outlined in the policy letter would be implemented on time the sector would still require subsidies for the foreseeable future (Table 5.8). Tariff increases combined with loss reductions would significantly bring down the shortfall. But continued reform measures beyond 2020 are needed to maintain a lower level of fiscal subsidy requirements.

Table 5.8: With Policy Measures EDSA Cash flow Projections (2016-2022)

US$'000s	2016	2017	2018	2019	2020	2021	2022
Direct Costs	938	1,037	2,489	2,594	2,998	3,016	3,039
SG&A	9,192	9,652	10,135	10,641	11,173	11,732	12,319
Bumbuna	4,998	5,123	5,251	5,382	5,517	5,655	5,796
Addax	-	-	-	-	9,965	9,929	9,929
WAPGP	-	-	67,501	69,671	72,253	74,313	77,000
Others EGTC	17,597	17,151	17,515	19,244	20,049	20,769	21,575
Accrual Revenues	28,842	32,878	104,566	108,818	127,984	127,749	127,749
Cash Collections	25,057	30,420	99,895	106,639	125,255	125,194	125,194
T&D Losses (%)	**38.0**	**32.9**	**30.4**	**28.0**	**26.2**	**26.2**	**26.2**
Cash Shortfall	(7,668)	(2,543)	(2,995)	(893)	3,299	(220)	(4,463)
Weighted Average Cost of Supply (US$/kWh)	**0.197**	**0.198**	**0.223**	**0.224**	**0.231**	**0.238**	**0.246**
Weighted Average Tariff (US$/kWh)	**0.193**	**0.188**	**0.220**	**0.219**	**0.236**	**0.236**	**0.236**

21. The financial projections highlight the fragility and exposure of the sector both to measures that need to be taken to improve the sector but also to external factors, such as oil prices and foreign

exchange rates. The exposure to external factors is higher with the Project than without. Given the prevailing capacity constraints in the country the risk of delayed implementation of investments that are currently at a planning stage as well as implementation of the policy measures are significant. Tariffs are already relatively high in Sierra Leone, and approval of tariff increases just prior to or during elections may not be politically acceptable. Moreover, implementation of measures to combat commercial losses may face strong resistance that would undermine and delay such efforts, and collections may not improve as expected. Weak implementation capacity for investments may result in delays in technical loss reductions and adversely impact on the ability of EDSA to deliver the additional generation and collect payments from customers. Such delays, or failure to implement necessary measures, will result in significant adverse impacts on EDSA's financial position, and lead to increased need for subsidies to the sector.

22. Of the risk factors beyond control of the GoSL and EDSA, the foreign exchange risk represents the largest impact. The current weak economic outlook for Sierra Leone combined with the fact that EDSA's revenue is in SLL while over 75 percent of its costs will be denominated in US$ once the Project is commissioned, highlights the exposure to currency depreciation. The network capacity absorption risk should be regarded as a short term risk as when investments eventually take place and new customers are connected to the grid this risk will eventually dissipate. Nevertheless, if the network is not able to absorb all the generation the fixed charges per kWh will increase. The fuel price risk remains a significant risk for the sector given world market volatility and the current historic low prices. A US$1/bbl increase in crude oil prices with a constant exchange rate would increase the cash shortfall by US$0.55 million annually. Table 5.9 below summarizes the projected cash shortfalls for all scenarios. The analysis shows the uncertainty and risks in the sector. Failure to implement reform measures combined depreciation would have an extreme adverse impact on the fiscal positon of the GoSL.

Table 5.9: Sector Cash Deficit Projection Scenarios, 2016-2022 (US$ millions)

	2016	2017	2018	2019	2020	2021	2022	Cumulative Deficit for the Period
Policy Scenarios								
Policy measures/ investments timely implemented	7.7	2.5	3.0	0.9	(3.3)	0.2	4.5	**15.5**
No implementation of policy measures	7.7	5.2	22.0	23.3	30.8	34.3	38.6	**161.8**
Implementation of policy measures but no tariff increases	7.7	2.5	9.3	7.6	12.1	15.7	20.0	**74.9**
Policy measures implemented with 12 months delay	7.7	7.0	12.3	4.0	7.1	0.3	4.5	**42.8**
Policy measures implemented bu no tax waiver	7.7	5.2	10.3	8.3	4.1	7.6	11.9	**55.1**
EDSA collection rate remain at 75%	9.9	5.0	8.9	7.4	4.3	7.9	12.1	**55.5**
Investment Scenarios								
Absorption capacity reduced to 60 % for the first 2 years	7.7	2.5	9.5	8.0	(3.1)	0.2	4.5	**29.3**
CEC commissioning delayed by 1 year	7.7	2.5	(3.5)	1.6	(3.3)	0.2	4.2	**9.4**
1/2 of CEC is commissioned on time and remaining 1 year delayed.	7.7	2.5	(1.4)	1.2	(3.3)	0.2	4.5	**11.4**
Exchange Rate and Oil Price Scenarios								
15% currency depreciation	7.7	4.1	13.3	13.3	12.0	13.4	17.5	**81.3**
30% Currency depreciation	7.7	5.2	21.3	20.5	20.3	23.6	27.6	**126.2**
15% increase in fuel prices	7.7	3.5	7.2	5.5	1.6	5.4	10.0	**40.8**

Project Financial Analysis

23. The financial model of the Project and the assumptions used, were prepared by the transaction advisor of the sponsors, Synergy Consulting Inc., IFC and other DFI lenders have modified the financial model and the assumptions in a conservative way for the purpose of lender's appraisal and due diligence. Key assumptions used in the following financial analysis on the Project are summarized in the Table 5.10.

Table 5.10: Assumptions Summary

Assumptions		Remarks
Total Project Cost	USD 138.0 mil	Please refer to the Table 5.10 for detailed breakdown
EPC Cost	USD 69.7 mil	Proposed EPC price by Wärtsilä
Availability	90%	Lender's assumption (vs. EPC and O&M guaranteed availability of 92.5%)
Effective Load Factor	90%	Sponsor estimate
Fuel Oil Price	A mid-term price of US$60.4/barrel (nominal)	Please refer to the Table 5.1
Equity : Debt Ratio	25% : 75%	Equity includes shareholder loan
Debt Tenor	14 years	
Depreciation	20 years with a straight line method	

24. The total project cost is estimated at US$138 million which includes EPC cost, contingencies for over-runs, development costs, owner's costs, financing costs, and pre-funded reserve accounts as required under the financing documents. The estimation for breakdown of the project cost and financing plan is shown in the Table 5.11.

Table 5.11: Project Costs and Financing Sources

Project Cost	US$ Millions	%	Financing Plan	US$ Million	%
EPC	69.7	50.5%	Equity	34.5	25%
Contingencies	5.2	3.8%			
Development Cost	23.9	17.3%			
Development fee	5.5	4.0%			
Generator's Costs	4.8	3.5%	Debt (from DFIs)	103.5	75%
O&M Mobilization	1.2	0.9%			
Financing Costs	9.3	6.7%			
Reserve Accounts	18.4	13.4%			
Total	**138.0**	**100%**	**Total**	**138.0**	**100%**

25. The EPC cost estimated at US$69.7 million includes all EPC costs for the power plant, civil works and other ancillary facilities. The Project sponsor initiated the prequalification process for the EPC and O&M tender in December 2014. Among the 31 firms that participated in the prequalification, 14 firms were pre-selected for the next stage, and nine firms submitted proposals in April 2015. Wärtsilä was selected as the Project's EPC and O&M contractor.

26. The capacity charge and the fixed O&M charge have been negotiated as part of the PPA. The fuel charges are pass-through to the GoSL and EDSA.

27. Due to the nature of development of a HFO power project with a relatively small size in a high risk country context, the reserve accounts (comprising working capital and debt service reserve account) and the development costs account for a relatively large share of total project costs. IFC has conducted due diligence on the development costs incurred by the project sponsors up to June 2014 covering the preceding three years. These cost were audited by KPMG. IFC is monitoring the development costs that would be incurred up to financial close.

28. The Project will be financed on a limited recourse project finance basis with expected debt to equity ratio of 75:25. The project sponsors are expected to provide US$34.5 million of shareholder's equity to the Project Company, which will be injected into the Project before senior debt. IFC has been mandated by the project sponsors as a lead arranger for debt financing. It is envisaged that the senior debt will be solely financed from DFIs, including IFC, due to high risks perceived by private lenders towards this first sizable IPP project in the country which is considered highly risky by the commercial lending community. Among other DFIs, FMO, EAIF, CDC and AfDB are expected to join IFC to provide up to 14 years long-term loans. The financial close of the Project is anticipated to occur in FYQ1/Q2 2017.

Financial Performance of the Project

29. **Income Statement of the Project Company**. The revenue of the Project Company consist mainly of capacity payment, fixed O&M payment (subject to escalation for lube oil, and US and local CPI) to cover the O&M costs of the Project, and fuel payment on a pass-through basis under the PPA. Corporate income tax is exempted based on the PPA.

30. **Key Indicators**. Provided that the Project Company properly manages construction and operation risks to make the plant dependable at the firmed availability level under the PPA, the forecasted cash flow of the project would be adequate to cover debt service payments to the lenders and allow equity returns to the private sponsors commensurate to the project risks assessed as below. The minimum Debt Service Coverage Ratio over the life of the project required by the lenders are relatively high (1.50), because DFI lenders have concerns for the lack of track record of the EDSA/GoSL as the off-taker even with the proposed IDA-guaranteed LC arrangement as well as the performance of relatively unknown regional sponsor companies that DFI lenders are yet to be familiar with. The level of sponsor IRR is adequate for the region compared with projects of a similar nature recently concluded in Nigeria and Senegal.

Annex 6: Ownership and Structure – Application of Offshore Financial Center Policy

1. Investment Structure. The Project Company, CECA SL Generation Limited, is domiciled in Sierra Leone. CEC Africa (Sierra Leone) Limited (incorporated in Mauritius) owns 100 percent of the Project Company.

(a) TCQ Power Limited (incorporated in the British Virgin Islands, "BVI") owns 49.9 percent of CEC Africa (Sierra Leone) Limited. The entities that indirectly own more than 10 percent in the Project Company through TCQ Power Limited are:

(i) VICI Holdings SAL (incorporated in Lebanon), which owns 61.2 percent of TCQ Power Limited, thus indirectly owns 30.5 percent of the Project Company. VICI Holdings SAL is 100 percent owned by Muhammad Nasser and his family members, all of whom are residents of Lebanon. Muhammad Nasser is a Lebanese entrepreneur who has had a highly successful engineering and construction business in the Middle East and North Africa region.

(ii) Energy Development Corporation (incorporated in Lebanon), which owns 24.8 percent of TCQ Power Limited, thus indirectly owns 12.4 percent of the Project Company. Energy Development Corporation is 99.99 percent owned by BB Energy Holdings SAL (incorporated in Lebanon).

(iii) BB Energy Holdings SAL is 100 percent owned by the Bassatne family, all of whom are residents of Lebanon. The Bassatne is one of the most prominent Lebanese families with business interests in energy trading and oil downstream distribution services business. BB Energy is an existing client of IFC. A trading facility of US$150m was approved by IFC in 2012 for BB Energy's oil product business in Mauritania.

(b) CEC Africa Investments Limited (incorporated in Mauritius) owns 50.1 percent of CEC Africa (Sierra Leone) Limited. The entities that indirectly own more than 10 percent in the Project Company through CEC Africa Investments Limited are:

(i) Copperbelt Energy Corporation Plc. ("CEC Plc.", incorporated in Zambia and listed on the Lusaka Stock Exchange) owns 100 percent of CEC Africa Investment and thus indirectly owns 50.1 percent of the Project Company. As a publicly listed company, CEC Plc. publishes its audited financial statements and annual reports and is subject to the listing requirements of the Lusaka Stock Exchange.

(ii) Zambia Energy Corporation Ireland ("ZECI"), incorporated in the Republic of Ireland, owns 52 percent of CEC Plc., thus indirectly owns 26 percent of the Project Company.

