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Report No: PAD576

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT EURO 53.7 MILLION
(US$60 MILLION EQUIVALENT)

TO THE

REPUBLIC OF GABON

FOR THE

ACCESS TO BASIC SERVICES IN RURAL AREAS AND CAPACITY BUILDING PROJECT

AUGUST 26, 2015

Energy and Extractives Global Practice
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective June 30, 2015)

Currency Unit	=	Central African Franc
CFA 586.2517	=	US$1
Euro 0.8942	=	US$1

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

$, US$, USD	United States dollar *Note: All dollars are U.S. dollars, unless otherwise indicated.*
AC	Alternating Current
AFREA	Africa Renewable Energy Access Program
ANGT	National Agency for Major Works *Agence Nationale des Grands Travaux*
ARSEE	Regulatory Agency for Water and Electricity Sectors *Agence de Régulation du Secteur de l'Eau Potable et de l'Energie Electrique*
BP	Bank Procedure
CAB	Central African Backbone
CDC	*Caisse des Dépôts et Consignations*
CEMAC	Monetary and Economic Community of Central African States *Communauté Economique et Monétaire des Etats d'Afrique Centrale*
CNEE	National Council for Water and Electricity *Conseil National de l'Eau et de l'Electricité*
CN-TIPPEE	National Commission for Public Works and the Promotion of Business and Employment *Commission Nationale des Travaux d'Intérêt Public pour la Promotion de l'Entreprenariat et de l'Emploi*
CPS	Country Partnership Strategy
CQS	Consultant Qualification Selection
DA	Designated Account
DC	Direct Current
DENR	Directorate for New and Renewable Energies
DGE	Directorate General for Energy
DGRH	Directorate General for Water Resources *Direction Générale de Ressources Hydrauliques*
DHR	Directorate for Rural Water
EIRR	Economic Internal Rate of Return
EOI	Expression of Interest
ESIA	Environmental and Social Impact Assessment

ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
EU	European Union
FM	Financial Management
FMS	Financial Management Specialist
FY	Fiscal Year
GEF	Gabonese households officially recognized as poor *Gabonais Economiquement Faibles*
GDP	Gross Domestic Product
GoG	Government of Gabon
GPN	General Procurement Notice
GRS	Grievance Redress Service
HIV	Human Immunodeficiency Virus
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
IDA	International Development Association
IFR	Interim Financial Report
IPPF	Indigenous Peoples Plan Framework
ISR	Implementation Status and Results Report
IT	Information Technology
km	Kilometer
km^2	Square kilometer
KV	Kilovolt
kW	Kilowatt
kWh	Kilowatt-hour
LED	Light-Emitting Diode
MDG	Millennium Development Goal
MERH	Ministry of Energy and Hydraulic Resources *Ministère de l'Energie et des Ressources Hydrauliques*
M&E	Monitoring and Evaluation
MW	Megawatt
NCB	National Competitive Bidding
NGO	Nongovernmental Organization
OP	Operational Policy
ORAF	Operational Risk Assessment Framework
O&M	Operation and Maintenance
PAD	Project Appraisal Document
PDIL	Projet de développement des infrastructures locales
PDO	Project Development Objective
PFM	Public Financial Management
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PPP	Public Private Partnership
PSGE	Emerging Gabon Strategic Plan *Plan Stratégique Gabon Emergent*
PV	Photovoltaic

RAP	Resettlement Action Plan
RAS	Reimbursable Advisory Services
RFP	Request for Proposals
RPF	Resettlement Policy Framework
SBD	Standard Bidding Document
SEEG	Gabonese Energy and Water Utility *Société d'Energie et d'Eau du Gabon*
SHS	Solar Home System
SPP	Simplified Procurement Plan
SSS	Single Source Selection
SW	Staff Week
TOR	Terms of Reference
TTL	Task Team Leader
TV	Television
UN	United Nations
UNDB	United Nations Development Business
V	Volt
VAT	Value Added Tax
WA	Withdrawal Application
WBG	World Bank Group
WHO	World Health Organization
Wp	Watt-peak
WTP	Willingness to Pay
XAF	Central African Franc, CFA *Franc CFA*

Regional Vice President:	Makhtar Diop
Country Director:	Elisabeth Huybens
Senior Global Practice Director:	Anita Marangoly George
Practice Manager:	Meike van Ginneken
Task Team Leader:	Stephan Claude Frederic Garnier

GABON: ACCESS TO BASIC SERVICES IN RURAL AREAS AND CAPACITY BUILDING PROJECT

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Access to Basic Services in Rural Areas and Capacity Building Project (P144135)

PROJECT APPRAISAL DOCUMENT

AFRICA

GEEDR

Report No.: PAD576

Basic Information			
Project ID P144135	EA Category B - Partial Assessment	Team Leader Stephan Claude F. Garnier	
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ] Financial Intermediaries [ ] Series of Projects [ ]		
Project Implementation Start Date September 17, 2015	Project Implementation End Date November 30, 2021		
Expected Effectiveness Date January 17, 2016	Expected Closing Date November 30, 2021		
Joint International Finance Corporation No			
Practice Manager	Senior Global Practice Director	Country Director	Regional Vice President
Meike van Ginneken	Anita Marangoly George	Elisabeth Huybens	Makhtar Diop
Borrower: Government of Gabon			
Responsible Agency: Ministry of Energy and Water Resources (MERH)			
Contact: Désiré GUEDON	Title: Minister of Energy and Water Resources		
Telephone No.: + 241 06 05 62 62	Email: dguedon@yahoo.fr		

Project Financing Data(in USD Million)							
[X]	Loan	[ ]	Grant	[ ]	Guarantee		
[ ]	Credit	[ ]	IDA Grant	[ ]	Other		
Total Project Cost:		60.00		Total Bank Financing:		60.00	

Financing Gap:	0.00	

Financing Source	Amount
Borrower	0.00
International Bank for Reconstruction and Development	60.00
Total	60.00

Expected Disbursements (in USD Millions)

Fiscal Year	2016	2017	2018	2019	2020	2021	2022
Annual	1.00	5.00	12.00	18.00	14.00	6.00	4.00
Cumulative	1.00	6.00	18.00	36.00	50.00	56.00	60.00

Institutional Data

Practice Area (Lead)

Energy and Extractives

Contributing Practice Areas

Water and Sanitation

Cross Cutting Areas

[ ] Climate Change
[ ] Fragile, Conflict & Violence
[X] Gender
[ ] Jobs
[ ] 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	Other renewable energy	40		
Water/Sanitation	Water supply	35		
Energy and mining	General energy sector	20		
Energy and mining	Energy efficiency in heat and power	5		
Total		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	%
Rural Development	Rural Services and Infrastructure	80
Fin. and Priv. Sector Dev.	Private Sector Development	20
Total		100

Proposed Development Objective(s)

The project development objectives (PDOs) are to expand access to water and energy services in targeted rural areas and to establish mechanisms to improve sustainability of service provision.

Components

Component Name	Cost (USD Millions)
Component A: Expansion of access to basic services in rural areas	45.50
Component B: Implementation support, supervision, and monitoring & evaluation	6.00
Component C: Capacity building and sectoral technical assistance	8.50

Systematic Operations Risk- Rating Tool (SORT)

Risk Category	
1. Political and Governance	**Substantial**
2. Macroeconomic	**Substantial**
3. Sector Strategies and Policies	**High**
4. Technical Design of Project or Program	**High**
5. Institutional Capacity for Implementation and Sustainability	**High**
6. Fiduciary	**Moderate**
7. Environment and Social	**Moderate**
8. Stakeholders	**Substantial**
OVERALL	**High**

Compliance

Policy

Does the project depart from the Country Assistance Strategy in content or in other significant respects?	Yes [ ]	No [X]
Does the project require any waivers of Bank policies?	Yes [ ]	No [X]
Have these waivers been approved by Bank management?	Yes [ ]	No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ]	No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X]	No [ ]

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment Operational Policy (OP)/Bank Policy (BP) 4.01	X	
Natural Habitats OP/BP 4.04		X
Forests OP/BP 4.36		X
Pest Management OP 4.09		X
Physical Cultural Resources OP/BP 4.11	X	
Indigenous Peoples OP/BP 4.10	X	
Involuntary Resettlement OP/BP 4.12	X	
Safety of Dams OP/BP 4.37		X
Projects on International Waterways OP/BP 7.50		X
Projects in Disputed Areas OP/BP 7.60		X

Conditions and Legal Covenants

Name	Recurrent	Due Date	Frequency
1. Steering Committee (Article IV., Section 4.01 (b) and Schedule 2, Section I.A.1)		Effectiveness	

Description of Condition

The Borrower shall establish, and thereafter maintain, throughout the Project implementation period, with composition, mandate and resources satisfactory to the Bank, a steering committee, to be chaired by the minister of the Ministry of Energy and Hydraulic resources (MERH) and comprised of representatives of key ministries and agencies, to be responsible for providing overall guidance and strategic support to the Project, including, *inter alia*, endorsing the proposed Annual Work Plan and budget for the project (the "Steering Committee").

2. Project Implementation Manual (Article IV., Section 4.01 (a) and Schedule 2, Section I.C)		Effectiveness	

Description of Condition

The Borrower shall prepare, in accordance with terms of reference acceptable to the Bank, and furnish to the Bank a proposed implementation manual for the Project containing detailed (a) implementation; (b) administrative; (c) procurement; (d) financial management and accounting, including any required accounting software updates; and (e) monitoring and evaluation procedures and arrangements for the Project.

3. Recruitment of the O&M operator and O&M Financing Framework (Schedule 2, Section IV.B.1 (b))		Disbursement for Part/Component A	

Description of Condition

No withdrawal shall be made under Category (1), until and unless the Borrower has: (i) recruited the first O&M Operator; and (ii) prepared and submitted to the Bank an O&M Financing Framework, in form and substance acceptable to the Bank.

4. O&M Operators Qualifications (Schedule 2, Section V.A)	Continuous	Recurrent	

Description of Condition

In order to ensure proper operation and maintenance of infrastructure under Part A of the Project, the Borrower shall employ, in accordance with the provisions of Section III of Schedule 2 to the Agreement, O&M Operators each of whose qualifications, experience and terms of reference shall be acceptable to the Bank, to be responsible for O&M of basic rural water and electricity infrastructure and services, in accordance with terms and conditions as further detailed in the PIM.

5. O&M account (creation) (Schedule 2, Section V.B)		Within 6 months of effectiveness	

Description of Condition

The Borrower shall, not later than six (6) months after the effective date, open an account in a financial institution acceptable to the Bank ("Payment Account") and deposit an amount in the said account acceptable to the Bank for the purposes of carrying out payments to the O&M operators.

6. O&M account (replenishment) (Schedule 2, Section V.B)	Every six months	Recurrent	

Description of Condition

The Borrower shall maintain the Payment Account throughout Project implementation, and replenish it, every six (6) month period with an amount to be agreed upon with the Bank, for the purposes of carrying out regular payments to the O&M Operators.

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Team Composition

Bank Staff

Name	Title	Specialization	Unit
Stephan Claude Frederic Garnier	Lead Energy Specialist	Team Lead	GEEDR
Christopher Saunders	Energy Specialist	Renewable Energy	GEEDR
Fabrice K. Bertholet	Senior Financial Analyst	Economic and Financial Analyst	GEEDR
Sylvain Adokpo Migan	Senior Water & Sanitation Specialist	Water & Sanitation Specialist	GWASA
David Vilar	Energy Specialist	Renewable and Rural Infrastructures	GEEDR
Franklin Koffi S.W. Gbedey	Energy Specialist	Engineering	GEEDR
Maya Abi Karam	Senior Counsel	Legal	LEGAM

Ruxandra Costache	Counsel	Legal	LEGAM
Aissatou Diallo	Senior Finance Officer	Finance / Disbursement	WFALA
Amadou Watt	Energy Specialist	Financial Analyst	GEEDR
Lucienne M. M'Baipor	Senior Social Development Specialist	Senior Social Development Specialist	GURDR
Emeran Serge M. Menang Evouna	Senior Environmental Specialist	Senior Environmental Specialist	GENDR
Kouami Messan	Senior Procurement Specialist	Senior Procurement Specialist	GGODR
Rick Tsouck Ibounde	Senior Economist	Country Economist	GMFDR
Manuel Berlengiero	Senior Energy Specialist	Energy Specialist	GEEDR
Laurence Hougue Bouguen	Program Assistant	Program Assistant	AFCC1
Marie Lolo Sow	Program Assistant	Program Assistant	GEEDR
Marie-Paule Ngaleu	Program Assistant	Program Assistant	GEEDR
Sonia Vanecia Boga	Team Assistant	Team Assistant	AFMGA

Non-Bank Staff

Name	Title	Office Phone	City
Sara Nso	Consultant		

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Gabon		Rural areas (TBD)			

Consultants (Will be disclosed in the Monthly Operational Summary)

Consultants will be required

I. STRATEGIC CONTEXT

A. Country Context

1. Located in Central Africa, Gabon has a surface area of 267,667 km^2. In 2011, Gabon had an estimated population of 1,672,000 inhabitants, of whom more than 80 percent live in urban areas, predominantly in Libreville (the capital), Port-Gentil (the economic capital), and Franceville (the mining region). Half of the Gabonese population is under the age of nineteen. Gabon is a resource-rich country, well-endowed with arable land, forests, and mineral resources. It has extraordinary biodiversity as well as rich deposits of magnesium and iron ore. Oil production, which still represents 21 percent of the gross domestic product (GDP) despite declining output, has transformed Gabon into one of Africa's few middle-income countries. With GDP per capita estimated at $11,114, Gabon is ranked the 56th richest economy in the world.

Recent Economic Development

2. The Gabonese economy remains dependent on oil as a key export and generator of revenue and year-on-year increases of public investment have been the main driver of growth over the past five years. After several years of strong GDP growth, lower oil prices led to a slow-down in 2014. GDP growth decelerated from 5.6 percent in 2013 to 4.3 percent, largely on account of the significant decline in oil prices that led to only 50 percent of planned public investment being realized. Annualized inflation accelerated in 2014, reaching 4.8 percent, relative to just 0.5 percent in 2013; relating to rising energy, transport and housing prices. However, these pressures are already moderating and lower inflation is expected in 2015.