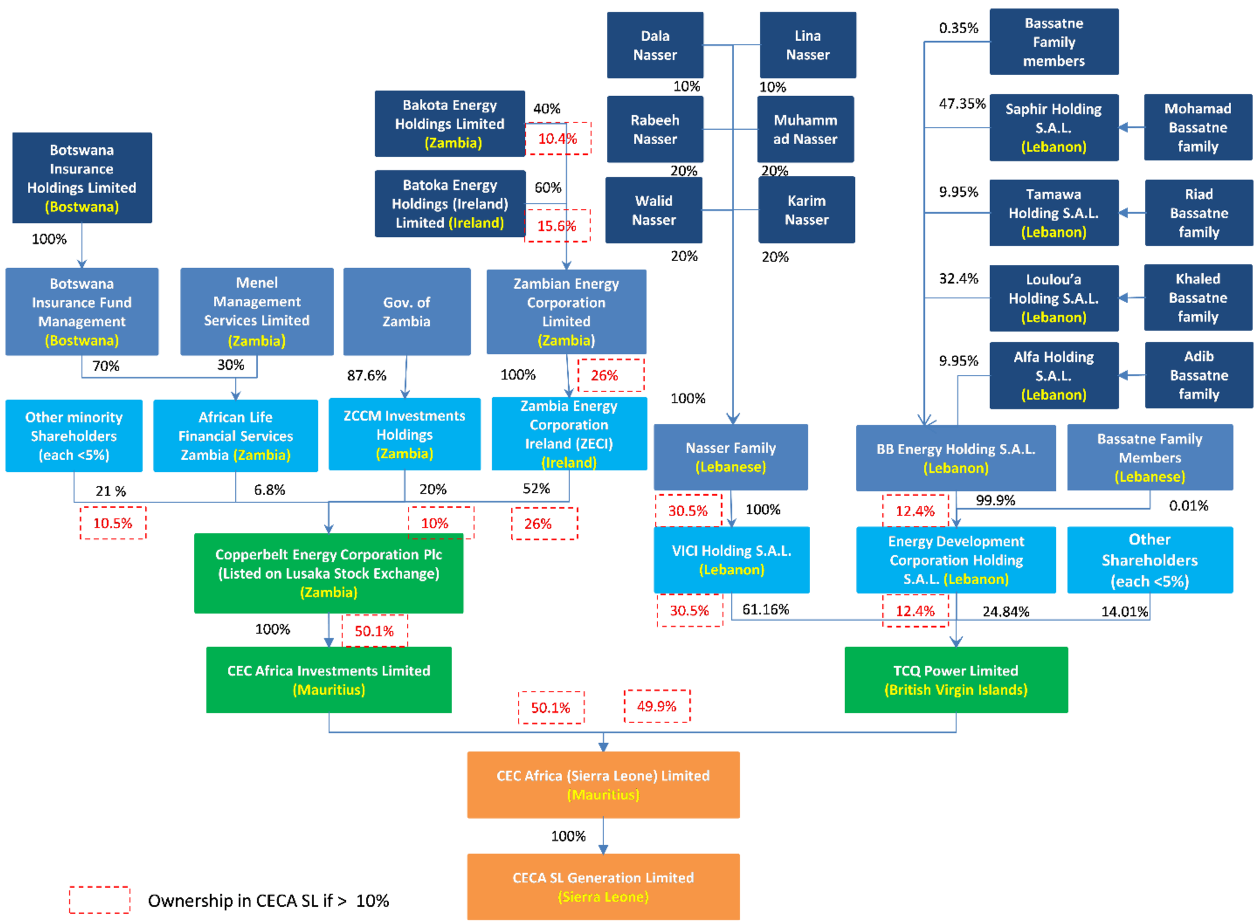
(iii) Bakota Energy Holdings (Ireland) Limited (incorporated in the Republic of Ireland) owns 60 percent in ZECI, thus indirectly owns 15.6 percent of the Project Company.

(iv) Bakota Energy Holdings Limited (incorporated in Zambia) owns 40 percent in ZECI, thus indirectly owns 10.4 percent of the Project Company.

(v) ZCCM Investments Holdings (incorporated in Zambia) owns 20 percent of CEC Plc., thus indirectly owns 10 percent of the Project Company.

The organizational chart (Figure 6.1) illustrates the ownership structure of the Project Company.

Figure 6.1: Ownership Structure of the Project Company



2. **Integrity Due Diligence**. IFC has been satisfied with its integrity due diligence on all relevant persons involved in the transaction in line with IFC's Integrity Due Diligence guidelines. An additional due diligence following the publication of the Panama Papers was completed, which did not indicate any concerns for the Project.

3. **Use of intermediate jurisdictions**. The project team conducted due diligence on the use of each intermediate jurisdiction in the structure and confirmed with the client that:

(a) Mauritius was chosen as an intermediate jurisdiction in this project in order to mitigate the risk of double taxation and to take advantage of the extensive Mauritian Double Tax Treaties.

(b) The BVI was chosen as an intermediate jurisdiction in this project because of its administrative simplicity (BVI does not have a takeover code or public filing requirement), common law legal principles, the ability to ring-fence liabilities and efficient tax treatment (foreign businesses are exempt from all local taxes and stamp duties).

(c) The Republic of Ireland was chosen as an intermediate jurisdiction in the corporate structure of CEC Plc, one of the main sponsors of the project, to take advantage of the benefits under the tax treaty entered into between Ireland and Zambia for the avoidance of double taxation.

4. **Taxation.** The GoSL has granted several tax exemptions for the Project. According to the Power Purchase Agreement, any machinery, equipment, or materials imported for use in the construction of the project shall be exempt from any import duties; interest payments as well as dividends are exempt from withholding tax; the project company, the sponsors, the EPC and O&M contractors are exempt from corporate tax on income from the project; and capital gains realized in relation to the project are exempt from tax in Sierra Leone.

5. **WBG Policy on Tax Transparency**. This proposed investment was subject to the policy on the use of intermediate jurisdictions in WBG operations approved by the Board (IFC/R2014-0206), and was found to be acceptable.

6. Under the policy, IFC first performed its standard transactional due diligence, with emphasis on the business and tax planning rationale for the structure. Based upon the information available to IFC and the analysis conducted, IFC is satisfied that, from a transactional stand point, the structure was put in place for legitimate reasons.

7. Next, after examination of the status of Mauritius, the British Virgin Islands, and the Republic of Ireland vis-à-vis the Peer Review Process of the Global Forum on Transparency and Exchange of Information for Tax Purposes, Mauritius, the British Virgin Islands, and the Republic of Ireland were found to be eligible Intermediate Jurisdictions for this project.

(a) Mauritius underwent a combined Phase 1-Phase 2 review for which there is a Peer Review Report published on November 22, 2013. Based on the findings in the Peer Review Report, Mauritius was assigned a Phase 2 rating of "Largely Compliant." Mauritius also underwent a Supplementary Phase 2 Peer Review to assess progress made to address gaps identified in its legal framework and exchange of information practices since its previous review. Mauritius was shown to have implemented recommendations made by the Global Forum, and maintained its "Largely Compliant" rating. Therefore Mauritius is an eligible Intermediate Jurisdiction for the purpose of the OFC Policy.

(b) BVI underwent a Phase 1 review and based on the Peer Review Report dated September 12, 2011 and the Supplemental Peer Review Report dated October 26, 2011, received a positive assessment BVI subsequently underwent a Phase 2 review by the Global Forum. The Peer Review Report was published on November 22, 2013, and based on the findings in the Peer Review Report, BVI was initially assigned a Phase 2 rating of "Non-Compliant". The Global Forum subsequently launched the Supplementary Review for BVI and based on the Supplementary Peer Review Report dated August 3, 2015, BVI was assigned a rating of "Largely Compliant".

(c) The Republic of Ireland underwent a combined Phase 1 – Phase 2 review and based on the Peer Review Report dated November 22, 2013 received a positive assessment and a rating of "Compliant".

Annex 7: Environmental and Social Performance Standards

1. **The WAPGP follows the World Bank, IFC, and MIGA Performance Standards and is rated a Category B project.** The Project comprises the development, financing, construction and operation by CECA SL Generation Limited (CECA SL, the Project Company) of a 57 MW green-field thermal power plant running of heavy fuel oil (HFO) on a build-own-operate-transfer basis. The Project Company is in the process of concluding the EPC and O&M contracts with Wärtsilä.

Environmental and Social (including safeguards) Assessment

2. **The Project will be located at the Kissy Industrial site to the east of Freetown and serve customers in the Freetown Capital Western Area.** The total area of the site is 7.48 acres (3.03 hectares) which is owned by the Government of Sierra Leone (GoSL) and is leased to the Project Company under a plant site lease agreement signed in March 2015 with a tenor of 26 years. The HFO is planned to be imported via a new petroleum jetty located to the north of the project site at the Kissy oil terminal in Freetown. Construction of the jetty is near completion. The fuel will be transported from the jetty manifold to the site via a new 1300 meter (m) pipeline.

3. **The WBG's environmental and social due diligence for the Project consisted of appraising technical, environmental, health, safety and social information submitted by the Project Company as well as conducting site visits.** The following Project information was submitted:

(a) Environmental, Social and Health Impact Assessment (ESHIA) for the Project (December, 2015);
(b) Project Environmental and Social Management Plan (ESMP, December, 2015);
(c) Abbreviated Resettlement Action Plan (ARAP), developed to meet African Development Bank disclosure requirements (dated October 6, 2015); and
(d) Project Health and Safety Plan, prepared by the Project Company (dated September 25, 2015).

4. The World Bank environment and social specialists conducted a site visit to the area of the project in mid-June, 2015 and met with technical staff and ESHIA consultants engaged by the Project Company as well as representatives of the community of Kissy where the Project will be located. The IFC environmental and social specialists conducted a site visit to the Project area from September 30 to October 1, 2015, and met with TCQ senior management and technical staff of CECA SL, their ESHIA consultants (Jacobs and Integems), and senior officers of EDSA and SL-EPA, as well as representatives of the community of Kissy, where the Project will be located.

5. **The following applicable Performance Standards are triggered by the Project:**

PS1 Assessment and Management of Environmental and Social Risks and Impacts
PS2 Labor and Working Conditions
PS3 Resource Efficiency and Pollution Prevention
PS4 Community Health, Safety and Security
PS5 Land Acquisition and Involuntary Resettlement

6. Since the Project site is in a brownfield industrial/commercial area within an urban location, PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources, PS7: Indigenous Peoples and PS8: Cultural Heritage are not triggered.

7. During the implementation of the Project IDA, IFC, and MIGA will periodically review ongoing compliance with the Performance Standards.

8. The Project is categorized as Environmental Assessment Category B. Categorization has been assigned because (i) the Project is located in a brownfield industrial/commercial area where there are few environmentally important and vulnerable receptors; (ii) identified potential environmental and social risks and impacts are site-specific and either readily managed through design or addressed through mitigation measures; and (iii) most of the infrastructure needed for the construction and operation of the Project is already in place. The Project is considered a priority development by the GoSL and it is considered a critical project for the rebounding the country's economic growth post-Ebola.

9. Despite the industrial and commercial land use zoning, a number of residential and educational receptors (formal and informal residential dwellings including two shanty areas, and a few schools, including an Islamic compound) are located in the project's area of influence. The key environmental and social risks and impacts therefore include air quality, noise, occupational health and safety, traffic management, hazardous material and waste management, fuel transport, economic displacement of a small number of artisanal farmers, and community health and safety.

10. If the Project is implemented in compliance with the approved ESMP, the Project is expected to be designed and operated in accordance with the WBG's Performance Standards.

11. The ESHIA and ESMP – which includes the Bank's Environmental and Social Review Summary (ESRS) and Abbreviated Resettlement Action Plan (ARAP) - were disclosed in-country on November 17, 2015 and on the WBG's website on December 18, 2015. The ESMP will be reviewed and updated with detailed mitigation developed as part of the detailed design phase, and re-disclosed prior to commencement of construction. This approach has been agreed to by the WBG and the Environmental Protection Agency (EPA) in Sierra Leone, and included in the Project's ESAP.

12. **The ESHIA identifies and addresses the potential risks and impacts from the project, including the power plant, the fuel pipeline, the connection to the transmission line and the access road, and outlines proposed mitigation measures.** An Environmental and Social Impact Assessment for the petroleum jetty was prepared by the project developer. Quantitative studies were carried out involving numerical modelling of emissions to atmosphere and noise during plant operations, and quantification of water consumption and discharges. The exhaust gas emissions are expected not to exceed the applicable and relevant guideline levels set out in the WBG's EHS Guidelines for Thermal Power Plants (2008) with the exception of particulates, which the contractor guarantees will not exceed 100 mg/Nm3. A full and detailed justification for the proposed alternative maximum emission level was adequately developed as part of the site-specific environmental assessment, and the justification supports the required demonstration that the choice

for the alternate performance level is protective of human health and the environment. The public review and public hearing, in accordance with Sierra Leonean regulations, took place on November 26-27, 2015 with the involvement of the affected community at Kissy. The ESHIA was made available in relevant government offices and public places in the project region and non-technical summaries will be distributed in the project's area of influence.