3. The reduction in public investment led to declining total expenditure, which fell from 29 percent of GDP in 2013 to 24 percent of GDP in 2014. However the cash basis deficit is estimated to be negative for the first time since 1998 following a significant build-up of arrears that reached 4 percent of GDP at the end of 2014. Accumulation of arrears partly resulted from poor expenditure, unplanned expenditures by some agencies and non-reimbursement of collected value added tax (VAT). During the second quarter of 2015, the Government of Gabon (GoG) has taken actions to improve its fiscal position. It cleared its external arrears and has successfully negotiated the redemption of its payments arrears (XAF 42 to 44 billion) vis-à-vis local creditors grouped into the "Club of Libreville." Concerning VAT arrears, the national authorities have signed a three year (2015 to 2017) rescheduling convention with the private sector and defined a strict application of the VAT mechanism to avoid any new arrears. The external current account surplus is estimated to have declined to 12.1 percent in 2014, from 14.8 percent in 2013, following the decline in oil prices.

4. Oil prices are expected to remain well below 2013 levels over the medium term. Growth is expected to drop slightly to 4.1 percent in 2015 from 4.3 in 2014, but average 5 percent over the 2015-2017 period. Given the decline in oil prices, inflation is expected to decelerate to 2.5 percent in 2015 compared to 4.5 percent in 2014. Lower oil revenues will lead to further deterioration of the fiscal balance. In 2015, the overall fiscal balance is projected to record a deficit of 3.5 percent of GDP in 2015 (from a surplus of 2.4 percent of GDP in 2014), following lower international oil prices. The external balance will also revert from a surplus (12.1 percent of GDP in 2014) to an expected deficit (2.1 percent in 2015).

Human development and poverty reduction

5. In spite of recent progress, poverty and shared prosperity remain key issues for Gabon and have recently become a national priority. Gabon is ranked 112 out of 182 countries in the 2014 United Nations Development Programme Human Development Index, well below countries with similar GDP per capita. The country is unlikely to reach many of the Millennium Development Goals (MDGs) by the end of 2015. The country has made progress on primary education, while infant and maternal mortality have dropped significantly. Nevertheless these still fall far short of the MDG targets. Access to drinking water has largely remained unchanged since 2006 (87 percent).

6. While the economy has experienced positive growth over the last four decades (4.5 percent on average per annum), it has generated insufficient jobs, with unemployment reaching 21 percent of the labor force in 2010. Unemployment affects mainly the young, women, and the uneducated. This weak employment creation is partly explained by the dominance of a highly capital-intensive oil sector, but a mismatch between the skills provided by the education system and the needs of the economy is a fundamental factor. Rigid labor and social legislation is another major constraint. As a result, the richest quintile of the population receives half of the national income, yet one-third of the population lives in poverty. The latest national household survey, completed at the end of 2005 with World Bank Group support, revealed an increase in the proportion of Gabon's population living below the poverty line from 25 percent in 1997 to 33 percent in 2005. Also, in spite of recent progress, transparency remains a problem. The country's ranking in Transparency International's Corruption Perceptions Index improved from 126 in 2011 to 94 in 2014, but declined from 22 in 2012 to 27 in 2014 out of the 53 African countries in the Ibrahim Index of African Governance.

7. *Strategic plan for an emerging Gabon*. In 2009, the GoG formulated a medium-term strategy, *Plan Stratégique Gabon Emergent* (PSGE), aimed at making Gabon an emerging economy by 2025. The PSGE relies on three pillars: (a) making Gabon a metallurgic industrial center based on clean energy; (b) positioning the country as a pioneer of the green economy; and (c) making Gabon a center of excellence in the service sector, including research, business, tourism, health, media, and information technology (IT). To implement this broad agenda, the GoG has increased the share of resources allocated to public investment from 14 to 40 percent of the national budget over the 2010 to 2016 period, with the majority of spending centering on infrastructure.

8. *National infrastructure master plan*. In 2012, the GoG also announced a new $13 billion infrastructure plan to be implemented between 2013 and 2016. This comprehensive development strategy is aimed at providing Gabon with the requisite infrastructure for the socioeconomic development of the nation's hinterland and a real diversification of its economy. The coherence and the successful implementation of these projects is ensured by the National Agency for Major Works (*Agence Nationale des Grands Travaux* [ANGT]), which is operated by Bechtel. Funding for the plan is expected to come from the GoG as well as the private sector.

9. *New social policy.* Finally, in February 2014, acknowledging inequality concerns despite recent economic growth, President Bongo announced a new social policy, the goals of which are to (a) assist the most vulnerable populations (elders, orphans, disabled) through integrated social

programs; (b) help low-income people develop income-generating activities; and (c) reduce inequalities in access to basic public services.

B. Sectoral and Institutional Context

10. The electricity and water sectors in Gabon are politically and institutionally intertwined. Both sectors fall under the purview of (a) a single ministry, the Ministry of Energy and Hydraulic Resources (*Ministère de l'Energie et des Ressources Hydrauliques* [MERH]); (b) a single utility with a concession mostly centered around urban areas, the Gabonese Energy and Water Utility (*Société d'Energie et d'Eau du Gabon* [SEEG]); and (c) a single regulator, the Regulatory Agency for Water and Electricity Sectors (*Agence de Régulation du Secteur de l'Eau Potable et de l'Energie Electrique* [ARSEE]).

Overview of the electricity sector

11. Despite a high national electrification rate of 83 percent, the electricity sector in Gabon faces frequent power shortages resulting from rapid urbanization. In parallel, access to electricity in rural areas is low—around 15 percent—and expanding service is particularly challenging because of low population density and challenging accessibility issues. The relationship between energy and the country's economic and social growth has made the sector a government priority, with particular emphasis placed on boosting electricity access and lowering electricity prices.

12. Historically, electricity was generated mainly by hydropower plants. However, given the rapid growth of demand and lack of planning in recent years, the share of thermal generation using liquid fuels has increased significantly and now accounts for more than 60 percent of national electricity production. This trend has increased the average cost of electricity and threatens the financial sustainability of the sector. These challenges are expected to increase as the GoG's objective is to increase installed capacities from around 450 MW (of which hydropower comprises 170 MW) to 1,200 MW by 2020.

13. Electricity demand in gigawatt-hours has increased by 50 percent over the past 14 years. The GoG has forecast a sustained yearly demand growth of between six percent (conservative scenario, higher than the trend in the last 10 years) and 13.5 percent (optimistic scenario) until 2020. The SEEG has prepared a strategic investment plan for the period 2010 to 2017 regarding distribution investments within its concession perimeter as well as transmission and generation investments deemed necessary to match electricity demand growth.

Overview of the water sector

14. Where water resources are concerned, Gabon is well-endowed, with 90 percent of the country supplied by watercourses and 72 percent of its land areas irrigated by the Ogooué River and its tributaries. According to the WHO/UNICEF Joint Monitoring Program 2014, the most up-to-date estimate on the use of water sources, the total improved water access rate is 92 percent (urban water 78 percent, and rural water 43 percent). However, there is a discrepancy in the

methodologies used to derive global level and national figures. According to the national data,[1] only 25 percent of the population living in rural areas has access to safe drinking water.

15. As with electricity, the water sector in the urban areas is managed through the concession contract with the SEEG, and 66 percent of the urban population has direct access to water service. Water supply is divided into three main water supply networks in Libreville, Franceville, and Port-Gentil.

Institutional context and concession contract

16. In the early 1990s, the GoG conducted a comprehensive reform of the electricity and water sectors, which led to the privatization in 1997 of the SEEG through a concession contract with Véolia, the international utility operator and service provider. The concession contract, which will expire in 2017, is managed by the MERH and the Ministry of Economy, which also fulfilled the role of regulator until the sector regulatory agency was created in 2010. Following an amendment to the concession contract in 2006, sector investment responsibilities are now shared by the GoG and SEEG, who have agreed that 'structural investments' (investments in generation, transmission, and distribution, whose lifespan exceeds the term of the concession contract) specifically designated by mutual agreement fall under the responsibility of the GoG.

17. The geographic scope of the concession is the boundary surrounding the distribution network, which extends to a distance of approximately 400 meters and, by extension, all areas therein. The concession perimeters are regularly extended in anticipation of the development of new urban, commercial, or industrial areas and to allow the concessionaire to provide the necessary new connections.

18. There is a lifeline tariff for the electricity concession in Gabon based on two tranches corresponding to $0.1 and $0.16 per kWh, respectively. In addition, for customers under the lifeline tariff threshold and officially recognized as low-income Gabonese (GEF), electricity is fully subsidized by the GoG and free of charge for the consumers. As with electricity, a lifeline tariff is in place for water, with a pricing strategy designed to provide limited amounts of water at affordable prices. The lifeline tariff for water is limited to the provision of 15 cubic meters per month at a price of $0.38 per cubic meter ($0.74 for standard tariff). For households that consume less than 15 cubic meters per month and are also officially recognized as low-income households, water is fully subsidized by the GoG and therefore free of charge.

Provision of basic services in rural areas

19. Rural areas in Gabon are isolated, difficult to access, and often have highly dispersed populations. Low access to basic services significantly contributes to rural exodus and hampers economic and social development. Approximately 3,000 villages (including village clusters of varying sizes) are scattered throughout the country. Some villages are located in swamps or built into river banks, particularly in the Haut Ogoue province, and the installation and maintenance of basic services in those areas remains particularly challenging. The GoG started deploying rural water and electricity infrastructure in 1982. As of 2013, water infrastructure consists of 1,300 hand-pump and 40 small-scale pumping systems (38 diesel and two photovoltaic [PV] systems).

[1] Ministry of Health, Ministry of Planning and the SEEG.

This rural water infrastructure has largely been financed by the national budget and the European Union (EU) through the 7th and 8th European Development Fund. Electricity infrastructure consists of about 1,140 electrical systems (mostly solar home systems [SHSs] and a few solar micro-grids) that have been built in rural areas.

20. In spite of this policy, to date only about one-third of villages have benefited from basic water infrastructure and less than 10 percent from electricity infrastructure. A few private investors have installed small water supply systems for their use and to sell to neighboring customers. Most rural households use kerosene lamps, candles, and torches for lighting, and firewood for cooking. Current energy sources in rural areas are expensive and inefficient. In many villages, poor-quality diesel generators are used for lighting, television (TV), cell phone charging, and special events, with high operational costs and poor quality of electricity. As a result, the transformative benefits of energy have failed to meet the country's huge potential, particularly in the agriculture and fisheries sectors. Small business activities are also limited. Connecting villages to the national utility grid would for many villages be prohibitively expensive (due to distance) and/or technically difficult (crossing rainforests, rivers, or swamps). Outside the SEEG's concession perimeter, about 100 villages were electrified by the government using solar PV technology. In the water sector, most rural households have no access to improved drinking-water sources as they rely on nearby surface water and unprotected springs and wells.

21. Compounding the limited breadth of the infrastructure which has been built, rural infrastructure is costly and difficult to maintain. As a result, a large share (estimated at around 80 percent) of installed equipment is nonfunctional due to lack of maintenance and/or sustainable institutional framework. Historically, limited attempts to ensure systematic maintenance and repair of rural basic services from Libreville have been unsuccessful. Moreover, for political and historic reasons, basic services in villages have traditionally been provided free of charge to consumers.

22. Against this backdrop, the stated objectives of the PSGE as it relates to the electricity and water sectors are to (a) develop an electricity supply that is diverse, sustainable, and accessible to all; and (b) guarantee universal access to drinkable water and sanitation. To reach these goals, the PSGE envisages an ambitious program of reforms in the energy and water sectors that should translate into the extension of both services in rural areas to limit rural exodus and contribute to poverty reduction. More specifically, the GoG has set an aggressive target of 80 percent of access to energy and water services in rural areas by 2025. Additional details related to the provision of services in rural areas are provided in Annex 2 and Annex 6.

23. The management of public services in areas located outside of the SEEG concession is currently the sole responsibility of the government. The service in charge of rural electrification (through decentralized arrangements) is the Directorate for New and Renewable Energies (DENR) within the Directorate General for Energy (DGE). The DENR is currently responsible for the following functions: (a) promoting rural electrification based on renewable energy development; (b) monitoring the rural electrification projects implemented by the ministry and the private sector; (c) assessing the rural electrification potential at the national level; and (d) preparing a development plan for rural electrification. For the water sector, the Directorate General for Water Resources (*Direction Générale des Ressources Hydrauliques* [DGRH]) is in charge of structuring the sector and developing standards and harmonizing action planning, resolving conflicts, and monitoring the performance of the water sector. The DGRH also comprises a Directorate for Rural

Water (DHR), which is the department in charge of planning and implementing water projects in rural areas.

C. Higher-Level Objectives to Which the Project Contributes

24. By improving institutional capacity in the energy and water sectors and increasing sustainable access to basic energy services and infrastructure, the project aims to better position Gabon to meet its overall long-term growth objectives. In doing so, the project is aligned with both national priorities and the Bank's broader strategy for engagement in Gabon, including the GoG-adopted PSGE, which replaced the previous Growth and Poverty Reduction Strategy Paper, and the new social policy for Gabon that centers on boosting shared prosperity and assisting the poor and vulnerable.

25. The project also represents an operational articulation of the Bank's strategy for Gabon and its energy and water sectors. Key lessons from the previous Country Partnership Strategy (CPS) emphasized the need for scaled-up Bank engagement in the country, focusing on broader representation in sectors that will further complement the GoG's reform program. In addition, a client survey conducted in April 2011 in the context of preparation of a new CPS (2012-2016) ranked infrastructure as the top priority for Bank involvement in Gabon. Further feedback received emphasized the need for Bank support that goes beyond mere financial resources to include policy and technical knowledge that can help shape technically able, proactive, and responsive government leadership in the sector. In response, the project addresses critical infrastructure with wide-reaching impact, while also focusing on the reinforcement of institutional and technical capacity in the energy sector.

26. Since 2011, there has been renewed dialogue and engagement between Gabon and the Bank, reflecting the recognition, on both sides, that the Bank can provide great value to Gabon in its effort to become an emerging economy. In providing that support, the Bank needs to elevate both its impact and its relevance, which have been relatively minimal to date in Gabon. Although Gabon has been a member of the World Bank since 1963, the Bank's entire cumulative engagement over the past 50 years totals only $267 million. The current CPS reflects that ambition by supporting governance, private-sector development, infrastructure, and human development through a combination of renewed International Bank for Reconstruction and Development (IBRD) lending (more than $250 million), reimbursable advisory services, and Bank budget-funded economic and sector work.

27. The 2012-2016 CPS adopts a four-pronged approach to the country's development focused on: (a) improving governance and public sector capacity; (b) increasing Gabon's competitiveness and employment; (c) addressing vulnerability and resilience; and (d) fostering gender equity. The proposed project addresses all four of these pillars, with its potential to deliver economic and social benefits for targeted communities, including improved health, education, productivity, income generation, and overall quality of life. By investing in domestic rural electrification and access to water, which is otherwise generally transported by women, the project will also contribute to the pursuit of gender equity.

28. Finally, the project is also consistent with the Bank's Energy Directions Paper,[2] which recognizes access expansion as an important means of improving equity and a key goal for concessional financing. The recognition of water as a human right is widely accepted, and the Bank is working with its clients through a variety of pilots and approaches to ensure improved access. Low rates of household electrification and water supply tend to undermine poverty eradication efforts, but also mean that existing GoG support to the energy and water sectors benefits only connected and relatively wealthier urban households. Therefore, the project will contribute to achieving key objectives of the sector strategy by scaling up electricity and water access, particularly in rural areas, providing institutional support, and increasing clean energy penetration.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

29. The Project Development Objectives (PDOs) are to expand access to water and energy services in targeted rural areas and to establish mechanisms to improve sustainability of service provision.

B. Project Beneficiaries

30. The direct project beneficiaries will include (a) rural households and businesses that will gain access to electricity and drinkable water under the project; (b) rural users of social infrastructure who will benefit from public lighting, energy provided to public facilities, and new water points under the project; and (c) government, utility, and para-state personnel who will benefit from the institutional capacity strengthening activities and technical assistance under the project.

31. In particular, women as well as men in rural areas will benefit from the project, with some benefits of basic access services accruing proportionally more to women due to their more frequent presence at home and predominant role in carrying out of household chores. Among others, women will benefit from (a) time savings from easier and closer access to drinkable water; (b) the ability to organize household chores better and perform them more efficiently because of better household lighting; and (c) less time spent caring for sick relatives suffering from water-borne diseases. At the community level, expected benefits would, for instance, include (a) improved care during child birth facilitated by access to electricity in health centers; and (b) a safer environment for traveling after dark and opportunities to undertake activities outside the house because of the availability of street lighting.

32. Indirect beneficiaries will include Gabon's population at large, who will benefit from demand-side management, sector reform, and capacity development activities carried out under

[2] The Energy Sector Directions Paper, discussed by the Bank Group's Executive Board on July 16, 2013, sets a principles-based course for the Bank Group's work in the energy sector with a focus on expanding energy access and sustainable energy. The plan is anchored in the Bank Group's overarching goals of ending extreme poverty and building shared prosperity sustainably. It is also aligned with the Sustainable Energy for All initiative, which provides a defining vision on energy for the Bank Group.

the project to ensure long-term sustainability and improvement in the energy and water sectors. The project will also create a new market for the operation and maintenance of rural basic service infrastructure, thereby benefiting existing and new private sector players who choose to enter the market (more below).

C. Key Results

33. In line with the focused objectives of the project, progress toward achieving the project outcomes will be measured by the indicators and results below. Annex 1 provides the full project results framework. The PDO indicators for the project are:

- Number of people provided with access to electricity under the project by household connections [off-grid/mini-grid];
- Number of people provided with access to electricity under the project by household connections [renewable sources];
- Number of people provided with access to 'improved water sources' under the project;
- Percentage of households in villages covered by an O&M operator under the project with functional electricity and water services;
- Number of direct project beneficiaries (percentage of which female).

III. PROJECT DESCRIPTION

34. The proposed project will be the cornerstone operation for a larger rural water and electrification program to be financed by the government and other donors. Specifically, the project will combine financing for infrastructure investments with technical assistance to establish and pilot a market for basic water and electricity service provision in rural areas. The project will also finance broader sector analytics to support the sustainability of overall service provision in the water and energy sectors.

35. The project will finance a new model to create a market for basic water and energy services in rural areas based on two pillars: (a) delegation of responsibility for service provision to specialized O&M operators; and (b) sustainable long-term financing combining cost recovery and subsidies. O&M operators will be competitively selected and will be in charge of installing equipment (including rehabilitation of old systems), carrying out O&M, and recovering payment for service in their regional service areas. Payments to the operators will depend on the effective delivery of services.

36. The project will focus on villages located outside of the SEEG perimeter that are too distant from urban and peri-urban areas to be connected to the water and electricity networks in the next five years. Water and electricity services will be provided to households and to public buildings (for example, schools, clinics, community centers, police stations, and religious buildings). Street lighting will also be provided. The project will provide basic service levels including for lighting and an electricity outlet for audiovisual use and cell phone charging. The functions of refrigeration, ironing, and food conservation are beyond the scope of basic services.

37. A staggered approach to roll-out of regional operators will be used to ensure that lessons learned from the first operator can be incorporated in the further implementation of this new model. The process to recruit the O&M operator in the first region will be launched within the first year of project implementation. Infrastructure will be installed in a limited number of villages. A review of the implementation arrangements will be carried out as installations are finalized and service provision gets underway, in order to inform subsequent procurements before the model is rolled out in other regions. At each stage, (a) necessary adjustments and revisions in the structuring of O&M contracts will be introduced; (b) the dedicated funding and monitoring mechanisms for O&M will be adjusted as necessary; and (c) the initial choice of equipment will be optimized based on available studies and experience to date.

A. Project Components

38. The proposed project will comprise three components: (A) Expansion of access to basic services in rural areas; (B) Implementation support, supervision and monitoring and evaluation (M&E); and (C) Capacity building and sectoral technical assistance.

Component A: Expansion of access to basic services in rural areas ($45.5 million equivalent)

39. This component will provide access to electricity and water in targeted rural areas (individual and social-public areas) through (a) rehabilitation and construction of rural electrification infrastructure, including installation of solar home systems (SHSs) and mini-grid solutions; (b) construction and installation of wells and water pipes for drinkable water; and (c) provision of goods and equipment required for the purpose. The same villages will benefit from all these activities.

40. As previously mentioned, the implementation of this component will be conducted using a staggered approach. A master plan for access to basic services in rural areas will be developed during the first 18 months of the project. Pilot investments in a limited number of villages (about 30 villages) will be implemented in a first batch. Building on lessons learned over the course of implementation, the project will introduce the necessary improvements and corrections and will aim at providing access to basic services to about 220 villages. The choice of technical options will be made on a village-by-village basis, depending on the village size, location, available resources, and other relevant characteristics (including a local demand assessment emanating from community consultations).

Component B: Implementation support, supervision, and M&E ($6.0 million equivalent)

41. This component will finance a number of implementation and support activities and an extensive communication, education, and awareness program. It includes four subcomponents: (a) establishment of a specific institutional framework for rural energy and water services; (b) implementation and support activities; (c) communications, education, and awareness; and (d) project management, monitoring, and evaluation.

Subcomponent B.1: Establishment of a specific institutional framework for rural energy and water services ($0.5 million equivalent)

42. This subcomponent will support the GoG in carrying out a program of activities aimed at ensuring sustainability in the electricity and water sectors through capacity building and technical

assistance in technical, financial, and contractual areas to key selected actors. This would involve establishment of an institutional framework for the sustainable O&M of rural electricity and water infrastructure through a partial reform of the sector that would include establishment of technical and financial mechanisms to operationalize the mechanisms through which a private O&M operator in each region will be contracted, financed, and monitored. (Details on the institutional framework for ensuring the long-term sustainability of the investments and delivery of services are presented in Section IV.C and in Annex 2, Attachment 1.)

Subcomponent B.2: Implementation and support activities ($3.25 million equivalent)

43. This subcomponent will finance implementation and support activities. This will include (a) the development and completion of a master plan for access to basic services in Gabon's rural areas covering, *inter alia*, rural electrification and water supply and related technical options on a village-by-village basis; (b) the development of related environmental and social impact studies; and (c) the provision of engineering expertise for implementation support purposes.

44. The master plan for access to basic services in rural areas will provide to the GoG and the operators a long-term planning tool for investments to meet the demand requirements in water and electricity of the rural population. This master plan will also include an economic and financial model as well as model bidding documents.

45. The subcomponent will also finance a consulting engineer (owner's engineer) and the necessary environmental and social impact studies. In addition, it will finance technical assistance (consultant or nongovernmental organization [NGO]) to support the government in systematic implementation of the environmental and social management plans and resettlement action plans. The GoG will finance costs associated with any potential resettlement and compensation.

Subcomponent B.3: Communications, education, and awareness ($0.75 million equivalent)

46. This subcomponent will support development and implementation of a communications, education, and awareness program in targeted rural areas, including implementation of a health campaign aimed at raising awareness on the benefits of clean water. Activities under this subcomponent will comprise (a) extensive information and promotional campaigns through existing media and grassroots associations in rural areas, to raise interest in and obtain formal requests from operators and rural communities in support of the installed systems as well as to promote rational use of the new equipment; and (b) public health campaigns to raise awareness on the benefits of clean water and how to combat waterborne diseases and malaria and improve living conditions of the rural population. Public health communications will focus on sanitation, hygiene, and hand-washing with soap. These campaigns will target women, men, and adolescents.

Subcomponent B.4: Project management, monitoring, and evaluation ($1.50 million equivalent)

47. This subcomponent will provide support to the borrower in the areas of project coordination, supervision, financial management, procurement, monitoring and evaluation, and preparation and supervision of implementation of the Safeguards Instruments, including through the provision of training, operating costs, and goods and services for the required purpose. The current composition of the Project Implementation Unit (PIU)—the National Commission for Public Works and the Promotion of Business and Employment (*Commission Nationale des Travaux d'Intérêt Public pour la Promotion de l'Entreprenariat et de l'Emploi* [CN-TIPPEE])—is

sufficient to handle all fiduciary activities of the project. However, to mitigate any excessive workload induced by the project, the CN-TIPPEE will be reinforced and trained in topics such as project coordination; fiduciary activities (procurement, financial management); environmental and social safeguards; communications; and M&E. This subcomponent will finance during the early years of implementation (if deemed necessary):[3] (a) an accountant and an additional procurement specialist; (b) an environmental and social specialist; and (c) an assistant to the director of the M&E department. This subcomponent will also provide financing to the CN-TIPPEE for audits, surveys, goods, and services.

48. In addition, the CN-TIPPEE M&E system will be improved to monitor the results of the program and take corrective actions as required. This subcomponent proposes to support the update of the system to monitor and assess the impacts of the activities supported by the project.

Component C: Capacity building and sectoral technical assistance ($8.5 million equivalent)

49. This component will support the GoG in broader electricity and water sector reform. To support and implement the GoG strategy for the electricity and water sectors, profound changes are required on the part of sector institutions. In this respect, actions to strengthen capacity of these two sectors have been identified and will be supported through the project. The identified activities are mostly at the technical level to assist with policy implementation. However, given that the sectors are approaching a critical juncture (expiration of the SEEG concession), the project will also support the MERH at the policy formulation level (resident advisor to the minister). Also, support will be provided to the sector regulator (ARSEE), the effective role of which remains limited relative to its legal mandate.

50. Component C will be divided into two subcomponents: (a) institutional capacity-building activities and (b) sectoral analytical work and specific studies.

Subcomponent C.1: Institutional capacity-building activities ($4 million equivalent)

51. This subcomponent will support strengthening the capacity of the MERH,[4] the National Council for Water and Electricity (CNEE),[5] the ARSEE, and private operators[6] to better manage the energy sector by developing and implementing a module-based training program (including on-the-job daily training and workshops) in the areas of, *inter alia*, planning, O&M, and management of basic rural services. The capacity-building program will be implemented through (a) financing of international expertise (technical assistance); (b) training to reinforce the capacities of the GoG and the private operators in planning, O&M, and management of basic rural services in water and electricity; (c) training for several departments of the MERH to fulfill other functions such as project planning, project management, public private partnerships (PPPs), policy

[3] It is expected that the CN-TIPPEE will progressively take over the financing of these new staff under its own budget.

[4] Specifically, the MERH's Hydraulic Resources and Energy technical departments.

[5] The CNEE is the National Council for Electricity and Water. The CNEE's current mandate consists of ensuring the O&M of public lighting, traffic lights, and fountains. Their mandate will be extended to rural areas to manage O&M contracts.

[6] These are the O&M operators.

development, and sector regulation; and (d) acquisition of tools to support capacity strengthening of the MERH.

Subcomponent C.2: Sectoral analytical work and specific studies ($4.5 million equivalent)

52. This subcomponent will support the GoG in carrying out a program of activities aimed at assisting the MERH in strategic decision making and implementation in related sectors through, *inter alia*, (a) provision of technical assistance; (b) development of electricity and water codes; (c) update of the national electricity transmission and generation master plan; and (d) preparation of analytical and sector-focused studies. Activities in this subcomponent include (a) development of electricity and water legal codes; (b) technical assistance to ensure continuity of service delivery at the end of the current concession agreement (this might include analytical and/or technical audits of the SEEG); (c) an update of the electricity transmission and generation master plan; and (d) broader analytical and sector studies.

B. Project Financing

Lending instrument

53. The proposed lending instrument is investment project financing (IPF) in the form of a Euro denominated IBRD Flexible Loan with a fixed spread and maturity of 20 years including a grace period of five years and a commitment linked repayment schedule. The Front-end-Fee is payable by the Borrower.

Project cost and financing

The total project cost is estimated at US$60 million equivalent (see Table 2 below).