13. **Management programs.** The ESMP will be the basis of developing detailed construction and operation phase management plans. The ESMP describes the structure and processes that will be applied to construction and operation activities to assess and monitor compliance and effectiveness of the mitigation measures. Its objectives are to:

(a) Describe the mitigation measures and actions identified by the ESHIA, requiring detailed design and implementation during construction and operation phases of the project;
(b) Identify and describe monitoring requirements;
(c) Identify roles and responsibilities of parties involved, including CECA SL and the EPC and O&M contractor; and
(d) Identify environmental and social reporting requirements, such as audits of performance.

14. The elements of the ESMP will be incorporated into detailed construction and operation phase E&S management plans, including: (i) Construction Management Plan; (ii) Health and Safety Plan including Fire Safety and Emergency Preparedness and Response Plan; (iii) Ambient Air Quality Monitoring Plan; (iv) Noise Management Plan; (v) Construction Vibration Management Plan (including structure survey and vibration monitoring during construction); (vi) Livelihood Restoration Plan/ Abbreviated Resettlement Action Plan; (vii) Traffic Management Plan; (viii) Monitoring and Reporting Plan; and (ix) Waste Management Plan.

15. The Project Company will require that the EPC and O&M contractor develops their own specific implementation plans demonstrating how they intend to comply with project requirements. All contractor plans will be reviewed and approved by the Project Company. The EPC and O&M contractor will be responsible to ensure that sub-contractors will comply with the relevant HSES requirements, and its compliance will be monitored by the Project Company.

16. Currently E&S expertise is being provided by external consultants and thus the Project Company will be hiring qualified E&S specialists to oversee and monitor performance. In addition, the Project Company will employ a full time HSES manager and a social and community liaison officer. They will be responsible to develop and implement CECA SL's HSES Management System and other relevant programs and plans, and to review and supervise implementation of those of the EPC and O&M contractor, ensuring compliance with the requirements of host country laws and World Bank, IFC, and MIGA Performance Standards. The EPC and O&M contractor will have a HSE supervisor on the site. The social and community liaison officer will be responsible for managing potential social impacts, implementing the Stakeholder Engagement Plan and its project grievance mechanism as well as supervising and coordinating with the contractor in all related matters.

17. **Emergency preparedness and response**. Storage, handling and use of HFO at the facility can present potential hazard in relation to accidental spills and fire. The EPC and O&M contractor will develop an emergency preparedness and response plan for the construction and operational phase respectively. The plan will describe the procedures to follow when handling an emergency situation such as fire, hazardous material, waste or fuel spills, injuries, natural disasters.

18. The Fire Safety and Emergency Preparedness and Response plan will be developed in close coordination with the community facilities (including the schools) and will be communicated to the affected community.

19. **Monitoring and Review.** The ESHIA commitments include further survey work (supplemented by project consultations) to be conducted post-Ebola, including air quality, noise, groundwater and socio-economic aspects (with special focus on the nearby formal and informal shanty dwellings), as well as the development of a number of monitoring plans that will be needed for the project. Monitoring will be conducted to ensure compliance with regulatory requirements and the Performance Standards, as well as to evaluate the effectiveness of operational controls and other measures intended to mitigate potential impacts, as identified in the ESHIA. The monitoring plans will describe the indicators to be measured and the frequency, and will define roles and responsibilities for monitoring and reporting.

20. Indicators to be monitored during construction include: vehicle accidents, noise and dust generation, water quality, waste disposal, occupational health and safety (including near misses, accidents, lost time incident, root cause analysis), and job creation within local communities. During operations, monitoring will include: air emissions and ambient air quality, noise, occupational health and safety, effluent discharge, water and fuel consumption, fuel characteristics (including sulfur, ash and conradson carbon residue content), greenhouse gas emissions, and job creation within the local communities.

21. CECA SL will perform a number of internal and external audits and inspections annually and will develop and implement an audit schedule. The contractor will be required to provide HSE performance reporting to the World Bank, IFC, and MIGA on a regular basis and include audits in their respective HSE Plans.

22. The development of the project site will not involve physical displacement as there are no inhabitants (legal residents or squatters), but will result in limited economic displacement and livelihood impacts on artisanal farmers. The zone of impact is restricted to the project site itself. Initially, 16 farmers were identified farming small areas within the project site during the two consultative meetings held in early February 2014 and early May 2014. A follow-up meeting was held with the artisanal farmers in September 2015, when updated data on the farmers (10 instead of 16 as initially identified) were collected and details of compensation were further discussed. The Project has prepared and disclosed an ARAP to manage the economic displacement of 10 artisanal farmers. The ARAP includes details on the farm plots referred as "heaps" and each ranging between 20 to 25 square meters in size. An initial estimated number of 32 heaps were identified within the project site and estimated compensation amounts were calculated based on the crops grown: potato leaf, cassava leaf, green, sour and krain-krain. The farmers are all women from around the area utilizing the heaps to supplement their subsistence and household income by

selling the remainder crops at the nearby market. The ARAP will be finalized and implemented in consultation with the artisanal farmers prior to commencement of construction activities in accordance with PS5.

23. **Consultations.** Consultations with key stakeholders were carried out during the ESHIA scoping phase (January 2014 to May 2014) and during the ESHIA assessment phase (February 2015 to March 2015) despite challenging conditions resulting from the Ebola outbreak. From January 2014 to May 2014, a number of informal and formal meetings were held with key stakeholders including representatives from the EPA, the JICA, the Sierra Leone Roads Authority (SLRA), the Sierra Leone Non-Governmental Organizations, the Conservation Society of Sierra Leone, the China Road Construction Corporation, the Ministry of Agriculture Forestry and Food Security, the Electricity Distribution and Supply Authority Distribution, and local community members and residents around the project site as well as the Islamic school and the Sir Winston Churchill School. A Public Community Consultation Workshop took place on May 15, 2014, indicating broad support for the project, but also showing local people's high expectations for job opportunities, electricity supply and economic and community development. Ongoing consultation with the artisanal farmers at the SLRA site was highlighted as being of particular importance.

24. The Freetown community including the Kissy dockyard and its surroundings were engaged in a series of media based activities to inform about the Project through:

(a) Information published via three local tabloid newspapers namely the Salone Times, Awoko and Standards Times;
(b) Information broadcast across local radio stations (Radio Democracy, Radio Citizen and Tumac Radio). These broadcasts were in the local dialects (krio, mende and temne) and were aired in the morning, afternoon and evening;
(c) Follow up on community specific broadcast undertaken on the 9th-10th March 2015 using a public address system;
(d) Hand bills will be handed out to interested individuals and posters put up at strategic points in the community; and
(e) Invitations delivered to organisations and stakeholders in the Western Area of Freetown.

25. The Project organised a Public Hearing as per Sierra Leone EPA's requirement on November 26-27, 2015, to obtain feedback from key stakeholders and finalise the approval of the ESHIA. Printed hard copies of the draft ESHIA Report were made available for public viewing for interested persons/parties/institutions of the Project at the following locations from November 17, 2015:

- Environment Protection Agency SL (EPA-SL), 21 Old railway Line, Brookfields, Freetown
- CECA SL, 51A Main Motor Road , Wilberforce, Freetown, Sierra Leone
- INTEGEMS, 8G Main Motor Road, Technical Institute Drive, Congo Cross, Freetown, Sierra Leone

- Ministry of Energy (MoE), 36 Siaka Steven Street, Freetown
- Electricity Distribution and Supply Authority (EDSA), 36 Siaka Steven Street, Freetown
- Hotel 5-10, Teachers Avenue, Off Bai Burreh Road, Kissy, Freetowm
- Archbishop Brosnaham Memorial Hall, Santanno House, House Street, Freetown.

Annex 8: IDA Guarantee Term Sheet

Sierra Leone: Western Area Power Generation Project

This term sheet contains a summary of indicative terms and conditions of the proposed guarantee (“IDA Guarantee”) to be provided by the International Development Association (“World Bank” or “IDA”) for discussion purposes only and does not constitute an offer to provide an IDA Guarantee. The provision of the IDA Guarantee is subject, inter alia, to satisfactory appraisal of the Project Western Area/Freetown Thermal Power Generation Project in Sierra Leone (the “Project”) by IDA, compliance with all applicable policies of the World Bank, including those related to environmental and social safeguards, review and acceptance of the ownership, management, financing structure, and transaction documentation by the World Bank, and the approval of the management and Executive Directors of the IDA in their sole discretion.

Proposed Structure: LC Guarantee

Letter of Credit (LC)	
LC Applicant:	The Electricity Distribution and Supply Authority and the Government of the Republic of Sierra Leone.[18]
LC Beneficiary:	CECA SL Generation Limited
LC Bank:	Société Générale or such other commercial bank acceptable to IDA, the LC Applicant and the LC Beneficiary.
Maximum LC Amount:	The maximum amount available for draw under the LC (the “Stated Amount”) shall not exceed US$40 million.
Validity Period of the LC:	15 years.
IDA-Guaranteed LC:	Revolving standby letter of credit (“LC”) issued in favor of the LC Beneficiary by the LC Bank at the request of the LC Applicant to backstop certain payment obligations of EDSA/Government that are due and payable under the *Power Purchase Agreement* (“PPA”), following the occurrence of a Guaranteed Event (as defined below). Any amount drawn by the LC Beneficiary under the LC that is repaid by the LC Applicant to the LC Bank within the LC Reimbursement Period (as defined below) pursuant to the Reimbursement and Credit Agreement (as defined below) will be reinstated.

[18] EDSA and GoSL are jointly and severally liable under the PPA.

	Any amount paid by IDA to the LC Bank under the IDA Guarantee would be deducted from the IDA Maximum Guaranteed Amount (as defined below), and thus from the Maximum LC Amount, and those amounts would not be reinstated.
Guaranteed Events (Permitted Drawdown under LC):	(i) LC Applicant's failure to comply with its ongoing payment obligations for power generation, including for capacity made available (Capacity Charge) and energy output (Output Charge) under the PPA; and (ii) the Government's failure to comply with its obligation to pay the Guaranteed Purchase Price, provided such obligation is undisputed. **"Guaranteed Purchase Price"** means the applicable "Purchase Price" under the PPA following the occurrence of specified termination events to be agreed. The LC shall be available for drawings by the LC Beneficiary upon filing of a demand on the basis of drawdown mechanisms and the presentation of supporting documentation to be agreed between the LC Beneficiary and LC Applicant in the PPA and between the LC Beneficiary and LC Bank in the LC, all in form and substance acceptable to IDA.
LC Fees:	To be payable by the LC Beneficiary to the LC Bank.

IDA-Guaranteed LC Reimbursement & Credit Agreement

The Borrower:	LC Applicant, as borrower
The Lender:	LC Bank, as lender.
Maximum Amount:	The amount drawn (and not repaid) under the LC not to exceed the Stated Amount (US$40 million), plus accrued interest.
LC Reimbursement Period:	Following a drawing under the LC by the LC Beneficiary, the LC Applicant would be obligated to repay the LC Bank the amount drawn under the LC together with accrued interest

	within a period of 12 months (the "LC Reimbursement Period") from the date of each drawing.
Interest Rate Charged by the LC Bank:	An appropriate 'spread' above LIBOR acceptable to the LC Bank, the LC Beneficiary, the LC Applicant and IDA[19]. For the avoidance of doubt, IDA does not cover penalty interest, default interest or charges of similar nature.
Governing law:	England And Wales.

<u>IDA Guarantee Agreement</u>

Guarantor:	IDA
Guaranteed Lender: (Beneficiary)	LC Bank, as guaranteed lender
IDA Guarantee:	IDA will guarantee the LC Applicant's obligations to repay the LC Bank for amounts drawn under the LC, plus accrued interest on the amount drawn[20], pursuant to the Reimbursement and Credit Agreement. That is, if the amount remains unpaid after the expiry of the LC Reimbursement Period, the LC Bank would have the right to call on the IDA Guarantee for the principal amount (equal to the amount drawn under the LC) plus accrued interest thereon due from the LC Applicant.
Maximum Guaranteed Principal:	USD 40 million. Any amount paid by IDA to the LC Bank under the IDA Guarantee would be deducted from the IDA Guaranteed Amount and those amounts would not be reinstated.
IDA Guaranteed Amount:	The amount drawn (and not repaid) under the LC not to exceed the Maximum Guaranteed Principal, plus accrued interest thereon.
Maximum IDA Guarantee Period:	The LC Validity Period plus [14] months.

[19] Since the LC is guaranteed by IDA, the 'spread' should reflect IDA's good credit in the international market.
[20] Scheduled interest due and payable on any advances made pursuant to the IDA-Guaranteed Loan. For the avoidance of doubt, IDA does not cover penalty interest, default interest or charges of similar nature.