Table 2: Project Components and Financing

Project component		Project costs	IBRD financing	% of financing
Component A: Expand access to basic services in rural areas				
Subcomponent A.1:	Construction and rehabilitation works in rural areas	*45.50*	*100%*	*75.83%*
	(Goods, works and installation)			
	Total Component A	**45.50**	**100%**	**75.83%**
Component B: Implementation support, supervision, and monitoring & evaluation component				
Sub-component B.1:	Estabishment of a specific framework for basic rural services	*0.50*	*100%*	*0.83%*
Sub-component B.2:	Preparatory activities, implementation, and support	*3.25*	*100%*	*5.42%*
Sub-component B.3:	Communications, education, and awareness	*0.75*	*100%*	*1.25%*
Sub-component B.4:	Project management, monitoring, and evaluation	*1.50*	*100%*	*2.50%*
	Total Component B	**6.00**	**100%**	**10.00%**
Component C: Capacity building and sectoral technical assistance				
Sub-component C.1:	Institutional capacity-building activities	*4.00*	*100%*	*6.67%*
Sub-component C.2:	Sectoral analytical work and specific studies	*4.50*	*100%*	*7.50%*
	Total Component C	***8.50***	**100%**	**14.17%**
Total project		***60.00***	**100%**	***100%***

C. Lessons Learned and Reflected in the Project Design

54. Project preparation takes into account lessons from a 2013 Public Private Infrastructure Advisory Facility financed review of the institutional and regulatory framework of Gabon's electricity sector, from previous Bank projects in the region and sector, and from the implementation of rural electrification projects (including SHSs and hybrid mini-grids) around the world.[7] Specifically, lessons learned and reflected in the project design include:

- *Reducing regional gaps in service delivery paves the way for shared economic growth.* By focusing on access to rural energy services, the project will contribute to addressing the huge inequality in Gabon between (mostly urban) rich and (mostly rural) poor. The project design includes inter-sectoral synergy given inter-linked institutional structures for energy and water service provision in the country. Energy services in rural areas will enable the development of productive use of energy to stimulate income generation, productivity, innovation, creation of jobs, and economic development in rural areas. Emphasis is placed on the electrification of social facilities (such as health and education) to promote human development, gender equity, and poverty alleviation. The Bank's experience in the sub-region shows that 'vertical' inequality is often a contributing factor to conflict. Addressing this proactively facilitates long-term and sustained economic growth.

- *Modular approaches with a bottom-up dimension create the conditions for selecting best-fit and sustainable solutions.* The project lays the foundation for energy development and sustainable access scale-up through both grid and off-grid interventions. By creating an enabling institutional and operational framework for isolated mini-grids or stand-alone systems in rural areas, the project enables the adoption of differing energy technologies on a community-by-community basis, depending on the local circumstances and consumer demand. Accordingly, building cost-effective solutions will maximize the number of additional connections financed under the project (and beyond) and ensure long-term sustainability in the broader sector.

- *Adequate maintenance is a major challenge to ensure the sustainability of service delivery.* Even for relatively simple technologies (for example, PV systems and small water networks), providing effective maintenance and customer service in a market that is widely dispersed and often located in difficult terrain is a major operational challenge. The project incorporates an innovative O&M design to address this challenge.

- *Incentivizing service providers to meet customer needs is essential for subsidized services for which there is no endogenous market discipline.* All over the world, subsidies are usually a necessary component of rural electricity projects. This is obviously the case in Gabon, a country that is significantly lagging in its overall access rate to basic services relative to its GDP per capita and that has an entrenched policy of providing basic electricity and water services to low-income households free of charge. A major downside of highly subsidized services is the inability to remove incentives for providers to ensure reliable services, since their remuneration does not come from consumer payments. For this reason, the project design incorporates the need for a customer interface for all

[7] The main lessons are summarized from the Alliance for Rural Electrification report on Hybrid Mini-Grids for Rural Electrification: Lessons Learned.

equipment. The interface will track usage by consumers and ensure that providers are only remunerated for equipment that is functional and effectively used.

- *Project implementation should involve as few entities as possible.* Bank-financed energy projects elsewhere in the region have shown that it is difficult for a structure without hierarchical influence over implementing units or institutions to ensure effective coordination of complex projects or accountability for their satisfactory implementation. Relationships among the institutions and structures involved should be carefully analyzed upon project preparation and respective responsibilities should be clearly defined. To that effect, the project will rely on a clear relationship between the MEHR and CN-TIPPEE as defined in the Project Implementation Manual (PIM), and the CN-TIPPEE will be solely charged with the project's effective implementation.

- *Communications and public education campaigns should be integrated in an early phase of project design.* Communicating with local populations has proved to be an effective tool to promote community buy-in in similar Bank-funded projects. Moreover, raising the awareness of communities improves the chances of achieving sustainability in the longer term.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

55. The MERH will be responsible for oversight of the project. Under the MERH's supervision, the CN-TIPPEE will be responsible for the project's implementation. The implementation arrangements include two organizational levels: a project Steering Committee and the PIU, whose roles and responsibilities are outlined below and detailed further in Annex 3.

- **The Steering Committee** already exists although its composition will be revised to the purposes of the project. The Steering Committee is chaired by the Minister of Energy and Water Resources, and will include representatives of key ministries and agencies, and of the DGRH, the DGE, the CNEE, the regulator for electricity and water (ARSEE) and a Secretariat. The Steering Committee's primary responsibility is to provide overall policy and strategic direction, general project oversight, and ensuring coordination during implementation. The committee will meet at least once every quarter (more often if required).

- **The Project Implementation Unit** will be the CN-TIPPEE,[8] which will be responsible for the project's technical and fiduciary aspects. A project coordinator, appointed by the MERH, will work within the PIU and will be responsible for operational oversight of the PIU and will ensure that project activities are carried out in accordance with strategic

[8] According to its establishing Ministerial Decision (in 2006), the CN-TIPPEE's objective is to create projects that are in the public interest on behalf of all stakeholders (the GoG, regional and local administrations, NGOs, or donors), with a view to implement best practices and sound governance. The size of the CN-TIPPEE can vary to adjust to the project workload, with a minimum of six key staff working on multiple projects. The CN-TIPPEE was the PIU of the Local Infrastructure Development Project (*Projet de développement des infrastructures locales* [PDIL], P082812), which closed in December 2011, and is currently in charge of the Central African Backbone—Phase 4 (CAB4) Project and of the preparation of the second PDIL.

guidance from the MERH and in consultation with the MERH's respective hydraulic resources and energy technical departments. The PIU will report to the Steering Committee throughout implementation of the project to ensure clear communication with all pertinent ministries and obtain decisions on issues pertaining to multiple government stakeholders. Having already implemented two complex IBRD-financed projects, the CN-TIPPEE has thorough knowledge of Bank procurement rules and procedures, which should allow for rapid and smooth implementation of the project. Given the additional workload and responsibilities generated by the project, CN-TIPPEE staffing will be reinforced to ensure that the fiduciary responsibilities of the GoG related to the project are adequately fulfilled (*see, in particular, the description of Subcomponent B.4*). The CN-TIPPEE will cooperate with the MERH's Energy and Hydraulic Resources departments on technical issues and will also be supported by the services of a consulting engineer, who will be contracted under the project, for the supervision of works.

56. The PIU will have responsibility for the day-to-day management of the project and coordination of project-related activities, including (a) ensuring the timely implementation of the project in accordance with the PIM; (b) preparing annual work plans and budgets and annual procurement plans; and (c) assuming overall responsibility for, *inter alia*, procurement, financial management, M&E (for example, developing and maintaining a system for monitoring the project's key performance indicators), communications, and environmental and social safeguards (ensuring adherence to the safeguard documents of all entities involved in the project's implementation).

B. Results Monitoring and Evaluation

57. M&E of project activities will be the responsibility of the PIU. The agency will carry out M&E of the different components and activities in accordance with the indicators included in the results framework (Annex 1). Therefore, the PIU will monitor the results of Components 1 and 3 through its existing monitoring and control systems, and will communicate the results to the MERH and the Bank. Under Component 2, the project provides support for implementing the project and monitoring its results.

58. The PIU will prepare project reports that are in form, content, and substance satisfactory to the Bank. Reports will be prepared for each semester during project implementation, and will be submitted to the Bank no later than 45 days after the end of the period covered by the reports. Monitoring of results and outcomes will be reported in the PIU's project implementation reports. Furthermore, the Bank will supervise the project over its lifetime and its results and outcomes on a regular basis to evaluate the project's achievement of the PDOs. If necessary, corrective actions will be discussed and agreed upon with the GoG in the later stages of project implementation (for example, during the project's mid-term review).

59. The project is also expected to strengthen the existing capacities of staff within the PIU, so that they can adequately lead M&E activities specific to the project. If needed, the project will secure the services of an additional consultant M&E specialist to reinforce systems, ensure the implementation of adequate and reliable M&E tools, strengthen data collection methods and reporting, and provide advice to assess the sector's performance beyond the scope of the project.

C. Sustainability

60. The project's sustainability will be achieved through an integrated and holistic approach that includes investments, maintenance, capacity building of stakeholders, and provision of adequate technical assistance services. For the most part, rural access projects financed by the GoG over the last decade have been limited to supporting the construction of new equipment while leaving the responsibility for operating the equipment and for routine maintenance to local communities. Past and current Gabonese experiences related to rural infrastructure have shown that a community-based approach for O&M in the country is challenging. In general, the level of degradation of water and electricity systems in the rural areas is high a few years after installation, and in a large number of cases, systems are no longer functional or used. The few cases of relative success were characterized by specific local conditions and would be impossible to replicate at large scale. A diagnostic of the current status and recent trends in rural basic services in Gabon suggest that a new paradigm for O&M must be established in rural areas to maintain services in equipped villages and expand them in new localities.

61. Achievement of the PDOs and, in fact, the whole GoG strategy for providing basic services to rural areas hinge upon designing and putting in place appropriate institutional, financial, and operational mechanisms to ensure the long-term sustainability of the investments and delivery of services. The model under consideration by the GoG, validated during a sector stakeholder workshop in April 2014 and outlined in the Sector Policy Letter for Rural Access approved in September 2014, includes a number of key principles as presented in Annex 2 (Attachment 1) and Annex 6. These key principles follow two dimensions of financial and technical sustainability. The envisaged sustainability mechanism for this project (to be applied as a national policy) comprises (a) a private O&M operator approach with carefully structured incentives; and (b) a dedicated account to ensure sustainability of ongoing subsidies. The CNEE will play a key role and be responsible for managing the rural basic service sustainability fund. Furthermore, funding of this account and any associated levies will start shortly after project effectiveness to create a funding buffer by the time O&M operators commence operations. Specifically, the opening and initial funding of the account will be a dated covenant that is required to be fulfilled not later than six months from effectiveness. Moreover, the recruitment of the first O&M operator and submission of an O&M financing framework are conditions for disbursement for Component A.

62. The proposed sustainability model will therefore rely on the bilateral relationship between the private operator of a reliable and affordable service and customers paying in a timely manner to maintain service. In this scenario, the GoG is the owner of the infrastructure and in charge of the investments, the private operator ensures the service, and the client pays the tariff. The tariff will only partly recover the O&M costs; therefore, a subsidy will be established to cover the costs of the operator.

63. Finally, to ensure that the model is sustainable and to increase project readiness for implementation, the Bank financed direct technical assistance throughout project preparation and will continue through early implementation to obtain data required for the operationalization of the sustainability mechanism.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

Table 3: Risk Ratings Summary

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

B. Overall Risk Rating Explanation

64. Overall risk is High. This reflects a bold project with a potential for high and transformational returns that nonetheless faces a variety of challenges, including substantial stakeholder risk (based on past experience) as well as high sector and sustainability risks. Key risks and mitigation measures are discussed below.

65. Despite a staggered approach to the roll-out of both investments and the new O&M model, thereby allowing for course correction during implementation, sustainability remains the primary risk to the project. Past decentralized rural electrification schemes implemented in Gabon have proven to be unsustainable due to lack of maintenance and adequate financing. An international consultancy firm has been recruited by the GoG to help design such a framework. Key principles and options for achieving technical and financial sustainability have been defined and agreed upon by the GoG and now need to be implemented. To ensure that such mechanisms are fully operational, the project will start with one operator to test the implementation arrangements and the operator's performance. Once the first region has an operator established, the other operators will be recruited taking into consideration lessons and improvements from the first experience.

66. Furthermore, while Gabon has been politically stable since independence, the new political era has opened up a period of political and social uncertainty. Social and political stability will strongly depend on the president's ability to bring tangible results in terms of improvement in living conditions for the majority of the population while preserving the existing political equilibrium. Relatively good progress has been made to date: President Bongo has clarified his economic diversification strategy and has recognized the need for good governance and the need to focus on inequality and poverty reduction as evidenced by his social pact. Fighting corruption has also emerged as a top priority. Nevertheless, given that the GoG intends to maintain an expansionary fiscal policy over the next seven years, convergence toward a sustainable non-oil

fiscal deficit will remain the main fiscal challenge for Gabon. Technical assistance—particularly from the Bank's Reimbursable Technical Service Agreement—has been designed to strengthen current inefficiencies as well as absorptive capacity.

67. In terms of governance, the lack of a culture of transparency at the administration level has traditionally been a concern for the Bank and other donors. However, the implementation of a clear institutional framework for access to basic services in rural Gabon and the preparation of the PIM will minimize such risk. As part of a capacity-building package, procurement and financial management training will be offered to the PIU and other MERH staff in charge of the project to reduce the risk of fraud and corruption.

68. Implementation delays due to the lack of capacity at the ministry level and readiness of the project are risks that have been mitigated through the project's strong capacity-building component, including having international technical experts (to be initially financed under the project and to become permanent positions ultimately financed by the GoG) in the main institutions that are involved in the project. To mitigate the risk of weak institutional capacity, two structures will be involved in project implementation and management: (a) the project Steering Committee; and (b) the PIU. Having already implemented two complex IBRD-financed projects, the CN-TIPPEE has thorough knowledge of Bank procurement rules and procedures, which will allow for the project's rapid and smooth implementation.

69. Other project associated risks are rated as Moderate. Although the potential social and environmental impacts of the infrastructure investments under the proposed project are expected to be generally minimal, localized impacts may occur, thus requiring appropriate mitigation. Since the specific locations of the project activities have not yet been selected, an Environmental and Social Management Framework (ESMF), a Resettlement Policy Framework (RPF), and an Indigenous People's Planning Framework (IPPF) have been prepared and disclosed in Gabon and through the Bank's InfoShop on October 9, 2014. The environmental and social impact assessment and Resettlement Action Plan (RAP) will be prepared once the location of the project sites is completed and will be financed under the project.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

70. Economic analysis shows that the proposed project will promote a cost-effective approach to bridge the social and territorial divides in Gabon and to develop a policy of inclusion for basic infrastructure services. Details regarding the methodology, assumptions, economic rationale for Bank support and rationale for public sector provision/financing are presented in Annex 5. The project economic analysis estimates, in its base case scenario, that with an initial project investment of $33.2 million, 15,000 rural households would gain access to water and electricity services. The estimated economic net present value (NPV) of the investment (with a 10 percent discount rate) would be $2.6 million, corresponding to an 11.3 percent Economic Internal Rate of Return (EIRR).