Guarantee Support Agreement, or PPA Schedule on IDA Guaranteed LC Conditions[21]

Conditions:	The LC Applicant would undertake to apply and make available an LC that may be drawn by the LC Beneficiary following the occurrence of a Guaranteed Event, on the basis of drawdown and dispute resolution mechanisms and supporting documentation to be agreed between the parties and satisfactory to IDA and to be consistent with the other provisions of the PPA.

IDA Indemnity Agreement

Parties:	IDA and the Government of Sierra Leone.
Indemnity:	Sierra Leone will reimburse and indemnify IDA on demand, or as IDA may otherwise direct, for all payments under the *IDA Guarantee* and all losses, damages, costs, and expenses incurred by IDA relating to or arising from the *IDA Guarantee*.
Covenants:	In addition to the standard covenants for guarantees, Sierra Leone shall: (i) act (and cause all relevant Public Sector Entities to act) in a manner consistent with the terms of, or achievement of the objectives expressed in, the Sector Policy Letter; (ii) keep (and cause all relevant Public Sector Entities to keep) the Association informed on the progress of any actions or measures set out in the Policy Letter, and discuss and agree with the Association any remedial measures to be taken in the event of delay or failure to comply with, or achieve the objective of, the Policy Letter; (iii) consult (and cause all relevant Public Sector Entities to consult) with the Association prior to taking any action that is contrary to, or otherwise inconsistent with, the terms and overall objectives of the Sector Policy Letter, if such action would or could materially affect the Project or the rights or obligations of the Association under the Guarantee Agreement or any Transaction Documents; and (iv) upon request, promptly provide (and cause all relevant Public Sector Entities to provide) the Association with all information necessary, in the reasonable opinion of the Association, for the Association's review of the Member Country's performance of its obligations under this Schedule, including in respect of the Sector Policy Letter.

[21] The PPA needs to adequately address the mechanics and procedures needed to accommodate the IDA Guarantee structure.

Remedies:	If Sierra Leone breaches any of its obligations under the *Indemnity Agreement*, IDA may suspend or cancel, in whole or in part, the rights of Sierra Leone to make withdrawals under any other loan or credit agreement with IDA, or any IDA loan to a third party guaranteed by Sierra Leone, and may declare the outstanding principal and interest of any such loan or credit to be due and payable immediately. A breach by Sierra Leone under the Indemnity Agreement will not, however, forgive any guarantee obligations of the World Bank under the *IDA Guarantee*.
Governing law:	The *Indemnity Agreement* will follow the usual legal regime and include dispute settlement provisions customary for agreements between member countries and IDA.

IDA Project Agreement	
Parties:	IDA and the LC Beneficiary.
Representations and warranties:	The LC Beneficiary will represent, among other standard and project-specific provisions, as of the effective date, that it (i) is in compliance with applicable environmental laws and the applicable World Bank guidelines, environmental and social safeguard policies, and other applicable requirements and (ii) neither it (including its direct and indirect shareholder and any other relevant Project participants), nor any of their affiliates has engaged in any Sanctionable Practice in connection with the Project.
Covenants:	The LC Beneficiary will covenant, among other things, that it will (i) comply with applicable laws, including environmental laws, and the applicable World Bank environmental and social guidelines and policies; (ii) provide annual audited financial statements and other reports; (iii) provide access to the Project site; (iv) not engage in any Sanctionable Practice in connection with the Project; and (v) comply with World Bank requirements relating to Sanctionable Practices regarding individuals or firms included in the World Bank Group list of firms debarred from World Bank Group-financed contracts.
Guarantee Fee:	75 basis points per annum[22]. The Guarantee Fee is assessed on any committed and outstanding IDA financial exposure under the IDA Guarantee (i.e. the Maximum LC Amount). It is the

[22] FY16 pricing. All fees will be updated on the pricing applicable at the time of approval by IDA's Board of Directors.

obligation of the L/C Beneficiary and must be paid in advance [semi-annually]. The *IDA Guarantee* would lapse in the event of nonpayment of any installment of the Guarantee Fee.

Up-front Fees:[23]

a) An Initiation Fee of 15 bps of the Maximum Guaranteed Principal amount (but not less than US$100,000) payable by the Borrower.

b) Processing Fee of up to 50 bps of the Maximum Guaranteed Principal amount, payable by the Borrower.

Governing law: England and Wales.

Additional Terms of the IDA Guarantee Agreement

Conditions precedent to the IDA Guarantee: Usual and customary conditions for financing of this type including but not limited to the following:

(a) all of the conditions precedent to the first disbursement under the credit agreement between the lenders and the Project Company in respect of the Project (including conditions relating to the sector collection account) have been satisfied in manner acceptable to IDA (other than the effectiveness of the guarantee agreement, to avoid circularity);

(b) execution and delivery of all Project agreements, satisfactory to IDA, including execution and delivery of the PPA, the *IDA Indemnity Agreement* and the *IDA Project Agreement*;

(c) Delivery of all relevant host country environmental approvals required for the operation of the Project, and compliance with all applicable World Bank requirements relating to environmental and social safeguards and sanctionable practices[24];

(d) effectiveness of all required insurance (to include IDA as an additional insured on third-party liability insurance);

[23] IDA may charge more if higher than usual internal costs are incurred during preparation.
[24] "Sanctionable practices" include corrupt, fraudulent, collusive, coercive, or obstructive practices.

(e) satisfaction (or waiver) of all conditions precedent under the PPA;

(f) provision of satisfactory legal opinions; and

(g) payment in full of the Up-Front Fees and the first installment of the Guarantee Fee.

Exclusions, Limitation/Withholding & Termination Events:

Standard exclusion, limitation/withholding and termination events for transactions of this nature.

Subrogation: If and to the extent IDA makes any payment under the IDA Guarantee, IDA will be subrogated immediately to the extent of such unreimbursed payment to the rights of the beneficiary of the guarantee.

Governing law: England and Wales.

Cooperation Agreement	
Cooperation Agreement:	EDSA would enter into a Cooperation Agreement with IDA, under which EDSA would covenant, *inter alia*, that it will: (i) comply with all its obligations under the transaction documents, including obligations in respect of implementation and operation of the sector-wide Collection Account; obtain IDA's consent prior to agreeing to any change to any transaction document which would materially affect IDA; (ii) provide certain notices to IDA; (iii) cooperate with IDA and furnish all such information related to such matters as IDA shall reasonably request; (iv) promptly inform IDA of any condition which interferes with, or threatens to interfere with, such matters; and (v) comply with certain account management obligations.

Annex 9: Statement of IFC's Committed and Outstanding Portfolio in Sierra Leone

Sierra Leone: Western Area Power Generation Project

MIS

International Finance Corporation

Report Run Date: 05/18/2016

Statement of IFC's Committed and Outstanding Portfolio

Amounts in US Dollar Millions

Accounting Date as of : 05/31/2016

Page 1

Region(s):Sub-Saharan Africa

Country(s) : Sierra Leone

Commitment Fiscal Year	Institution Short Name	LN Cmtd - IFC	LN Repayment - IFC	ET Cmtd - IFC	QL + QE Cmtd - IFC	GT Cmtd - IFC	RM Cmtd - IFC	ALL Cmtd - IFC	ALL Cmtd - Part	LN Out - IFC	ET Out - IFC	QL + QE Out - IFC	GT Out - IFC	RM Out - IFC	ALL Out - IFC	ALL Out - Part
2016	Chain Freetown	3.88	0	0	6.27	0	0	10.14	0	0	0	0	0	0	0	0.00
2009/ 2010/ 2013/ 2014/ 2015/ 2016	GTB SierraLeone	0	0	0	0	3.19	0	3.19	0	0	0	0	3.19	0	3.19	0.00
2012	Vitafoam	2.34	0.51	0	0	0	0	2.34	0	2.34	0	0	0	0	2.34	0.00
Total Portfolio		**6.21**	**0.51**	**0**	**6.27**	**3.19**	**0**	**15.67**	**0**	**2.34**	**0**	**0**	**3.19**	**0**	**5.52**	**0.00**

Annex 10: Standard Description of MIGA Risks

Sierra Leone: Western Area Power Generation Project

1. **Transfer Restriction** coverage protects against (i) the inability to convert, from local currency into guarantee currency, loan payments, dividends, profits, and proceeds from the disposal of the guaranteed investment, and (ii) host government actions that prevent the transfer of the guarantee currency outside the host country, including the failure of the government to grant an authorization for the conversion or the transfer of such currency. Compensation is based on the guaranteed percentage of any payments that cannot be converted or transferred.

2. **Expropriation** coverage protects against losses attributable to measures taken or approved by the host government that deprive the guarantee holder of its ownership or control over its investment, or in the case of debt, results in the Project Company being unable to meet its obligations to the lender. Both direct and indirect (creeping) expropriation are covered. Compensation for equity is based on the guaranteed percentage of the net book value of the guaranteed investment in the Project Company. For debt, compensation is based on the guaranteed percentage of the principal and interest that is in default as a result of expropriation.

3. **War and Civil Disturbance** coverage protects against losses arising as a result of military action or civil disturbance in the host country, including sabotage and terrorism, that destroys or damages tangible assets of the Project Company or interferes with its operations (business interruption), or, in the case of debt, results in the Project Company being unable to meet its obligations to the lender. Compensation is based on the guaranteed percentage of the value of the assets destroyed or damaged or, in the case of business interruption, the net book value of the guaranteed equity investment. For debt, compensation is based on the guaranteed percentage of the principal and interest that is in default as a result of war and civil disturbance.

4. **Breach of Contract** coverage protects against losses arising from a repudiation or breach by the host government of a contract entered with the guarantee holder, provided that a final and binding arbitration award or judicial decision has been rendered in favor of the guarantee holder and cannot be enforced against the host government. Compensation is based on the amount that the guarantee holder is entitled to recover from the host government in accordance with the terms of the arbitration award or judicial decision.[25]

5. **Non-Honoring of Sovereign Financial Obligation** coverage protects against losses resulting from a government's failure to make a payment when due under an unconditional financial payment obligation or guarantee given in favor of a project that otherwise meets all of MIGA's normal requirements. It does not require the investor to obtain an arbitral award. This coverage is applicable in situations when a sovereign's financial payment obligation is unconditional and not subject to defenses. Compensation is based on the amount

[25] MIGA's Convention provides for coverage under Breach of Contract in three different scenarios: (i) when the Guarantee Holder does not have recourse to a judicial or arbitral forum to determine the claim; (ii) a decision by such forum is not rendered within a reasonable period of time; or (iii) such a decision cannot be enforced.

that the guarantee holder is entitled to recover from the host government pursuant to the terms of the obligation.

6. **Non Honoring of Financial Obligation by a State-Owned Enterprise** coverage protects against losses resulting from a state-owned enterprise's failure to make a payment when due under an unconditional financial payment obligation or guarantee given in favor of a project that otherwise meets all of MIGA's normal requirements. It does not require the investor to obtain an arbitral award. This coverage is applicable in situations where the financial payment obligation in unconditional and not subject to defenses. Compensation is based on the amount that the guarantee holder is entitled to recover from the state-owned enterprise pursuant to the terms of the obligation.

Annex 11: Policy Letter

Sierra Leone: Western Area Power Generation Project

Government of Sierra Leone
Ministry of Finance and Economic Development
Ministry of Energy

June 1st, 2016

The Country Director
The International Development Association

The World Bank Ghana Office
P. O. Box M27, Accra
Ghana

Dear Mr Kerali

Ref: Letter of the Government of Sierra Leone Policy to Ensure Financial and Operational Sustainability in the Electricity Sector

A. INTRODUCTION

This letter outlines the measures that the Government of Sierra Leone ("**GoSL**") is committed to implement over the coming years to:

(I) attract and ensure the sustainability of private sector investments in the electricity sector, including the prioritized Western Area Power Generation Project;

(II) ensure that the Electricity Distribution and Supply Authority ("**EDSA**") becomes a financially independent and commercially viable distribution entity with a credible track-record of making due and punctual payments to its power producers and fuel suppliers;

(III) improve transparency and predictability of cash flows in the electricity sector; and

(IV) reduce the burden of the electricity sector on the fiscal budget of Sierra Leone.

The policy measures set out in this letter are designed to improve the performance of the electricity sector and, more specifically, to ensure: (i) the reduction of EDSA's commercial and technical losses; (ii) improvement of EDSA's management and operations; (iii) that the electricity sector progresses towards having tariffs for end-consumers that reflect the production costs of electricity; (iv) the establishment of a transparent cash management mechanism with prioritised payment obligations for the electricity sector; and (iv) the elimination of fuel taxes that are currently causing an excessive burden on the sector.