71. There is significant global evidence that rural electrification projects can generate important economic benefits. For rural households, access to modern energy services reduces the cost of—and improves—access to sustainable lighting and communications services. There is also

compelling evidence regarding the benefits of provision of drinking water, particularly health benefits (avoided costs and added benefits related to improved health care, increased productivity, and decreased mortality) and time saved (the opportunity cost of time used for fetching water). Together, electrification and water provision will improve the quality of basic social services (health, education, and security with public lighting).

72. By design, rural provision of water and electricity services will not be financially profitable for the GoG, given the national policy of free access to basic services for poor households. A large majority of the beneficiary households (approximately 80 percent) would be exempt from the fee-for-service under this policy. As part of the mechanisms to ensure the financial sustainability and maintenance of service provision, the operators in charge of maintenance will receive an operating subsidy to cover their operating deficit (shortfall between revenue received from users and costs of O&M and customer services). The annual shortfall resulting from the O&M requirement induced by the project is assessed at $2.7 million per year. This is equivalent to $3 per month per beneficiary of both water and electricity—less than 1 percent of the current annual turnover of the SEEG.

73. At the sector level, assuming that the 80 percent coverage target for rural access is indeed achieved in 2025, the corresponding total annual O&M deficit to cover through cross-subsidies would be $8.3 million annually, equivalent to 1.5 percent of SEEG electricity and water revenues. The operating deficits of rural O&M operators could therefore be covered through a modest dedicated levy on urban consumers (details in Annex 5).

B. Technical Analysis

74. Technical appraisal of the project design and implementation shows that selected system specifications and sustainability mechanisms are technically sound and appropriate for the circumstances.

75. *Electricity options in the project*. Technical options will be selected on a village-by-village basis, depending on the village size, location, available resources, and other relevant characteristics (including local demand assessment emanating from community consultations). For electricity services, deployment of SHS will be the project's default option as this service level is sufficient to meet the minimum electricity service requirements considering the socioeconomic level of the rural population in the country as well as latest technology developments and recent experiences in other African countries. This will likely be the most common electrification modality. Mini-grids will also be considered as an option in cases where they are more appropriate or less expensive to install than individual household systems.

76. The SHS considered under the project (see layout in Annex 2) includes an inverter to supply 220 V alternating current (AC) load. This will ease the replacement of appliances as 220 V AC is the local standard and sufficient spare parts should be available, including spare direct current (DC) pumps. Although the system requires limited maintenance, basic maintenance of batteries and electrical parts should be performed annually. The battery is the component that fails most frequently in an SHS. Improved charge regulators are therefore recommended for protection of the battery. Typical uses of an SHS identified for each home include compact fluorescent lamps for lighting (11 W); radio (10 W); cell phones charging (1–2 W); and TV (30 W). Two types of uses are identified: type 1 (without color TV) and type 2 (with color TV).

77. *Water service*. Three technological options will be considered: (a) borehole equipped with a hand pump; (b) boreholes with water towers equipped with solar water pump (PV); and (c) small-scale water-piped schemes.

78. The first two options will be implemented either in isolated villages composed of a few grouped houses or in small villages. These options will provide either collective access solutions (hand pump spillway) or one to three faucets ramps. The third technological option will be a small-scale water-piped scheme consisting of (a) boreholes of surface water capture; (c) pumping station (solar power source); (c) water tower; and (d) distribution network, which supplies standpipes (*Bornes fontaines*) and private connections (*Branchements particuliers*).

79. The master plan for rural electrification and water supply to be financed by the project will develop specific design options for investments in providing access in rural areas. Long-term viability will be ensured through sound design (an owner's engineering firm will be recruited to ensure adequate design and implementation), and a suitable capacity-building program to ensure uninterrupted O&M.

C. Financial Management Assessment

80. The fiduciary aspects of the proposed project will be managed by the CN-TIPPEE. In line with the financial management (FM) policies of the Bank's OP/BP 10.00 - Investment Project Financing, CN-TIPPEE's FM system has been assessed to determine whether it is acceptable to the Bank. The assessment concluded that CN-TIPPEE's existing FM system is adequate and its existing arrangements comply with the Bank's FM requirements under OP/BP 10.00. Specifically, (a) qualified staff members are in place and conversant with World Bank procedures (one FM specialist and one accountant); (b) acceptable financial and accounting procedures are in use; and (c) an appropriate accounting system and acceptable internal controls are in place. The CN-TIPPEE has satisfactorily implemented the closed IBRD-financed Local Infrastructure Development Project (PDIL P082812) and is performing satisfactorily on the ongoing IBRD-financed Central African Backbone—Phase 4 (CAB4) Project (P122776).

81. The overall FM risk is assessed as Moderate. The following mitigation measures will be implemented to address the risk of overloading the implementation agency: (a) the CAB project's terms of reference (TOR) will be amended by the external auditor to include the new project; (b) the project financial information system will be upgraded to handle the new project; and (c) one additional accountant is expected to be recruited (if deemed necessary). FM arrangements are described in Annex 3.

D. Procurement Assessment and Plan

82. The overall project procurement risk at the time of assessment is Moderate. The satisfactory implementation of mitigation measures will help to bring this overall risk to Low.

83. *Procurement plan*. A Simplified Procurement Plan (SPP) for the first 18 months of project implementation has been agreed between the Bank and GoG. This plan provides the basis for the procurement methods and the type of reviews. The SPP will be updated in agreement with the project team annually, or as required, to reflect the actual project implementation needs and improvement in institutional capacity.

E. Potential Social Impacts of the Project (including Safeguards)

84. The project is rated Category B, Partial Assessment. Although the potential environmental and social impacts of infrastructure investments under the proposed project are expected to be limited, localized impacts may occur, thus requiring appropriate mitigation.

85. The project is expected to have significant social benefits as it will improve electricity and drinking water access in Gabon's rural areas. No major social concerns are anticipated at this stage. However, the project triggers two social safeguard policies: OP/BP 4.10 - Indigenous Peoples and OP 4.12 - Involuntary Resettlement. Since specific locations have not yet been selected, only frameworks documents have been prepared. Specifically, an IPPF and RPF have been prepared. Both documents have been discussed with stakeholders and have been disclosed in the country and through the InfoShop on October 9, 2014.

86. Adequate financial provision to face any potential resettlement claims arising from involuntary resettlement will be made by the GoG.

F. Potential Environment Impacts of the Project (including Safeguards)

87. Two environmental World Bank safeguard policies apply to this operation: OP 4.01 - Environmental Assessment and OP. 4.11 - Physical Cultural Resources. An ESMF has been prepared, discussed with stakeholders, and has been disclosed in the country and through the InfoShop on October 9, 2014. The ESMF conforms to the Bank's Environmental, Health, and Safety Guidelines of April 2007, currently under revision.

Arrangement for safeguards monitoring

88. Coordination of the project's environmental and social safeguards will be carried out by the PIU, more specifically through the environmental and social team within the CN-TIPPEE. Throughout the project's implementation, the team will maintain at least one knowledgeable environmental specialist and, if necessary, will recruit a social specialist to be responsible for overseeing project compliance with the environmental and social guidelines established under the ESMF and RPF. The PIU/CN-TIPPEE will ensure adherence to the safeguard documents of all agencies involved in the implementation of the project, including contractors.

89. All contractor bidding documents will include specific environmental and social clauses. The owner's engineer to be recruited under the project will closely monitor contractors' work. The owner's engineering team will include both an environmental specialist and a social specialist, who will attend to the effective mitigation measures incumbent on the contractor.

G. World Bank Grievance Redress

90. Communities and individuals who believe that they are adversely affected by a Bank-supported project may submit complaints to existing project-level grievance redress mechanisms or the Bank's Grievance Redress Service (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 complaint to the Bank's independent Inspection Panel which

determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's corporate GRS, please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the Bank Inspection Panel, please visit www.inspectionpanel.org.

Annex 1: Results Framework and Monitoring

Gabon: Access to Basic Services in Rural Areas and Capacity building Project (P144135)

Project Development Objectives (PDO): Expand access to water and energy services in targeted rural areas and establish mechanisms to improve sustainability of service provision

PDO Level Results Indicators	Core	Unit of Measure	Baseline	Cumulative Target Values						Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description
				2016	2017	2018	2019	2020	2021				
Indicator 1: Number of people provided with access to electricity under the project by household connections – off-grid/mini-grid	☒	Number	0	0	3,000	7,500	15,000	35,000	55,000	Quarterly and annually	CN-TIPPEE´s reports and audits; quarterly project reports	CN-TIPPEE	Access provided through off-grid/mini-grid
Indicator 2: Number of people provided with access to electricity under the project by household connections – only renewable sources	☒	Number	0	0	3,000	7,500	15,000	35,000	55,000	Quarterly and annually	CN-TIPPEE´s reports and audits; quarterly project reports	CN-TIPPEE	Access provided using renewable sources
Indicator 3: Number of people provided with access to "improved water sources" under the project	☒	Number	0	0	3,000	7,500	15,000	35,000	55,000	Quarterly and annually	CN-TIPPEE´s reports and audits; quarterly project reports	CN-TIPPEE	Improved water source is defined as borehole with hand-pump, solar PV pump, or small scale piped network

Indicator 4: Percentage of households in villages covered by an O&M operator under the project with functional electricity and water services	☐	Percentage	0	0	90	90	90	90	90	Annually	Annual survey, Annual Reports	CN-TIPPEE	Households with functional service / total households in villages benefitting from access to electricity and water services under the project
Indicator 5: Number of direct project beneficiaries – *of which female*	☒	Number *Percentage*	0	0	3,000 *50*	7,500 *50*	15,000 *50*	35,000 *50*	55,000 *50*	Quarterly and annually	CN-TIPPEE´s reports and audits; quarterly project reports	CN-TIPPEE	Rural people with electricity and/or water access

INTERMEDIATE RESULTS													
Intermediate Results Indicators	**Core**	**Unit of Measure**	**Baseline**	**Cumulative Target Values**						**Frequency**	**Data Source/ Methodology**	**Responsibility for Data Collection**	**Description**
				2016	**2017**	**2018**	**2019**	**2020**	**2021**				
Intermediate Result (Component A): Expand access to basic services in rural areas.													
1: Number of villages benefiting from improved access to basic services	☐	Number	0	0	15	30	140	200	220	Quarterly and annually	CN-TIPPEE´s reports; quarterly project reports	CN-TIPPEE	Villages with electricity and/or water access
2: Number of improved community water points constructed or rehabilitated under the project	☒	Number	0	0	15	30	140	200	220	Quarterly and annually	CN-TIPPEE´s reports; quarterly project reports	CN-TIPPEE	

3: Number of villages with electricity or water services covered by an O&M operator under the project	☐	Number	0	0	15	30	140	200	220	Annually	CN-TIPPEE´s reports; quarterly project reports	CN-TIPPEE	
Intermediate Result (Component B): Implementation support, supervision, and monitoring & evaluation.													
1: Number of other electricity and water service providers that the project is supporting	☐	Number	0	0	1	1	1	2	2	Annually	Annual reports	CN-TIPPEE	This indicator will measure the number of regional O&M operators in place and supported by the project.
2: Master plan for access to basic services in rural areas completed and approved.	☐	Yes/No	No	No	Yes	Yes	Yes	Yes	Yes	Annually	Annual reports	CN-TIPPEE	
3: Number of villages benefiting from communication, education, and awareness campaigns	☐	Number	0	0	15	30	140	200	220	Quarterly and annually	CN-TIPPEE´s reports and audits; quarterly project reports	CN-TIPPEE	
Intermediate Result (Component C): Capacity in the sector through capacity building and analytical work.													
1: Electricity generation and transmission master plan completed and approved	☐	Yes/No	No	No	Yes	Yes	Yes	Yes	Yes	Annually	Annual reports	CN-TIPPEE	

Annex 2: Detailed Project Description

Gabon: Access to Basic Services in Rural Areas and Capacity-building Project (P144135)

1. The proposed project will be the cornerstone operation for a larger rural water and electrification program to be financed by the government and other donors. Specifically, the project will combine financing for infrastructure investments with technical assistance to establish and pilot a market for basic water and electricity service provision in rural areas. The project will also finance broader sector analytics to support sustainability of overall service provision in the water and energy sectors.

2. The project will comprise three components: (A) Expansion of access to basic services in rural areas; (B) Implementation support, supervision, and monitoring and evaluation; and (C) Capacity building and sectoral technical assistance.

Component A: Expansion of access to basic services in rural areas ($45.5 million equivalent)

3. The GoG has set specific quantitative targets to be achieved by 2025: 80 percent access for both rural electrification and rural drinkable water infrastructure (for which current access stands at 15 percent and 43 percent, respectively). By investing heavily in access to modern energy services and related basic infrastructure, such as water points and other social infrastructure in rural areas, the project aims to ensure greater regional equity to enable rural areas to benefit from and contribute to Gabon's economic growth.

4. This component will support the GoG's efforts to improve the living conditions of the rural population by focusing its intervention in the villages whose inclusion in the scope of the water and energy concession is not considered in the near future (five years). Activities under this component include: (a) rehabilitation and construction of rural electrification infrastructure, including installation of SHSs and mini-grid solutions; (b) construction and installation of wells and water pipes for drinkable water; and (c) provision of goods and equipment required for the purpose. The same villages will benefit from all these activities.

5. One of the key goals of the proposed project is to establish mechanisms to improve the sustainability of rural water and electricity services throughout the entire country. A staggered approach to roll-out of regional operators will be used to ensure that lessons learned from the first operator can be incorporated in the further implementation of this new model. The process to recruit the O&M operator in the first region will be launched within the first year of project implementation. Infrastructure will be installed in a limited number of villages. A review of the implementation arrangements will be completed as installations are finalized and service provision gets underway, ensuring that subsequent procurements can be improved before the model is rolled out in other regions. At each stage, (a) necessary adjustments and revisions in the structuring of O&M contracts will be introduced, (b) dedicated funding and monitoring mechanisms for O&M will be established and adjusted as necessary; and (c) the initial choice of equipment will be optimized based on available studies and experience to date. Moreover, disbursements for this component will be conditional upon recruitment of the first O&M operator and the preparation of an O&M Financing Framework and submission to the Bank for approval.

6. As previously mentioned, the implementation of this component will be conducted using a staggered approach. A master plan for access to basic services in rural areas will be developed during the first 18 months of the project. Pilot investments in a limited number of villages (about 30 villages), will be implemented in a first batch. Building on lessons learned over the course of implementation, the project will introduce the necessary improvements and corrections and will aim at providing access to basic services to about 220 villages. The choice of technical option will be made on a village-by-village basis, depending on the village size, location, available resources, and other relevant characteristics (including a local demand assessment emanating from community consultations). Throughout implementation, O&M operators will be consulted in procurement of energy and water plans to facilitate a responsive and best-fit approach to villages on a case-by-case basis.

Technology options:

7. *Electricity service*. Considering the socioeconomic level of the rural population in the country, as well as the latest technology developments and recent experiences in other African countries, the base scenario for provision of a minimum service of electricity considers the implementation of SHSs. This will be the default, and likely the most common, option. However, where possible (for example, sufficient proximity of households, micro hydropower potential), other technical configurations based on mini-grids will be considered as such grids hold a greater economic benefit potential, especially for productive uses.

8. Deployment of two types of SHS (Types 1 and 2) is envisaged. Type 1 (around 70 watt-peak [Wp]) would provide a basic service, would be offered free of charge for households classified as poor ('economically weak'), and would represent a large majority of the targeted households. Typically, this configuration would be installed in households without prior access to electricity and would meet basic energy needs for lighting, radio, and cell phone charging. In addition to the basic configuration, the type 2 configuration would provide more wattage and enough energy to equip the household with a refrigerator and a light-emitting diode (LED) TV (Table 1). Type 2, which goes beyond providing basic access, would be provided on a fee-for-service basis. A type 3 commercial use is envisaged for activities such as gardening and farming (with solar pumping system), shops, bulk cell phone charging, and for some richer households who can afford a higher level of service. Provision of type 3 will be based on the demand in each village.

Table 1: Levels of Solar Home Systems

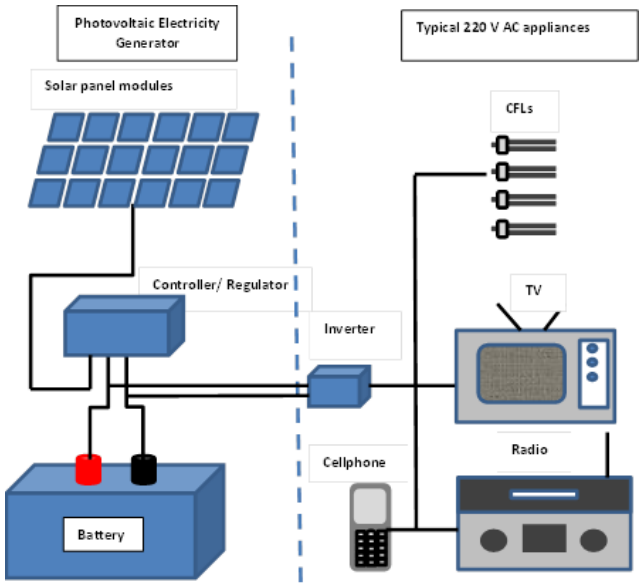
Service Type	System Size (PV)	Approximate Cost (USD)
Type 1 (lighting, radio, cell phone)	60 – 75 Wp	1,000
Type 2 (lighting, radio, cell phone, TV, and refrigerator)	90 – 110 Wp	1,500
Type 3 (higher individual and commercial use)	Depending on the demand	

Source: Improved access to basic services in rural areas study (Nodalis/Burgeap/Hydrel-Gabon)

9. Based on disappointing experiences with DC PV systems in Gabon, the envisaged technological option would consist of a solar panel, an improved charge controller/regulator, a battery, and a DC/AC inverter. During the finalization of technical specifications, special care should be given to the selection of the controller/regulator whose function is to maintain battery

health by preventing battery overcharge by the solar panels and full discharge by the electrical loads with a direct effect on battery lifespan. The regulator should be equipped with appropriate and robust electrical protection to ensure the protection of the load devices. The protection system will include reverse polarity, over-current, short circuiting, voltage-disconnect, and 'tropicalization' of the circuit board that is essential for the system to be foolproof.

Figure 1. Layout of the Proposed SHS for the New Systems



10. The typical uses identified for each home are compact fluorescent lamps for lighting (11W); radio (10 W); cell phones charging (1–2 W); and TV (30 W). Two types of uses are identified: type 1 (without color TV) and type 2 (with color TV). See Table 2 and Table 3.

Table 2: Average household uses for SHS type 1

Load	Number	Watt	Hours/day	Wh/day
Light	4	11	2	88
Radio	1	10	5	50
Cellphone	2	2	1	4
Total	-	-	-	**142**

Table 3: Average household uses for SHS type 2

Load	Number	Watt	Hours/day	Wh/day
Light	4	11	2	88
Radio	1	10	5	50
Cellphone	2	2	1	4
TV	1	30	4	120
Total	-	-	-	**262**

11. In some villages with business uses, health centers, schools, a community center, and some households with higher revenue, higher-load appliances such as solar fridges (120 W), ceiling fans (15 W), and computers (100 W) will require special design.

12. Mini-grid hybrid PV-diesel will be considered for the design in areas of high loads where the evening peak can reach more than three times the load at midday. The hybrid PV-diesel system will combine PV and diesel generation operated simultaneously with a storage unit and connected to a local distribution AC network. The inverter could be multifunctional to convert DC to AC, control the generation and storage systems, and set up the voltage and frequency of the mini-grid. The diesel generator will be used to supply the evening peak requirement as well as complete the battery charge.

13. *Water service.* Three different technologies are accepted by the GoG as appropriate in the context of rural water service in Gabon. They are classified based on the size of the village (Table 4). The first two options (borehole equipped with hand pump and autonomous water station consisting of elevated metal tank on a borehole equipped with solar water pump) will be implemented either in isolated villages composed of a few grouped houses or in villages where the distance separating the autonomous water stations does not exceed 150 meters. These options will provide either collective access solutions (hand pump spillway) or one to three faucets ramps.

14. The third technological option (small-scale water-piped schemes) will provide up-ladder access options for the majority of villages that will meet the criteria, allowing access through household connections desired by the rural population. The small-scale water-piped scheme consists of (a) available underground water (drilling) or surface water; (b) pumping station (solar power source); (c) elevated reservoir; and (d) distribution network which supplies the standpipes (*Bornes fontaines*) and private connections (*Branchements particuliers*).

Table 4: Types of Technologies for Water Service

Size of Village (Inhabitants)	Type of Technology	Approximate Cost (USD)
50–150	Hand pump	26,000 (new well) 13,000 (rehabilitation)
150–300	Solar water pump (PV)	77,000
300–1,000	Small scale piped networks	190,000–250,000

Source: Improved access to basic services in rural areas study (Nodalis/Burgeap/Hydrel-Gabon)

15. The project will mostly consider villages with a population between 150 and 999 habitants. Table 5 lists the estimated population in the villages of rural Gabon.

Table 5: Villages of Rural Gabon and their Estimated Populations

Number of inhabitants per village	Number of Villages	Estimated Population
<50	689	15,330
50–149	1,085	83,438
150–299	513	103,756
300–999	290	119,307
TOTAL	**2,577**	**321,831**

Note: Data are from 2006 or 2013.

Component B: Implementation support, supervision, and M&E ($6.0 million equivalent)

16. This component will finance a number of implementation and support activities and an extensive communication, education, and awareness program. It includes four subcomponents: (a) establishment of a specific institutional framework for rural energy and water services; (b) implementation and support activities; (c) communications, education, and awareness; and (d) project management, monitoring, and evaluation.

Subcomponent B.1: Establishment of a specific institutional framework for rural energy and water services ($0.5million equivalent)

17. This subcomponent will support the GoG in carrying out a program of activities aimed at ensuring sustainability in the electricity and water sectors through capacity building and technical assistance in technical, financial, and contractual areas to key selected actors. This would involve establishment of an institutional framework for the sustainable O&M of rural electricity and water infrastructure through a partial reform of the sector that would include establishment of technical and financial mechanisms to operationalize the mechanisms through which a private O&M operator in each region will be contracted, financed, and monitored. In addition, in order to advance the preparation of sustainability mechanisms and increase project readiness for implementation, key analytical activities and technical assistance were conducted throughout project preparation and will continue through early implementation. This subcomponent will be complemented by the ongoing Bank-executed Africa Renewable Energy Access program (AFREA) grant financing in the amount of US$ 1.3 million.

18. To ensure the sustainability of the infrastructure of water and electricity rural services, a partial reform of the sector will be conducted to develop the required institutional, legal, and regulatory framework and operationalize the mechanisms through which a private O&M operator in each region will be contracted, financed, and monitored. The project will support this effort and provide technical assistance and capacity building to the key actors involved (the CNEE, MERH, DGE, DGRH, the regulator ARSEE, and CN-TIPPEE) in the areas of expertise relevant for effective administration of the mechanisms, such as technical expertise (technical design, optimization); contractual arrangements (contract design and monitoring); and financial.

19. With regard to the implementation of the mechanisms, the CNEE will play a key role and will be responsible for managing the rural basic service sustainability account. Funding of this account is a dated covenant to be fulfilled no later than six months from effectiveness to create a

funding buffer by the time the O&M operators commence operations. The CNEE will therefore benefit from significant support. While this new mission fits within the broad legal mandate given to the CNEE, this institution will need to be strengthened and its organizational structure adapted, to allow it to effectively manage the financing mechanisms and supervise the O&M contracts and the quality of service delivered. In addition, some revisions to the regulations governing the CNEE (decrees) might be advisable once the sustainability mechanisms are fully detailed and finalized.

20. The organizational diagnosis and capacity building needs assessment of the CNEE has been carried out during project preparation and will continue after effectiveness with AFREA financing.

21. Key activities to be carried out with AFREA support include:

- *Assessment of needs and costs of infrastructure in the rural areas of Gabon.* This study will comprise (a) an international benchmarking of costs of basic rural services, including investment costs (infrastructure goods and works) and their operational costs (O&M and replacements); (b) geo-referenced inventory of existing electricity and water installations in one of the four rural areas; and (c) feasibility study for 30 villages.
- *Study of the specific operation costs, operator's subsidy, and tariff levels in each concession.* This activity will determine the costs of services and the beneficiaries' capacity and willingness to pay. Based on the outcomes of this study, different pricing levels will be set and will include the tariff system as well as the subsidy requirements to ensure financial equilibrium for the operator. Finally, a detailed business plan will be elaborated for each area.
- *Definition of O&M contract model.* The contractual arrangements for the O&M operators will be elaborated through a participatory process among the GoG, the potential operators, local government, and communities. The outcome of this activity will be the result-based O&M contract design. This work will, inter alia, include workshops with potential operators to carefully balance the contract, drafting of the contract and bidding documents, design of the selection process for operators, and definition of specific mechanisms to monitor and control performance (role of local governments and communities).
- *Assessment of the reorganization of the CNEE.* Reorganizing will help the CNEE adapt its legal documents, organic structure, and needs of funding, allowing the institution to manage the financing mechanism and supervise the O&M contracts as well as the quality of service delivered.

22. Subcomponent B.1, with AFREA support, will finance additional activities to constantly adapt the institutional framework on the basis of lessons learned during the first years of project implementation.

Subcomponent B.2: Implementation and support activities ($3.25 million)

23. This subcomponent will finance implementation and support activities. This will include the completion of a master plan for access to basic services in rural areas and specific environmental and social impact studies, while implementation support activities will include financing for a consulting engineer.

24. The master plan for access to basic services in rural areas will provide to the GoG and the operators a long-term planning tool of investments to meet the demand requirements in water and electricity of the rural population. This master plan will also include an economic and financial model as well as model bidding documents. This master plan will cover the entire Gabonese territory and prepare the national scale-up of rural access investments. The choice of the technical option will be made on a village-by-village basis, depending on the village size, location, available resources, and other relevant characteristics (including a local demand assessment emanating from community consultations). The plan for rural electrification and water supply will pave the way for investments in providing access in rural areas through decentralized mini-grid solutions using mini/micro hybrid plants (solar/diesel), mini/micro hydro, SHSs, and water boreholes and standpipes to provide drinking water.

25. The subcomponent will finance a consulting engineer (owner's engineer) and the necessary environmental and social impact studies. In addition, it will finance technical assistance (consultant or NGO) to support the government in systematic implementation of the environmental and social management plans and resettlement action plans. The GoG will finance costs associated with any potential resettlement and compensations.

Subcomponent B.3: Communications, education, and awareness ($0.75 million)

26. This subcomponent will support development and implementation of a communications, education, and awareness program in targeted rural areas, including implementation of a health campaign aimed at raising awareness on the benefits of clean water. Activities under this subcomponent will comprise (a) extensive information and promotional campaigns through existing media and grassroots associations in rural areas to raise interest in and obtain formal requests from operators and rural communities in support of the mini-grid systems as well as to promote rational use of the new equipment and (b) public health campaigns to raise awareness on the benefits of clean water and how to combat waterborne diseases and malaria and improve living conditions of the rural population. Public health communications will focus on sanitation, hygiene, and hand-washing with soap. These campaigns will target women, men, and adolescents.

27. Integrating gender considerations in the design of electrification and access to drinking water programs by involving both men and women in design and consultations and identifying ways to overcome barriers, such as access to credit or technology, can further extend the benefits of electrification of rural communities. Thus, the project will also explore how women's associations and groups can play an important role in awareness campaigns and in exploring productive uses for electricity. At an early stage of project implementation, a workshop organized by grassroots associations and with the participation of the maximum number of actors in the sector will set the point of departure for the design of a wider set of gender-friendly activities.