B. GoSL COMMITMENTS

(I) Reduction of system losses

The GoSL, together with EDSA, are committed to reducing system losses from the prevailing level of approximately 38%, to at least 26.5%, during the period from 2016 to 2022 and to increase revenue collection rates to over 90% during the same period. In order to reduce system losses and increase revenue collection rates, EDSA and GoSL:

a) have established the Project Implementation Unit within EDSA (which will be operational by July 2016) to supervise and monitor the implementation of distribution projects to be funded by international developing agencies (including the ESURP programme) or the GoSL, in a timely manner;

b) will establish a Management Team pursuant to the management contract (please see paragraph B(II) for further information) to supervise the performance of the management contactor;

c) will install prepaid meters for most domestic consumers by June 2017 (this process commenced in 2015);

d) will install automated metering infrastructure for large consumers in accordance with the ESURP program by December 2017; and

e) will tackle and deter electricity theft.

(II) MANAGEMENT CONTRACTS

The GoSL will procure that EDSA enters into a management contract with a management contractor, in accordance with the commitments set out in the Policy Letter from the GoSL issued on 2 October 2013, on mutually agreed terms and conditions, by July 2016. The management contractor will provide management, operation and capacity building services to EDSA.

(III) EXEMPTION OF HEAVY FUEL OIL TAXES FROM POWER GENERATION WITHIN THE ELECTRICITY SECTOR

The GoSL will exempt electricity sector generators who have a ratified power purchase agreement with EDSA and/or the GoSL from certain tax obligations relating to heavy fuel oil used by those generators for generation purposes in Sierra Leone (such as the road user levy), to reduce the electricity tariffs payable by EDSA.

This commitment will be implemented by amending the Finance Act to provide for the tax exemption on heavy fuel oil by March 2017 and, in the interim period, by the GoSL agreeing to provide this specific tax exemption in connection with EDSA's and/or the GoSL's Power Purchase Agreements.

(IV) TARIFF ADJUSTMENT TO REFLECT THE TRUE COST OF ELECTRICITY TO END CONSUMERS

The prevailing tariffs in the electricity sector are not cost reflective and need to be adjusted to reflect the true cost of providing electricity to end consumers.

We have embarked on a process to assess the tariff structure that allows EDSA to recover its reasonable costs while creating incentives to reduce losses. The GoSL, EDSA and the Electricity and Water Regulatory Commission ("**EWRC**"), with technical assistance from energy sector partners, are developing a fuel adjustment formula that would automatically adjust the tariff payable to reflect volatility and changes to fuel prices and foreign exchange challenges. It is important to note that the automatic fuel adjustment formula will recognise efficiencies in EDSA's performance and output so that any inefficiencies of EDSA will not be transferred to end consumers.

(V) ELECTRICITY SECTOR COLLECTION ACCOUNT ARRANGEMENTS

The GoSL, together with EDSA, are committed to establishing revenue management and collection arrangements for the electricity sector, including establishing a sector-wide collection account. These arrangements will provide for certain payments to EDSA to be received into a collection account and for certain of EDSA's costs and liabilities to be paid from the collection account in accordance with a predetermined cash waterfall. The sector wide arrangements will also apply to revenue of EDSA's successors.

The GoSL has formed a committee, which includes EDSA, the Public Private Partnership Unit ("**PPP Unit**"), the EWRC and the Ministry of Energy ("**MoE**") to implement the Collection Account and we commit to the following key deliverables in accordance with the timelines set out in Annexure 1 and the collection account term sheet set out in Annexure 2:

a) preparing an advanced draft of the Operational Manual to be adopted by the Independent Agent by **1 August 2016**;

b) issue an invitation to tender for the appointment of an Independent Agent, in relation to the administration of the Collection Account by **31 December 2016**;

c) amending the National Electricity Act, 2011 to implement the collection account arrangements (including the cash waterfall) by **31 March 2017**; and

d) entering into an agreement with the Collection Account Bank and establishing the Collection Account with the Collection Account Bank by **31 March 2017**.

(VI) AVAILABILITY OF FOREIGN EXCHANGE

Some of EDSA's payment obligations are, or will be, denominated in foreign currency, while all of EDSA's revenues will be denominated in local currency. We acknowledge that the Collection Account Bank and the Independent Agent may not always be able to obtain sufficient foreign currency in the Sierra Leone commercial market.

In the event of a shortfall of foreign currency in the Sierra Leone commercial market, the GoSL commits to making up the shortfall of such foreign currency to ensure that sufficient foreign currency is made available to honour EDSA's payment obligations.

(VII) BUDGETARY SUPPORT FOR ELECTRICITY SECTOR DEFICIT

We acknowledge there will be a gap between the revenues generated by EDSA and EDSA's expenses, including amounts payable to power producers under power purchase agreements, which will lead to there being a deficit in the electricity sector budget ("**Deficit**") in the foreseeable future. The estimated annual Deficit is set out in the technical note provided by the World Bank dated 17 May 2016.

We commit to reducing the Deficit by implementing the measures outlined in this letter.

As the Deficit will be a function of certain variables including the price of fuel, exchange rates and demand for electricity, the Ministry of Finance and Economic Development ("**MoFED**") commits to funding the Deficit (plus a contingency amount) by allocating funds for the Deficit through a dedicated line item in the national budget denominated as "Electricity Sector Support". It is important to note that the reduction in system losses and the tariff adjustment, as referenced in paragraphs (I) and (IV) above, will assist to reduce the Deficit. The national budget will provide for a contingency amount to cater for the various sensitivities in calculating the Deficit. The funds to be dedicated by the Ministry of Finance and Economic Development will be identified in the annual electricity sector budget to be procured by EDSA and reviewed by the Ministry of Finance and Economic Development and the Ministry of Energy on an annual basis.

(VIII) ACKNOWLEDGMENT OF SUPPORT FROM INTERNATIONAL STAKEHOLDERS

We acknowledge the role of the following entities of the World Bank Group in supporting Sierra Leone's electricity sector, including Phase 1 (57MW) of the Western Area Power generation project, a 128MW heavy-fuel oil power project in Freetown:

a) the International Development Association: in offering to provide a Partial Risk Guarantee to facilitate the issuance of a letter of credit in support of certain payment obligations of the GoSL and EDSA under the power purchase agreement;

b) the Multilateral Investment Guarantee Agency: in offering to provide a political risk insurance instrument to the equity investors in relation to their equity investment in the project; and

c) the International Finance Corporation: in offering to provide, as mandated lead arranger, debt financing for the Western Area Power Generation project.

C. CONCLUSION

The GoSL remains committed to implementing the measures outlined in this letter and to continue to support the electricity sector until it becomes self-sustaining. We understand the need for these measures to be implemented in order to attract private sector participation.

We would like to use this opportunity to again thank you for the continued support of the World Bank and we hope that we can continue to work with you as partners for the benefit of Sierra Leone.

Yours Sincerely

Honourable Minister of Energy

Henry O. Macauley

Honourable Minister of Finance and Economic Development

Momodu L. Kargbo

Kargbo

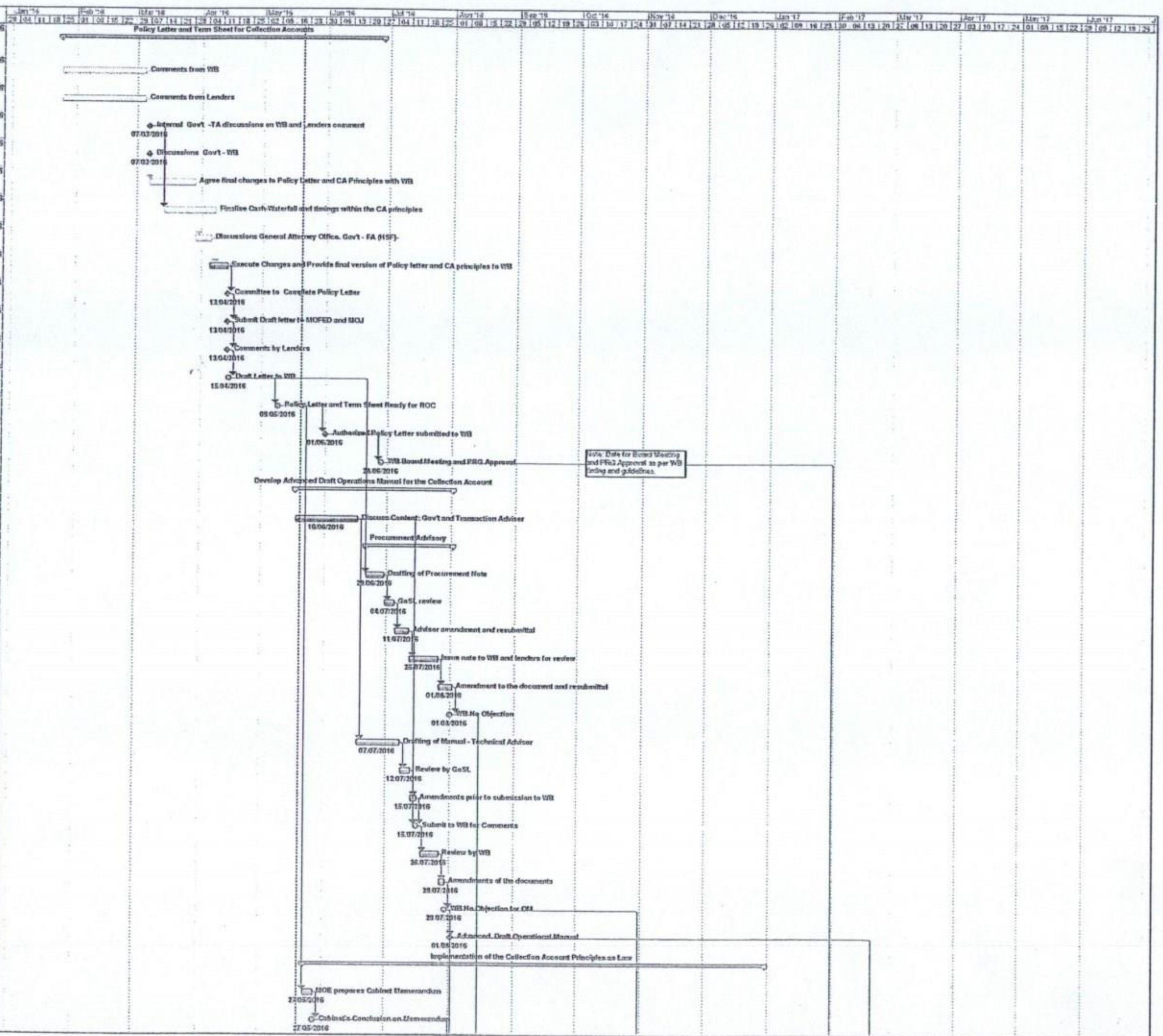
Annexure 1a
Collection Account Milestones

Action	Timeline	Entity responsible for the implementation
Preparation of an advanced draft of the Operational Manual	By 1 August 2016	Collection Account Working Group
Parliamentary ratification of the addendum to the National Electricity Act, 2011	By 31 March 2017	Collection Account Working Group
Issue an invitation to tender for the appointment of the Independent Agent	31 December 2016	Collection Account Working Group
Selection of the Independent Agent	By 28 February 2017	Collection Account Working Group
Selection of the Collection Bank and opening the collection account	By 31 March 2017	Collection Account Working Group
Commencement of the operation of the collection account by the Independent Agent	By 01 June 2017	Collection Account Working Group

Note: The Collection account working group comprises of members from the Ministry of Energy, the Ministry of Finance and Economic Development, the Electricity and Distribution Supply Authority, the Public Private Partnership Unit, the Electricity and Water Regulatory Commission, the Energy Generation and Transmission Company and the Attorney General's Office.