28. This subcomponent will build upon lessons learned in other Bank-funded projects, such as the internationally recognized Second Sustainable and Participatory Energy Management (PROGEDE II) in Senegal, whose PDOs emphasized communications, education, and awareness.

Subcomponent B.4: Project management, monitoring and evaluation ($1.5 million)

29. This subcomponent will provide support to the borrower in the areas of project coordination, supervision, financial management, procurement, monitoring and evaluation, and preparation and supervision of implementation of the Safeguards Instruments, including through the provision of training, operating costs, and goods and services for the required purpose. The current composition of the PIU, the CN-TIPPEE, is sufficient to handle all fiduciary activities of the project. However, to mitigate any excessive workload induced by the project, the CN-TIPPEE will be reinforced and trained in topics such as project coordination; fiduciary activities (procurement, financial management); environmental and social safeguards; communications; and M&E. This subcomponent will finance during the early years of implementation (if deemed necessary)[9] (a) an accountant and an additional procurement specialist; (b) an environmental and social specialist; (c) an assistant to the director of the M&E department; and (d) an expert in rural energy and an expert in rural water services. This subcomponent will also provide financing to the CN-TIPPEE for audits, surveys, goods, and services.

30. In addition, the CN-TIPPEE M&E system will be improved to monitor the results of the program and take corrective actions as required. This subcomponent proposes to support the update of the system to monitor and assess the impact of the activities supported by the project.

Component C: Capacity building and sectoral technical assistance ($8.5 million)

31. This component will support the GoG in broader electricity and water sectors reform. The GoG is already engaging a wide range of stakeholders on the options for sector reform and a post-concession institutional framework for the electricity and water sectors. For the electricity sector, the GoG has commissioned an assessment of the strengths and weaknesses of the existing institutional and regulatory framework. The study on the electricity sector has also recommended a specific framework for rural areas so that rural populations are not ignored in the access program (which is the strategic rationale for this project). For the water sector, the study has suggested financing the preparation of a water code that will incorporate the principle of integrated management of water resources.

32. To support and implement the GoG strategy for the electricity and water sectors, profound changes are required on the part of sector institutions. In this respect, actions to strengthen capacity for these two sectors have been identified and will be supported through the project. The identified activities are mostly at the technical level to assist with policy implementation. However, given that the sectors are approaching a critical juncture (expiration of the SEEG concession), the project will also support the MERH at the policy formulation level (resident advisor to the minister). Also, support will be provided to the sector regulator (ARSEE), the effective role of which remains limited compared to its legal mandate.

[9] It is expected that the CN-TIPPEE will progressively take over the financing of these new staff under its own budget.

33. Component C will be divided into two subcomponents: (a) sector-specific institutional capacity-building activities and (b) sectoral analytical work and specific studies.

Subcomponent C.1: Institutional capacity building activities ($4 million)

34. This subcomponent will support strengthening the capacity of the MERH,[10] CNEE,[11] ARSEE, and private operators[12] to better manage the energy sector by developing and implementing a module-based training program (including on-the-job daily training and workshops) in the areas of, inter alia, planning, O&M, and management of basic rural services. The capacity-building program will be implemented through (a) financing of international expertise (technical assistance); (b) training to reinforce the capacities of the GoG and the private operators in the planning, O&M, and management of basic rural services in water and electricity; (c) training for several departments of the MERH to fulfill other functions such as project planning, project management, PPPs, policy development, and sector regulation; and (d) acquisition of tools to support capacity strengthening of the MERH.

35. The international technical experts will be positions created in the following institutions: cabinet of the MERH, the DGRH, DGE, CNEE, and ARSEE. These positions will be financed by the project in the early years of implementation. These technical experts will obviously play a key role in supporting the GoG to implement the project. More broadly, they will also advise on wider issues related to sector reforms. In particular, the advisor to the MERH will support the minister in elaboration of the sector strategy and policy formulation. The technical experts will, as part of their assignment, provide on-the-job training to local personnel through the transfer of expertise on a daily basis.

36. Other training activities to be provided during the project will be in the form of theoretical training backed by practical examples, where possible (for example, sessions or training courses, workshops); practical training with immersion; or, if necessary, by alternating between the two modalities. A training program has been developed during project preparation. Every year, the training program will be updated by the GoG based on the requirements and will be approved by the Bank.

Subcomponent C.2: Sectoral analytical work and specific studies ($4.5 million)

37. This subcomponent will support the GoG in carrying out a program of activities aimed at assisting the MERH in strategic decision-making and implementation in related sectors through, inter alia (a) provision of technical assistance; (b) development of electricity and water codes; (c) update of the national electricity transmission and generation master plan; and (d) preparation of analytical and sector-focused studies. Activities in this subcomponent include (a) the development of electricity and water legal codes; (b) technical assistance to ensure continuity of service delivery at the end of the current concession agreement (this might include analytical and/or technical audits of the SEEG); (c) an update of the electricity transmission and generation master plan; and (d)

[10] Specifically, the MERH's Hydraulic Resources and Energy technical departments.

[11] The CNEE is the National Council for Electricity and Water. The CNEE's current mandate consists of ensuring the O&M of public lighting, traffic lights, and fountains. Their mandate will be extended to rural areas to manage O&M contracts.

[12] These are the O&M operators.

broader analytical and sector studies (MERH will allocate $0.75 million of its own funds to conduct broader analytical and sector studies, the results of which will inform implementation and potential preparation of future investments). Procurement operations for some of these consulting activities has been initiated during project preparation in order to discuss and agree on the TOR with stakeholders and advance consultant selection (possibly up to the point of contract negotiations with contract signature possible immediately after effectiveness).

Project Cost and Financing

38. The total project cost is estimated at $60 million (Table 6).

Table 6: Project Components and Financing

Project component		Project costs	IBRD financing	% of financing
Component A: Expand access to basic services in rural areas				
Subcomponent A.1:	Construction and rehabilitation works in rural areas	*45.50*	*100%*	*75.83%*
	(Goods, works and installation)			
	Total Component A	**45.50**	**100%**	**75.83%**
Component B: Implementation support, supervision, and monitoring & evaluation component				
Sub-component B.1:	Estabishment of a specific framework for basic rural services	*0.50*	*100%*	*0.83%*
Sub-component B.2:	Preparatory activities, implementation, and support	*3.25*	*100%*	*5.42%*
Sub-component B.3:	Communications, education, and awareness	*0.75*	*100%*	*1.25%*
Sub-component B.4:	Project management, monitoring, and evaluation	*1.50*	*100%*	*2.50%*
	Total Component B	**6.00**	**100%**	**10.00%**
Component C: Capacity building and sectoral technical assistance				
Sub-component C.1:	Institutional capacity-building activities	*4.00*	*100%*	*6.67%*
Sub-component C.2:	Sectoral analytical work and specific studies	*4.50*	*100%*	*7.50%*
	Total Component C	***8.50***	**100%**	**14.17%**
Total project		***60.00***	**100%**	***100%***

Attachment 1. Sustainability Mechanism

1. The project's sustainability will be achieved through an integrated and holistic approach that includes investments, maintenance, capacity building of stakeholders, and provision of adequate technical assistance services. For the most part, rural access projects financed by the GoG over the last decade have been limited to supporting the construction of new equipment while leaving the responsibility for operating the equipment and for routine maintenance to local communities. Past and current Gabon experiences related to rural infrastructure have shown that a community-based approach for O&M in the country is challenging. In general, the level of degradation of water and electricity systems in the rural areas is high a few years after installation, and in a large number of cases, systems are no longer functional or used. The few cases of relative success were characterized by specific local conditions and would be impossible to replicate at large scale. A diagnostic of the current status and recent trends in rural basic services in Gabon suggests that a new paradigm for O&M must be established in rural areas to maintain services in equipped villages and expand them into new localities.

2. Achievement of the PDOs and, in fact, the whole GoG strategy for providing basic services in rural areas hinge upon designing and putting in place appropriate institutional, financial, and operational mechanisms to ensure the long-term sustainability of the investments and delivery of services. The model under consideration by the GoG, validated during a sector stakeholder's workshop in April 2014 and outlined in the Sector Policy Letter for Rural Access approved in September 2014 (see Annex 6), includes a number of key principles related to financial and technical sustainability (see Box 1).

Box 1: Key Principles to Ensure the Long-term Sustainability of Investments and Delivery of Services

- **Principle 1**: ***Extension of the current government principle of free-of-charge service ("gratuité") to low-income Gabonese in urban areas to rural areas.*** In rural areas, the share of the population eligible for this free-of-charge service is higher than in urban areas and accounts for approximately 80 percent of the total rural population. Eligibility criteria are based on the household level of revenues and can be verified and monitored by the National Social Security Service (*Caisse d'Assurance Maladie*).

- **Principle 2**: ***Externalization of the installation, operation, and maintenance of the equipment.*** Considering the Gabonese specificities, it has been understood that the access to basic services program of the GoG should rely on a particular operator for installation and O&M. This operator will have the freedom to rely upon local communities for subcontracting specific activities, but will remain responsible for service provision. However, if the investor/financier requires a different method for installing the infrastructure, the operator will commission the installation and afterward include it in the O&M contract.

  Segmentation of the national territory into three or four zones, each of them provided with an operator who will be exclusively responsible for the zone. Also, several operators will be responsible for the project's O&M in their respective territories. The number of zones will be decided according to the following two key principles: (a) there must be more than two operators, so that their performances can be compared and they can benefit from each other's experiences; and (b) territories must be big enough to be attractive to operators (critical mass of activity). As a

result of these two criteria, the recommendation is for an organization based on three or four zones (the territories of two or three departments).

The operators will be hired for 4 or 5 years. The length of the contract with the operators must be fixed in advance, to encourage implementation of a preventive maintenance policy.

- **Principle 3: *Urban-rural cross-subsidies for O&M in rural areas—financing of sustainability of the installations by the sector itself.*** It is envisioned that over time, revenues from the electricity and water sectors will finance sustainability of the rural installations, with the GoG remaining the main contributor when it comes to structural investments. The source of funding for O&M would be a dedicated levy on water and electricity utility bills.

  This levy already exists and is supporting the policy of free basic service provision to eligible low-income urban households. A preliminary estimate seems to indicate that the levy on water and electricity bills would have to increase by 1 percent (at the beginning) to 3 percent (with 80 percent of coverage) to generate the necessary financial resources for O&M of the installations in the villages not connected to the SEEG network. This should be manageable for the sector. As a transitory phase, at the beginning, a combination of financing by the sector and by the GoG budget could be envisioned—the important aspect being that the funds will be available when needed, to avoid payment disruptions that could endanger the operators' financial viability.

- **Principle 4**: ***Institutional arrangements and regulatory agency.*** Reliance on a dedicated entity to implement and ensure supervision of the program. The CNEE's current mandate consists of ensuring O&M of public lighting, traffic lights, and fountains. Extending this mandate to rural areas appears to be the most natural and pragmatic option. (Note: Creation of a specialized agency could be envisioned in the future.)

- **Principle 5: *Cost-recovery mechanism based on results for the operator.*** Operators will not be paid for each of their interventions. Rather, payment will be based on their performance in terms of management of the equipment and customers' payments. The objective is to transition from a culture of payment by tasks to a culture of service.

  A specific workshop would be organized to work on the operator's contract that would elaborate on the contract's specification, mechanism of control, and modalities of cost recovery, among others. The objective is to find the right balance between the attractiveness of such a contract and the measures encouraging performance.

  This mechanism will also depend on a clear relationship between customers and the operator. This will be achieved by systematically installing a client interface module (for example, meter or prepaid meter) to measure customer' satisfaction and ensure partial payment for the service.

- **Principle 6**: ***Prioritization of equipment and services that offer a perceived added value for customers in order to better respond to the population's expectations.*** Before investment selection and installation, the local population should be consulted systematically, and the offer should be adjusted to their expectations. The importance of putting in place communications and public education campaigns in the villages covered by the project was underlined during the workshop. These actions should be undertaken early in the program.

3. Based on these key principles, the envisaged sustainability mechanism for this project (and to be applied as a national policy) comprises (a) a private O&M operator approach with carefully structured incentives and (b) a dedicated account to ensure sustainability of ongoing subsidies. The CNEE will play a key role and be responsible for managing the rural basic service sustainability

fund. Furthermore, funding of this account and any associated levies will start shortly after project effectiveness to create a funding buffer by the time O&M operators commence operations.

4. The proposed sustainability model will therefore rely on the bilateral relationship between the private operator of a reliable and affordable service and customers paying in a timely manner to maintain service. In this scenario, the GoG is the owner of the infrastructure and in charge of the investments, the private operator ensures the service, and the client pays the tariff. The tariff will only partly recover the O&M costs; therefore, a subsidy will be established to cover the costs of the operator.

5. Finally, to ensure that the model is sustainable and to increase project readiness for implementation, the Bank financed direct technical assistance throughout project preparation and will continue through early implementation to obtain data required for the operationalization of the sustainability mechanism.

6. *Institutional arrangements.* The owner of the assets will remain the GoG, represented by an Asset Holding Company (*Société de Patrimoine*) that already exists. Monitoring and capitalization of assets will be delegated to the operational institution (see Figure 2). The MERH will sign the O&M contract with the private operators and will delegate management of the contracts to the operational institution—proposed to be the existing CNEE, whose current mandate is very similar to the one proposed. Local governments will be associated with monitoring and governance mechanisms. The MERH (through the DGE and DGRH) will have a regulatory and control function in all the steps of the project.

7. The CNEE will play a key role in managing implementation of the mechanisms and will be responsible for managing the rural basic service sustainability account. Funding of this account will be required to start shortly after effectiveness to create a funding buffer by the time O&M operators commence operations. The CNEE will supervise the operator's activities by centralizing all installation and maintenance documents and compiling financial reports (client files). At the financing level, the CNEE will (a) collect, manage, and pay the operator the subsidy coming from the sector's equalization system and the national budget's social funds (free-of-charge service and other funds) and (b) verify customer payments of tariffs and other contributions to the operators. Figure 2 depicts the institutional arrangement.