Annexure 1b
Collection Account Roadmap

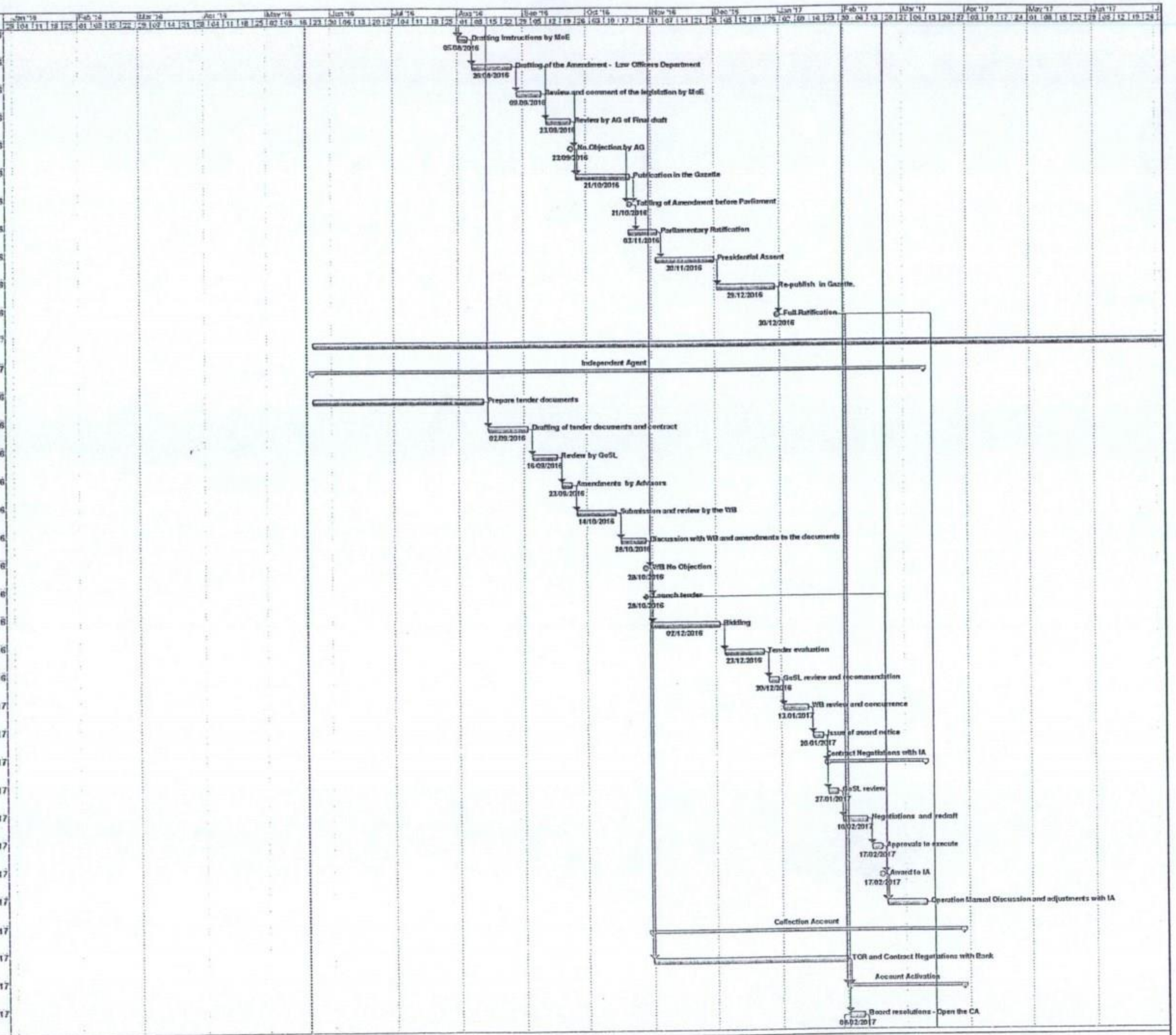
ID		Task Name	Duration	Start	Finish
1		**Policy Letter and Term Sheet for Collection Accounts**	**111 days?**	**Mon 25/01/16**	**Tue 28/06/16**
2		Comments from WB	30 days?	Mon 25/01/16	Fri 04/03/16
3		Comments from Lenders	30 days?	Mon 25/01/16	Fri 04/03/16
4		Internal Gov't -TA discussions on WB and Lenders comment	0 days?	Mon 07/03/16	Mon 07/03/16
5		Discussions Gov't - WB	0 days?	Mon 07/03/16	Mon 07/03/16
7		Agree final changes to Policy Letter and CA Principles with WB	16 days	Mon 07/03/16	Mon 28/03/16
6		Finalise Cash Waterfall and timings within the CA principles	19 days	Mon 14/03/16	Thu 07/04/16
8		Discussions General Attorney Office, Gov't - FA (HSF)-	6 days?	Tue 29/03/16	Tue 05/04/16
9		Execute Changes and Provide final version of Policy letter and CA principles to WB	7 days	Tue 05/04/16	Wed 13/04/16
10		Committee to Complete Policy Letter	0 days	Wed 13/04/16	Wed 13/04/16
11		Submit Draft letter to MOFED and MOJ	0 days	Wed 13/04/16	Wed 13/04/16
12		Comments by Lenders	0 days	Wed 13/04/16	Wed 13/04/16
13		Draft Letter to WB	0 days	Fri 15/04/16	Fri 15/04/16
14		Policy Letter and Term Sheet Ready for ROC	0 days?	Mon 09/05/16	Mon 09/05/16
15		Authorized Policy Letter submitted to WB	0 days	Wed 01/06/16	Wed 01/06/16
16		WB Board Meeting and PRG Approval	0 days	Tue 28/06/16	Tue 28/06/16
17		**Develop Advanced Draft Operations Manual for the Collection Account**	**54 days?**	**Wed 18/05/16**	**Mon 01/08/16**
18		Discuss Content: Gov't and Transaction Advisor	22 days	Wed 18/05/16	Thu 16/06/16
27		**Procurement Advisory**	**30 days**	**Tue 21/06/16**	**Mon 01/08/16**
28		Drafting of Procurement Note	7 days	Tue 21/06/16	Wed 29/06/16
29		GoSL review	3 days	Thu 30/06/16	Mon 04/07/16
30		Advisor amendment and resubmittal	5 days	Tue 05/07/16	Mon 11/07/16
31		Issue note to WB and lenders for review	10 days	Tue 12/07/16	Mon 25/07/16
32		Amendment to the document and resubmittal	5 days	Tue 26/07/16	Mon 01/08/16
33		WB No Objection	0 days	Mon 01/08/16	Mon 01/08/16
19		Drafting of Manual - Technical Advisor	15 days	Fri 17/06/16	Thu 07/07/16
20		Review by GoSL	3 days	Fri 08/07/16	Tue 12/07/16
21		Amendments prior to submission to WB	3 days	Wed 13/07/16	Fri 15/07/16
22		Submit to WB for Comments	0 days	Fri 15/07/16	Fri 15/07/16
23		Review by WB	7 days	Mon 18/07/16	Tue 26/07/16
24		Amendments of the documents	3 days	Wed 27/07/16	Fri 29/07/16
25		WB No Objection for OM	0 days	Fri 29/07/16	Fri 29/07/16
26		Advanced Draft Operational Manual	0 days?	Mon 01/08/16	Mon 01/08/16
42		**Implementation of the Collection Account Principles as Law**	**160 days**	**Mon 23/05/16**	**Fri 30/12/16**
43		MOE prepares Cabinet Memorandum	5 days	Mon 23/05/16	Fri 27/05/16
44		Cabinet's Conclusion on Memorandum	0 days	Fri 27/05/16	Fri 27/05/16



Project: Collection Account Process_B
Date: Fri 20/05/16

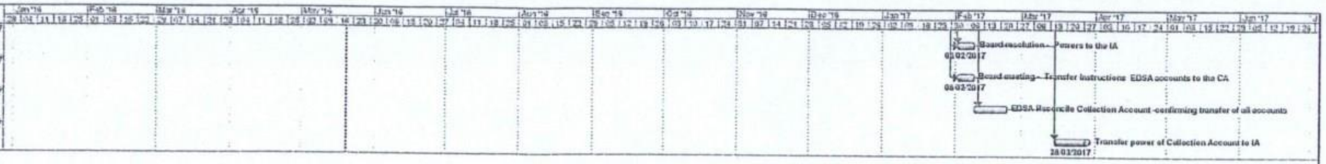
Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

ID	Task Name	Duration	Start	Finish
65	Drafting Instructions by MoE	5 days	Mon 01/08/16	Fri 05/08/16
66	Drafting of the Amendment - Law Officers Department	15 days	Mon 08/08/16	Fri 26/08/16
67	Review and comment of the legislation by MoE	10 days	Mon 29/08/16	Fri 09/09/16
68	Review by AG of Final draft	10 days	Mon 12/09/16	Fri 23/09/16
69	No Objection by AG	0 days	Fri 23/09/16	Fri 23/09/16
70	Publication in the Gazette	20 days	Mon 26/09/16	Fri 21/10/16
71	Tabling of Amendment before Parliament	0 days	Fri 21/10/16	Fri 21/10/16
72	Parliamentary Ratification	10 days	Fri 21/10/16	Thu 03/11/16
73	Presidential Assent	20 days	Thu 03/11/16	Wed 30/11/16
74	Re-publish in Gazette	20 days	Fri 02/12/16	Thu 29/12/16
75	Full Ratification	0 days	Fri 30/12/16	Fri 30/12/16
76	Accreditation Process	377 days	Mon 23/05/16	Tue 31/10/17
34	**Independent Agent**	**210 days**	**Mon 23/05/16**	**Fri 10/03/17**
35	Prepare tender documents	60 days	Mon 23/05/16	Fri 12/08/16
36	Drafting of tender documents and contract	15 days	Mon 15/08/16	Fri 02/09/16
37	Review by GoSL	10 days	Mon 05/09/16	Fri 16/09/16
38	Amendments by Advisors	5 days	Mon 19/09/16	Fri 23/09/16
39	Submission and review by the WB	15 days	Mon 26/09/16	Fri 14/10/16
40	Discussion with WB and amendments to the documents	10 days	Mon 17/10/16	Fri 28/10/16
41	WB No Objection	0 days	Fri 28/10/16	Fri 28/10/16
42	Launch tender	0 days	Fri 28/10/16	Fri 28/10/16
43	Bidding	25 days	Mon 31/10/16	Fri 02/12/16
44	Tender evaluation	15 days	Mon 05/12/16	Fri 23/12/16
45	GoSL review and recommendation	5 days	Mon 26/12/16	Fri 30/12/16
46	WB review and concurrence	10 days	Mon 02/01/17	Fri 13/01/17
47	Issue of award notice	5 days	Mon 16/01/17	Fri 20/01/17
48	**Contract Negotiations with IA**	**35 days**	**Mon 23/01/17**	**Fri 10/03/17**
49	GoSL review	5 days	Mon 23/01/17	Fri 27/01/17
50	Negotiations and redraft	10 days	Mon 30/01/17	Fri 10/02/17
51	Approvals to execute	5 days	Mon 13/02/17	Fri 17/02/17
52	Award to IA	0 days	Fri 17/02/17	Fri 17/02/17
53	Operation Manual Discussion and adjustments with IA	15 days	Mon 20/02/17	Fri 10/03/17
54	**Collection Account**	**107 days**	**Mon 31/10/16**	**Tue 28/03/17**
55	TOR and Contract Negotiations with Bank	67 days	Mon 31/10/16	Tue 31/01/17
56	**Account Activation**	**39 days**	**Thu 02/02/17**	**Tue 28/03/17**
57	Board resolutions - Open the CA	5 days	Thu 02/02/17	Wed 08/02/17



Project: Collection Account Process_R Date: Fri 20/05/16	Task	Split	Progress	Milestone	Summary	Project Summary	External Tasks	External Milestone	Deadline

ID		Task Name	Duration	Start	Finish
58		Board resolution - Powers to the IA	5 days	Thu 02/02/17	Wed 08/02/17
59		Board meeting - Transfer Instructions EDSA accounts to the CA	5 days	Thu 02/02/17	Wed 08/02/17
60		EDSA Reconcile Collection Account -confirming transfer of all accounts	10 days	Thu 09/02/17	Wed 22/02/17
61		Transfer power of Collection Account to IA	10 days	Wed 15/03/17	Tue 28/03/17



Project: Collection Account Process_R
Date: Fri 25/03/16

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

Annexure 2
Sierra Leone electricity sector collection account - term sheet

Subject	Terms
1. Introduction and overview	(a) GoSL is responsible for, and is the ultimate decision maker in relation to, all matters pertaining to Sierra Leone's electricity sector. (b) Set out below are certain key principles ("**Collection Account Principles**") for the establishment and operation of an electricity sector-wide collection account in Sierra Leone ("**Collection Account**") and sector cash flow management system to be administered by an independent agent ("**IA**") to be appointed by GoSL in accordance with these Collection Account Principles. (c) GoSL is committed to establishing and maintaining the Collection Account and the sector cash flow management system to ensure: (a) that there is clarity and transparency on the payments that EDSA receives from its customers for the supply of electricity to such customers; (b) that the entities supplying electrical generation capacity and/or electricity and any entities supplying fuel for use by EDSA for power generation ("**Suppliers**") to EDSA under duly executed and valid power purchase, power tolling or associated fuel supply agreements ("**Supply Agreements**") are paid in a timely manner in accordance with the agreed Payment Waterfall (set out in Section 14 below) and EDSA complies with its payment obligations under the Supply Agreements to such entities; (c) clarity and transparency with regards to amounts paid to Suppliers and the receivables and expenses of EDSA; (d) that the Deficit (as described in Section 10 below) that the MoFED is required to fund is clearly identified and paid into the Collection Account in a timely manner; and (e) that Sierra Leone's electricity sector is well-functioning and self-sustaining as part of GoSL's wider electricity sector reforms to attract investments in its electricity sector. (d) The GoSL recognises that in the short to medium term, MoFED will be required to fund the Deficit (and pay such amounts into the Collection Account) to ensure that EDSA meets its payment obligations to the Suppliers. (e) The GoSL recognises that in the long term, it will be necessary to prepare and implement a system which will ensure that Sierra Leone's electricity sector is self-sustaining.
2. Collection Account Documents ***(To be included in the Amendment Act)***	(a) The GoSL will give legal effect to the Collection Account Principles by: (a) passing primary legislation amending the National Electricity Act, 2011 (the "**Amendment Act**"); (b) entering into an agreement with the IA selected to operate the Collection Account (the "**IA Agreement**"); (c) procuring that the IA administers and operates the Collection Account in accordance with an operations manual for the management, reporting and control of funds in the electricity sector as adopted by the Committee and revised from time to time in consultation with the IA and the International Development Association (the "**Operations Manual**") or similar development

Subject	Terms
	institutions; and (d) entering into an agreement with the bank with whom the Collection Account will be maintained (the "**CB Agreement**"), in each case, in accordance with these Collection Account Principles. (b) The Amendment Act, Operations Manual, IA Agreement and CB Agreement are collectively referred to as the "**Collection Account Documents**".
3. Collection Account Documents – key stakeholders ***(To be included in the Collection Account Documents)***	**(a) GoSL** The Government of Sierra Leone, acting by the Ministry of Finance and Economic Development ("**MoFED**") and by the Ministry of Energy ("**MoE**"). **(b) EDSA** The Electricity Distribution and Supply Authority established pursuant to the National Electricity Act, 2011, the statutory distribution entity responsible for (a) buying electricity from electricity producers and suppliers and (b) selling electricity to the end-customers (residential, commercial and industrial) in Sierra Leone and for exporting electricity out of Sierra Leone and any successor entity ("**EDSA**"). **(c) EWRC** The Sierra Leone Electricity and Water Regulatory Commission established pursuant to the Sierra Leone Electricity and Water Regulatory Commission Act, 2011 to regulate the provision of electricity and water services and any successor responsible for the electricity sector ("**EWRC**"). **(d) Committee** The GoSL will establish a committee comprising representatives from (a) the MoFED, (b) MOE, (c) the EWRC, (d) Board of EDSA and (e) three observers (one independent, one representing Suppliers and one from an international institution (such as a development finance institution or regulator)) ("**Committee**"). The Committee shall be responsible for: (i) reviewing and approving EDSA's Operating Budget (as described in Section 5 below); (ii) reviewing and approving EDSA's Sector Budget (as described in Section 5 below); (iii) supervising the IA in accordance with the terms of the IA Agreement; and (iv) liaising with the IA, the Collection Account Bank (as described below) and any GoSL authority to provide relevant foreign currencies to EDSA to ensure payments under the Supply Agreements are made in a timely manner. The GoSL shall appoint the three observers in good faith and acting reasonably and, the independent observer (not the observer representing the Suppliers nor the observer that is an international institution) shall be a representative of the Sierra Leone Chamber of Commerce. The Committee may invite additional observers to attend meetings of the Committee. Without limiting the information to be provided in the Financial Reconciliation Statement in accordance with Section 9, the three observers and any additional observers shall not have access to any information which the GoSL and EDSA is prevented from disclosing under confidentiality obligations owed to third parties. The GoSL and EDSA shall develop a clear and transparent process in accordance with the laws

Subject	Terms
	of Sierra Leone for the Committee to determine whether to add and/or remove Suppliers and parties to whom payments can be made from the Collection Account and the Suppliers and parties eligible for payment from the Collection Account ("**Accreditation Process**"). In the interim, all procurement shall be carried out in accordance with the Public Procurement Act, 2016. The GoSL and EDSA shall ensure that the following factors are recognised and reflected in the Accreditation Process: (a) the Public Procurement Act, 2016; (b) the assessment of transmission and distribution capacity to determine whether there is sufficient capacity to evacuate power to be supplied by the new supplier; (c) the assessment of whether there is a sufficient demand for power in the market; and (d) tariff structure reviews to assess the affordability of power to be provided by the new supplier, including fuel costs. The Committee shall notify the IA and the other Suppliers when a new Supplier has been accredited in accordance with the Accreditation Process. **(e) IA** The GoSL shall select the IA pursuant to a transparent and competitive selection process and shall appoint the IA under the IA Agreement. The IA shall be a credible and reputable institution of international repute and with an office and staff in Sierra Leone, with prior experience in the management of cash flows and accounts on behalf of third parties. If the term of appointment of an IA is due to expire or if an IA resigns or is removed, GoSL shall run a new procurement process to select a replacement IA in accordance with this section 3(e). If at any time an IA is not providing the services under the IA Agreement, the Committee shall be responsible for undertaking the IA duties as set out in the IA Agreement. The GoSL shall procure that the IA will have the following obligations under the IA Agreement: (i) the IA acts as a neutral third party, independent of GoSL, EDSA and the Suppliers; (ii) the IA pays all of EDSA's revenues from the sale of electricity to EDSA's customers ("**EDSA Receivables**") into the Collection Account including by monitoring payments from Other Accounts (as defined in Section 4 below); (iii) the IA notifies MoFED and EDSA of any obligation to pay a Deficit into the Collection Account; (iv) the IA will generally administer the Collection Account in accordance with the applicable Collection Account Documents, including payments of any amounts in accordance with the Payment Waterfall set out in Section 14 below; (v) the IA shall draw up the Finance Reconciliation Statement (as described in Section 9 below) for each month by the 10th day of each subsequent month to determine the funds available to pay any invoices due and payable under the Supply Agreements, in accordance with the Payment Waterfall set out in Section 14 below; and (vi) the IA shall convert Sierra Leonean Leones ("**SLL**") into the relevant foreign currencies in collaboration with the Collection Account Bank and MOFED, the GoSL and EDSA shall use their reasonable endeavours to procure that the IA complies with its obligations under the IA Agreement.

Subject	Terms
	F. Collection Account Bank (a) The Collection Account will comprise of two accounts (or sub-accounts): one in United States Dollars ("**USD**") and one in SLL. It will be maintained with the Collection Account Bank, which has: (i) a retail branch in Freetown; and (ii) the ICT platform to execute payments. (b) Accounts or sub-accounts in other currencies may be added as and when a requirement for such other currencies arises (e.g. as a result of a Supply Agreement coming into effect in a currency other than SLL or USD). (c) The IA shall procure that the EDSA Receivables are collected and deposited with the Collection Account Bank. (d) The IA shall be responsible for converting SSL into USD (and, if applicable, other currencies), as required to satisfy EDSA's payment obligations to Suppliers. (e) The Collection Account Bank shall be a bank (or be a wholly owned banking subsidiary of such bank) having at least two of the following three ratings: (i) a minimum "Long Term Foreign Currency Issuer Deposit Rating" of "A" from Fitch Ratings Ltd; (ii) a minimum "Long-Term Issuer Credit Rating" of "A-" by Standard & Poor's Financial Services LLC; and (iii) a minimum "Long-Term Bank Deposits Rating" of "A1" by Moody's Investors Service, Inc. (f) If the Collection Account Bank's ratings suffer a downgrade such that it no longer maintains at least two of the three ratings set out in paragraph (e) above, GoSL shall procure that EDSA and the IA transfers the Collection Account to another bank having a retail branch and/or a licensed bank business in Freetown which: (i) has at least two of the three ratings set out in paragraph (e) above; or (ii) has the highest ratings amongst the banks in Freetown, and which, in the Committee's reasonable opinion, has the most appropriate technical, financial and personnel resources to perform the functions of the Collection Account Bank, provided that, where the Collection Account Bank has the highest rating amongst the banks in Freetown, this paragraph (f) shall not apply.
4. Establishment and activation of the Collection Account ***(To be included in the Amendment Act and the Operations***	(a) The Collection Account shall be held by the Collection Account Bank on trust for each payment beneficiary under the Payment Waterfall in Section 14. The Collection Account shall be operated only by the IA in accordance with the Operations Manual and the IA Agreement. GoSL, EDSA and the Committee will give appropriate delegated authority to the IA to perform its duties under the Operations Manual and the IA Agreement, including managing the Collection Account. This delegated authority will be included in the Amendment Act. (b) GoSL and EDSA shall procure that all of the EDSA Receivables available in EDSA's bank

Subject	Terms
Manual)	accounts will be automatically transferred on a weekly or bi-weekly basis to the Collection Account. (c) To the extent that any EDSA Receivables are paid into bank accounts held by EDSA, other than the Collection Account ("**Other Accounts**"), EDSA shall issue irrevocable payment instructions to the banks in which such accounts are held, directing that all EDSA Receivables deposited in such accounts shall be transferred to the Collection Account, subject to any deductions to pay the reasonable costs of administering such accounts. (d) Cash-pay/pre-pay meter customers, banks and institutions handling pre-payments for the sale of electricity shall be notified and instructed in writing by EDSA to transfer all proceeds payable by, or received by them (as the case may be), into the Collection Account on a weekly or bi-weekly basis. (e) EDSA will also pay any GST or tax refunds on the sale of electricity into the Collection Account from time to time. (f) The Collection Account shall not receive proceeds relating to the sale of meters or connection fees for which EDSA shall maintain separate bank accounts. (g) GoSL and EDSA shall ensure invoicing to, and the resulting payments from, customers for electricity (in respect of payments which are to be made to or routed to the Collection Account) and payments for other items such as meters and connection fees are segregated from invoicing and payments related to connection and meter installation. To the extent that, over time, computerised payment systems allow joint billing and segregation of payment amounts due, the Committee and IA may consider implementing these systems.
5. Budgets *(To be included in the Amendment Act and the Operations Manual)*	(a) EDSA shall prepare and submit to the Committee by 31 August each year, the following budgets: (i) a cash flow forecast, which will specify the EDSA Receivables and its projected payments to Suppliers, payments to the IA and Collection Account Bank, any other necessary payments to third parties, and EDSA's internal operating costs as set out in the Operating Budget, as described in more detail in Section 6 ("**Sector Budget**"); and (ii) an expenditure budget, which will specify all of EDSA's internal operating costs, such as salaries, rental payments, running costs and other overheads "**Operating Budget**"), as described in more detail in Section 7. (b) Each of the Operating Budget and the Sector Budget shall forecast expenses and EDSA Receivables on a monthly, quarterly and annual basis for each of the following (3) three years. (c) The Committee shall review and approve the Sector Budget and the Operating Budget by 30 September each year and liaise with MoFED, MOE, the EWRC and other Committee members as appropriate to ensure that any relevant projected Sector Deficit (as further described in Section 6 and other parts of this Term Sheet) is included in the government's national budget for the upcoming periods. (d) EDSA shall procure that the Sector Budget and the Operating Budget are prepared in accordance with prudent utility practices, in good faith, and acting reasonably.

Subject	Terms
6. Sector Budget ***(To be included in the Amendment Act and the Operations Manual)***	(a) ESDA will ensure that the Sector Budget will: (i) reflect EDSA's Operating Budget and the forecasts provided by Suppliers under paragraph (b) below; (ii) include a forecast of energy and/or capacity payments (and, if applicable, fuel payments) due to the Suppliers based on demand projections, fuel costs and inflation assumptions and terms of the Supply Agreements; (iii) include a forecast of payments to any publically owned generator in relation to power purchased under any power purchase agreement between a publically owned generator and EDSA ("**POG PPA**"); (iv) include a forecast of the revenues that EDSA expects to collect from its customers; (v) be accompanied by a sensitivity analysis, to include, amongst other things, fuel price risk, FX risk and revenue risk; (vi) include any other cost or liability which is forecast to affect Sierra Leone's electricity sector; (vii) include a forecast of the Deficit (if any); (viii) be accompanied (as soon as a 3 year track record has been realised) by 3 years of historical projected versus actual Sector Budget data as background guidance information; and (ix) be presented in both SLL and USD and accompanied by a written description that includes key assumptions, including assumed foreign exchange rates and price indices used. (b) Each year before 31 July, ESDA shall procure that each Supplier to whom payments may be due from EDSA under Supply Agreements, which payments fall within the Payment Waterfall (set out in Section 14 below), shall provide the Committee and EDSA with a three (3) year forecast of such payments, including all pass-through payments in respect of each category of their expenses provided for in the respective Supply Agreements. (c) The three (3) year forecasts referred to in paragraph (b) will, together with the Operating Budget, be used by EDSA to prepare the Sector Budget under Section 5. (d) The Sector Budget will: (i) clearly show all the expense categories and subcategories (Payment Waterfall line items) for each calendar month; and (ii) assist to assess the financial stability of the sector and the government monetary support quantum. (e) The Committee shall provide the Sector Budget to the IA for application in the following year. In the event that the new Sector Budget for the current year has not been finalised, the IA shall use the prior year 3-year Sector Budget approved by Committee for the present year. (f) If the Sector Budget projects any Deficit, MoFED shall be required to seek additional funds in the government's national budget to fund the Deficit.

Subject	Terms
	(g) If required, EDSA shall provide a revised version of the Sector Budget at the end of each quarter to the Committee for their approval. EDSA shall revise the Sector Budget to account for the payment of any extraordinary expenses, any significant variation in pass-through costs compared to those forecast in the current Sector Budget and the addition of any new Suppliers to the Payment Waterfall (set out in Section 14 below). EDSA shall notify (in writing) MoFED any changes to the projected Deficit. (h) Within 60 days after the end of each quarter, EDSA shall provide a certificate to the IA and the Committee signed by EDSA's board of the EDSA Receivables, the Operating Expenses, internal expenses and other amounts required for the purposes of establishing compliance with the Sector Budget, received or incurred in the previous quarter in accordance with the Sector Budget, accompanied by a comparison of actual versus budgeted amounts for that previous quarter and the corresponding year-to-date period.
7. Operating Budget ***(To be included in the Amendment Act and the Operations Manual)***	(a) EDSA will ensure that the Operating Budget reflects: (i) EDSA's forecast internal operating costs, such as salaries, rental payments, running costs and other overheads, operating and maintenance costs, maintenance commitments, SG&A and EWRC's fees; (ii) reasonable fees and expenses of the Collection Account Bank, the IA and the three independent Committee observers; and (iii) reasonable fees and expenses of legal counsel, auditors and other advisors incurred in connection with the Collection Account, (together, the "**Operating Expenses**"), but shall exclude: (i) distribution investments incurred by EDSA; and (ii) transmission investments incurred by EGTC and payments to Suppliers (including EGTC). (b) Within 60 days after the end of each quarter, EDSA shall provide a certificate to the IA and the Committee signed by EDSA's board of the Operating Expenses incurred in the previous quarter in accordance with the Operating Budget, accompanied by a comparison of actual versus budgeted Operating Expenses for that previous quarter and the corresponding year-to-date period.
8. Invoicing to EDSA ***(To be included in the Amendment Act and the Operations Manual)***	(a) EDSA shall use its reasonable endeavours to procure that all Suppliers issue an invoice to EDSA, copied to the IA (together with supporting documents), within a specified period of the end of each month in accordance with the applicable Supply Agreement. (b) The IA Agreement shall specify the time period during which EDSA has to either approve or dispute an invoice, failing which, the IA will procure the payment of the invoice in accordance with the Operations Manual. (c) The IA Agreement shall provide that any invoices that are submitted after the specified period in paragraph (a) will not be included in the payment cycle of that month and will be included in the payment cycle of the subsequent month.
9. Monthly Finance Reconciliation Statement ***(To be included in***	(a) The IA shall on a monthly basis draw up the Finance Reconciliation Statement for the month by day ten 10 of each month. (b) The Finance Reconciliation Statement shall make it possible to determine the available financial resources for the payment of Suppliers' invoices (the "**Invoices**") in

Subject	Terms
the IA Agreement and the Operations Manual)	accordance with the priority of payments set out in the Payment Waterfall (set out in Section 14 below). (c) The IA bears sole responsibility for drawing up the monthly Finance Reconciliation Statement based on the Invoices. (d) Each monthly Finance Reconciliation Statement will include: (i) The total amount of the ESDA Receivables for that month. (ii) The amounts paid into the Other Accounts and transferred into the Collection Account. (iii) The total funds available in the Collection Account. (iv) The total amounts, in aggregate, invoiced by Suppliers to EDSA for the provision of electricity and fuel (regardless of whether any amount notified or invoiced is disputed) and the currencies in which such amounts are due (e.g. SLL, USD, etc.) with a statement of the equivalent obligation in SLL and USD, as well as a gross total in these currencies. (v) The amounts disputed by EDSA (other than disputes resolved). (vi) The Deficit (as defined in Section 10 below), (if any). (vii) The total amounts, in aggregate, that were forecast/budgeted to be invoiced by Suppliers but for which no invoice was received by EDSA on a timely basis. (viii) Notification of any new Suppliers and/or the removal of existing Suppliers. (e) Collection Account System Reporting: (i) The IA and the Collection Account Bank will provide the Committee on a monthly basis with bank account statements for the Collection Account and the Finance Reconciliation Statement for the month. (ii) The IA shall provide the Suppliers with a copy of each Finance Reconciliation Statement.
10. Deficit and MoFED subsidy ***(To be included in the Amendment Act and the Operations Manual)***	(a) If the Finance Reconciliation Statement indicates that the funds standing to the credit of the Collection Account are less than the aggregate amounts that EDSA is required to pay to the Suppliers pursuant to the Invoices (the difference being a "**Deficit**"), the IA shall notify (in writing) the amount of the Deficit to EDSA within two (2) Business Days of the Financial Reconciliation Statement being prepared, MoFED and the Committee and the IA shall request EDSA to pay the Deficit into the Collection Account (an "**EDSA Deficit Notice**"). (b) If EDSA has not paid an amount equal to the Deficit into the Collection Account within two (2) business days of receiving the EDSA Deficit Notice, the IA shall issue a written notice to the MoFED requiring MoFED to pay the proportion of the Deficit that EDSA did not pay into the Collection Account pursuant to the EDSA Deficit Notice (a "**MoFED Deficit Notice**"). (c) The MoFED shall, within ten (10) business days of receiving the MoFED Deficit Notice, pay the amount so notified under the MoFED Deficit Notice into the Collection Account.
11. Disputed amounts ***(To be included in***	(a) If EDSA wishes to dispute an Invoice before its due date of payment, subject to the terms of the relevant Supply Agreement, EDSA shall notify the IA, the Committee and the relevant Supplier that EDSA wishes to dispute such Invoice and the amounts that it

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the IA Agreement and the Operations Manual)	wishes to so dispute. (b) Subject to the terms of the relevant Supply Agreement, the IA shall pay all undisputed amounts under any invoice and the IA shall not pay any disputed amount until resolution of the dispute in accordance with the Supply Agreement. Upon resolution of the dispute, in the event that the determination has been made in favour of the Supplier, payment of the disputed amount will be made as specified in the Payment Waterfall (set out in Section 14 below).
12. Termination of a Supply Agreement and termination payments ***(To be included in the IA Agreement and the Operations Manual)***	(a) If a Supply Agreement is terminated, EDSA shall promptly notify the IA of such termination, the date of termination and of any outstanding payment related to the provision of services which are due and payable in accordance with the relevant Supply Agreement. (b) Any termination payments or transfer or buyout price (howsoever described) which are due and payable to a Supplier or its lenders, shareholders or affiliates upon expiry or termination of a Supply Agreement (or transfer of the electricity generating facility) shall not be paid from the Collection Account.
13. Foreign Exchange operations ***(To be included in the IA Agreement and the Operations Manual)***	(a) The IA shall procure that the Collection Account Bank shall use a pre-agreed and transparent method to convert the SLL into the various currencies of payment under the relevant Supply Agreements ("**Forex Mechanism**"). (b) The IA shall ensure, to the extent possible, that the Forex Mechanism reduces EDSA's and MoFED's exposure to any foreign currency risks. (c) The IA shall procure that the Collection Account Bank obtains the relevant foreign currencies from the local or regional foreign exchange market in accordance with the Forex Mechanism. (d) If any foreign currencies are not available in Sierra Leone in amounts sufficient to meet EDSA's payment obligations to its Suppliers, then GoSL, through the Central Bank of Sierra Leone, shall procure that the relevant foreign currency in sufficient amounts is made available to the Collection Account Bank. (e) The MoFED shall, by 30 September of each year, notify the Central Bank of Sierra Leone of any projected foreign currency requirements for meeting payments under the Supply Agreements in the currencies in which they are due for the following year to ensure that the Central Bank of Sierra Leone is aware of the foreign currency requirements. At the end of each quarter, the MoFED shall also notify the Central Bank of Sierra Leone of any revisions to its projected foreign currency requirements for the following quarter. (f) The MoFED shall also coordinate with the IA and the Central Bank of Sierra Leone to ensure that all legal and regulatory approvals are in place to permit: (i) the maintenance of bank accounts and bank account balances in foreign currencies; (ii) the conversion of SLL into foreign currencies; and (iii) the settlement and payment of invoices of the Suppliers in foreign currencies, where applicable and required pursuant to the Supply Agreements.
14. Payment Waterfall	(a) Within thirty days after the end of each month, the IA shall instruct the Collection Account Bank to make the following payments in accordance with the following order of priority (with (i) having the highest priority and (ix) the lowest priority), with

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(To be included in the Amendment Act, IA Agreement and the Operations Manual)	amounts split pro-rata among the parties owed amounts in each sub-paragraph, where funds are insufficient to pay the full amount: (a) any GST or electricity tax imposed on the sale of electricity by EDSA and collected from customers (net of any GST or electricity tax recoverable by EDSA), if applicable (b) any amounts drawn by any Supplier under any letters of credit or any other payment security instrument issued in support of EDSA's payment obligations under any Supply Agreement; (c) taking account of the treatment described in (b) below, any amounts due to the Suppliers (excluding publicly owned generators) in arrears as a result of (i) a failure of EDSA to pay amounts submitted in previous Invoices; (ii) a failure of EDSA and/or MoFED in the prior periods to pay the Deficit into the Collection Account; and (ii) any previously disputed amount now resolved; (d) amounts specified in the Operating Budget for that month, provided that such payments shall not exceed the budgeted amounts; (e) amounts payable to the Suppliers under the Supply Agreements (excluding amounts payable under the POG PPAs) against the Invoices submitted to EDSA in the previous month; (f) amounts payable by EDSA to any publicly owned generator, including any amounts due to any publicly owned generator in arrears as a result of (i) a failure of EDSA to pay amounts submitted in previous Invoices; (ii) a failure of EDSA and/or MoFED in the prior periods to pay the Deficit into the Collection Account; and (ii) any previously disputed amount now resolved; (g) maintenance expenditure incurred by EDSA and not budgeted within the Operating Budget (and approved by the Committee on an exceptional basis) and distribution investments incurred by EDSA as approved by the Committee under the Sector Budget; (h) transmission investments incurred by EGTC as approved by the Committee under the Sector Budget; and (i) repayment of any Government liquidity support provided by MoFED in prior months to cover seasonal cash flow variations, in addition to the Deficit amounts paid by the MoFED. This repayment will only be made once the account has a liquidity to cover the following three (3) months of payments. (b) In making the calculations of amounts to be paid from the Collection Account in any month, if a Supplier did not submit an invoice in a timely manner, the IA shall retain in the Collection Account as a reserve an amount equal to the amount budgeted to be paid to that Supplier in that month in the Sector Budget. When the corresponding invoice that was submitted late is then submitted in a subsequent month and accepted for payment, the IA will release the reserved amount to the Supplier. (c) Amounts disputed by EDSA in accordance with section 11 will not be taken into account in making payment allocations in the month in which the disputed invoice is to be paid from the Collection Account. When a dispute is resolved in favour of a Supplier, the disputed amount agreed or determined to be payable to the Supplier, together with any late payment interest, will be added to the amounts to be paid to Suppliers in the month following the month in which the dispute is resolved. (d) If, based on the Sector Budget, the Collection Account has funds (i) in excess of the funds required to meet the payment obligations described in paragraphs (a)(i) to (ix) (inclusive) above for the following three (3) months (the "**Buffer**"), the IA shall, at

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	EDSA's request, require the Collection Account Bank to transfer any funds in excess of the Buffer to EDSA's bank account so notified by EDSA to the IA in writing.
16. Auditing ***(To be included in the Operations Manual and Amendment Act)***	The Auditor General is responsible for the annual audit of the Sierra Leone public entities and shall accordingly audit the Collection Account and EDSA. The audit of the Collection Account and EDSA shall: (a) be prepared and include appropriate commentary in line with prudent accounting practice; (b) be made available on the Auditor General's website and EWRC's website within a reasonable period of time (but, in any event, not more than one year) after the end of EDSA's financial year. The audits for prior years shall continue to be made available on the Auditor General's website and EWRC's website.
17. Legal effect	This term sheet is not legally binding and is not exhaustive.

Annex 12: Map

Sierra Leone: Western Area Power Generation Project