Figure 2. Institutional Arrangement throughout the Project

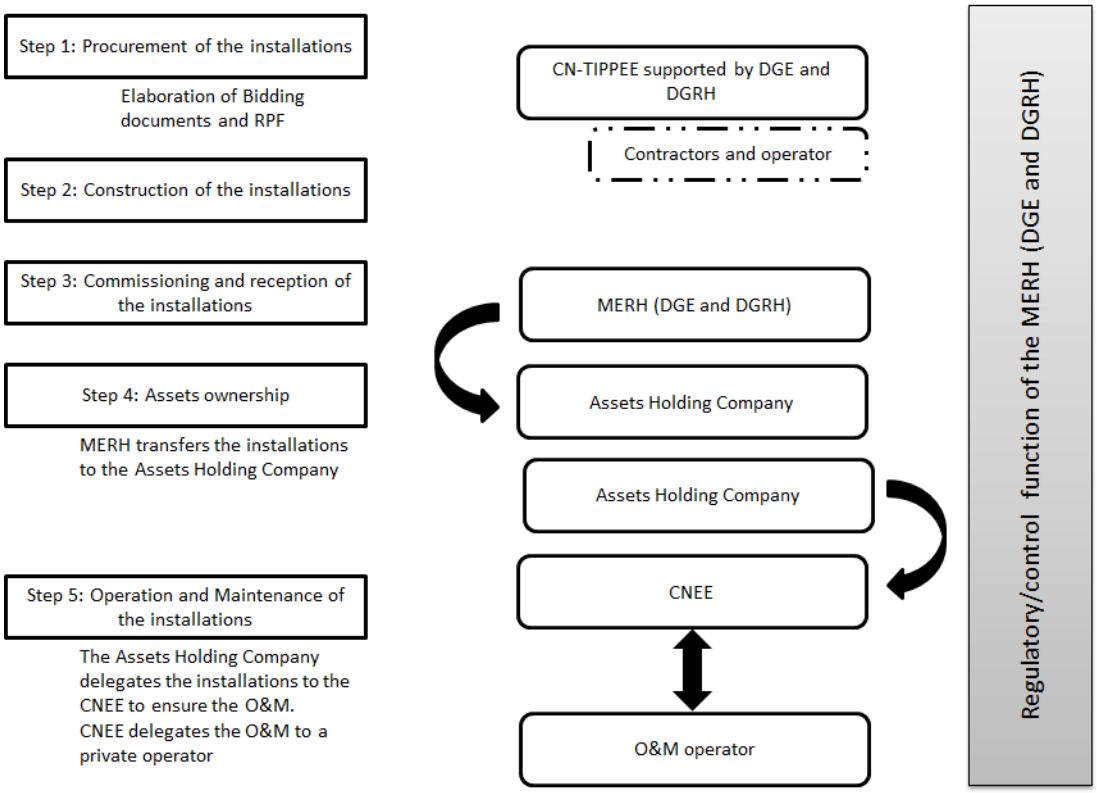
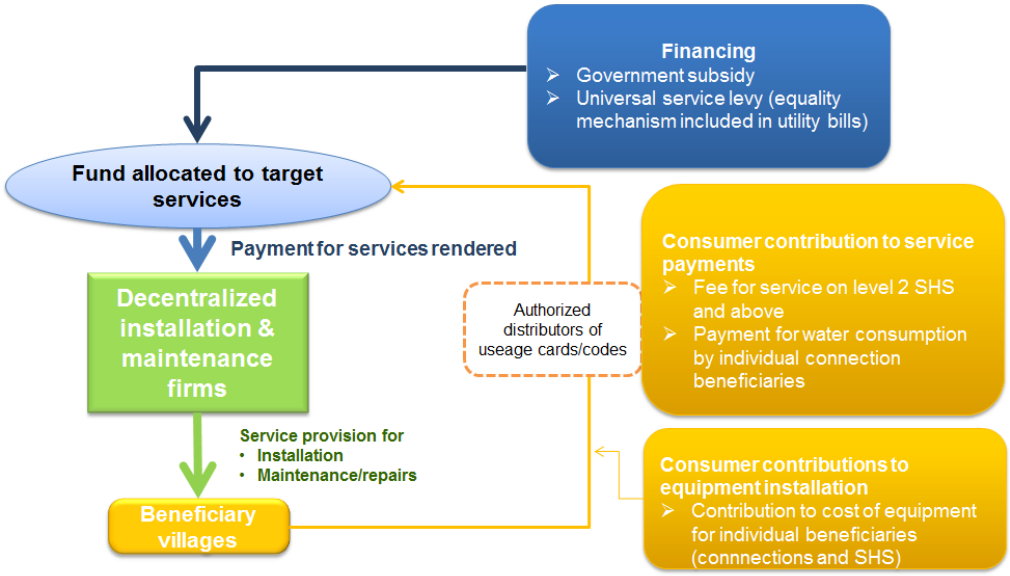


Figure 3. Financial Flow Chart



8. To ensure the CNEE's capacity to fulfill these responsibilities, there is a need to expand its current mandate, ensure adequate recruitment and capacity building, and reinforce its resources. While this new mission fits within the broad legal mandate given to the CNEE, the institution will need to be strengthened and its organizational structure adapted to allow it to effectively manage the financing mechanisms, supervise the O&M contracts, and the quality of service delivered. In addition, some revisions to the regulations governing the CNEE (decrees) might be advisable once the sustainability mechanisms are fully detailed and finalized.

9. Organizational diagnosis and capacity building needs assessment of the CNEE will be carried out by the Bank in the early months of implementation support under AFREA financing. Capacity building will be supported under the proposed project, including the financing of an international expert during the first two years of project implementation.

10. *Technical sustainability*. Considering the socioeconomic level of Gabon's rural population as well as the latest technology developments and recent experiences in other African countries, technologies that are mature, commercially available, and easy to operate and maintain have been considered. To ensure technical sustainability, ease of maintenance has received priority over low capital costs. For electricity, SHSs (PV) have been considered as a base scenario, but the choice can be changed to include mini-grid and other solutions according to local conditions and availability of potential energy resources. Two types of kits will be provided to households according to their economic level. For the water sector, small systems are envisaged for larger villages with household connections, and hand pumps will be targeted for smaller villages and scattered households. The level of service provided by these off-grid technologies is high enough to satisfy the rural population without providing access to modern water and electricity services, but is limited to the capacity available for each installation.

11. Long-term viability should build on a sound design during project preparation and implementation and on a suitable capacity-building program to ensure uninterrupted O&M by the O&M firm. Furthermore, the technical specification of investment needs should be carefully considered to adequately forecast demand for each targeted rural area and avoid early obsolescence of the equipment.

12. Sustainability of the project investments will rely on engagement of the various stakeholders, including private-sector companies, communities, and local authorities (Figure 5). The model currently under consideration includes the possibility of sustaining the provision of services by recruiting, on a competitive basis, a series of regional operators who will be in charge of installing the equipment, rehabilitating old systems, and carrying out O&M. Each operator will be responsible for a specific region of Gabon. Currently, about 10 potential operators in the country, who are active in the Gabonese market, have adequate capacity to perform O&M work in addition to installation (which is their core business).

13. Considering the low density and low economic capacity of rural populations, service delivery costs will need to be bundled, including water and electricity services, assigning a region of the country (two to three provinces) and including installation of new equipment (when possible), as well as for the service operator.

14. The operator will be a private company that delivers water and electricity services in rural areas and manages customer satisfaction and tariff payments. To attract a qualified operator for a sustainable provision of rural electricity and water services, recruitment will be done on a competitive basis for a series of regional operators. Each operator will be responsible for clusters of villages in a specific region of Gabon. These operators will be in charge of (a) installing new equipment, (b) rehabilitating old systems, and (c) overseeing O&M of all functional systems in their respective regions of operation (new and old).

15. The operator will sign a regional O&M contract with a defined number of customers and services (Figure 4). A payment-by-results approach will be put in place, and operators will be paid only after independent validation of the services provided. With this type of payment, the quality of service is remunerated, thereby creating incentives for programming preventive maintenance. Local governments and communities may also be involved in the verification process by validation of the equipment maintenance sheets. Local subcontractors might be hired by the operator for certain activities.

16. Customers will pay the tariffs through pre-payment cards (subsidized customers will also use the cards to ensure client uniformity and control of the subsidy eligibility), which will be recharged periodically (periodicity can be monthly but can also be tailored to the needs of the customer) through a certified retailer based in the rural area (nearest commercial town). This payment method implies an updated listing of the customer and client management software to ensure efficient tracking of the payments and service.

Figure 4. Functional Relations and Institutional Arrangements of the O&M Contract

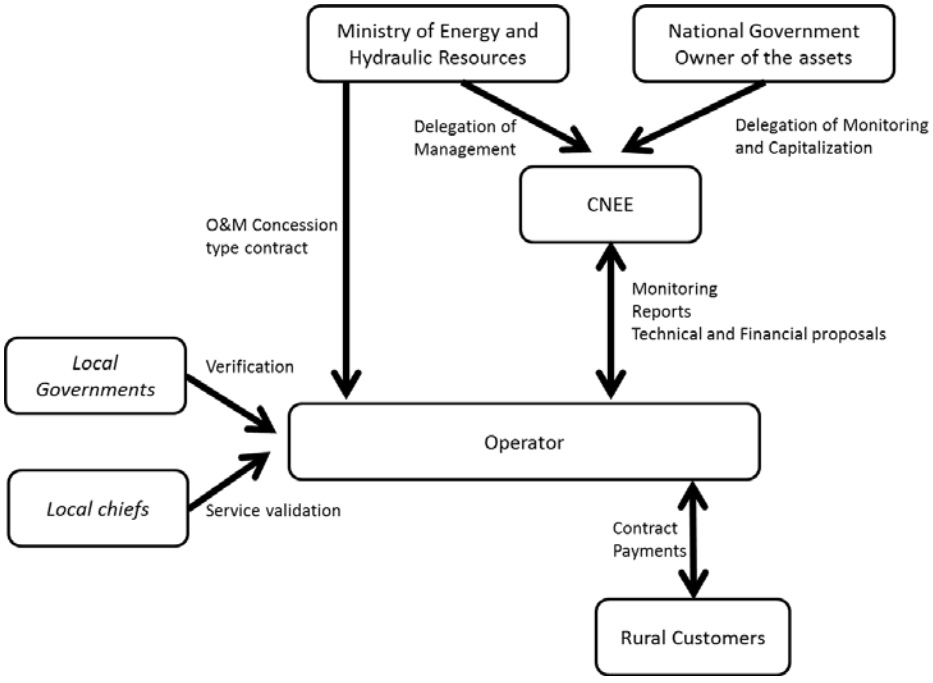
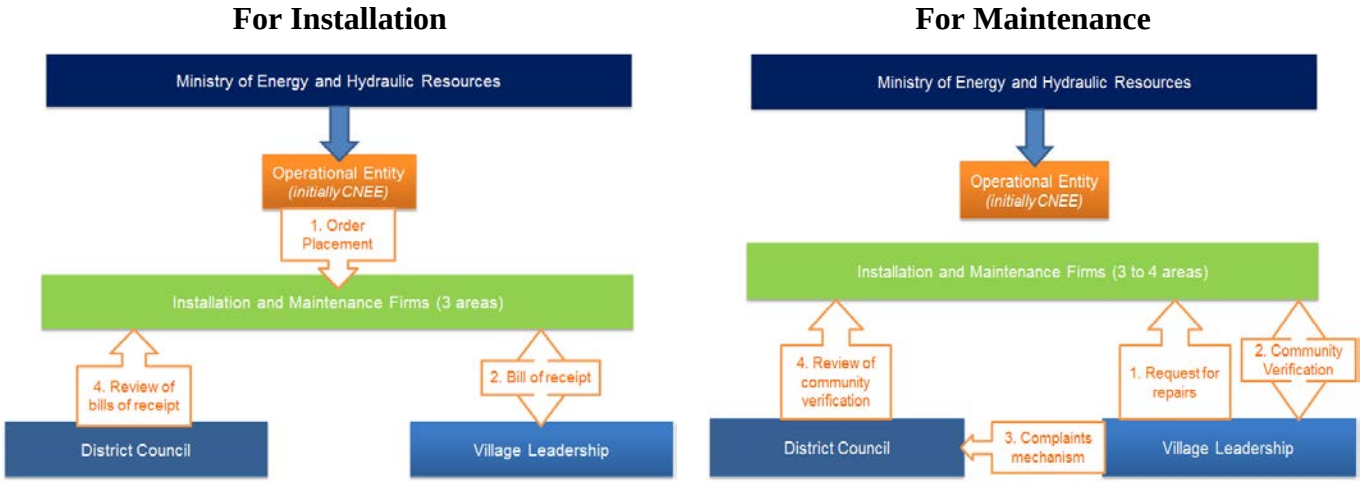


Figure 5. Organization Chart



17. *Financial sustainability*. Although the GoG is discussing the idea of revising the free-of-charge service provision in rural areas, it will take time before a policy revision is agreed upon and made effective by the Gabonese institutions. This represents a significant challenge for the financial sustainability of the project, which design will need to (a) remain sustainable during the transitory initial period while the GoG discusses and revises the pricing policy of basic services for the rural population, and (b) be able to easily transition to a framework of full or partial cost recovery.

18. Due to the low capacity of rural households to pay, low consumption, and high logistical costs of service delivery, the financial sustainability of the system is based on a revenue system with the following characteristics:

- The current GoG principle of free-of-charge service to low-income Gabonese in urban areas and to rural areas will be revised to introduce a minimal payment that, while symbolic, will create a culture of fee-for-service. In rural areas, the population eligible for this subsidy is higher than the eligible urban population, and this accounts for approximately 80 percent of the total rural population. The GoG contribution will be made through the national budget or from an equalization system and will be based on the census of the Social Security Service. The GoG has other financing mechanisms that could contribute to this subsidy, but these are not yet considered. These mechanisms are from social funds and the *Gabon Vert* initiative.

- For rural households that are not eligible for minimal payment basic service (or opting for more than basic service), the level of fee-for-service charged will depend on the type of service provided. Given that most households will benefit from free basic service, total revenue expected from users will be well below the level required for cost recovery, but may provide 20-30 percent of O&M costs. For the water sector, a tariff will be established for small systems or motorized pumps providing tapped water up to the household level,

whereas hand pump customers will pay no fee (public fountain). For the electricity sector, two different tariffs are envisaged according to the type of service. The amount of the tariff will be based on the willingness to pay of the rural households.

Table 7. Tariff for Electricity and Water

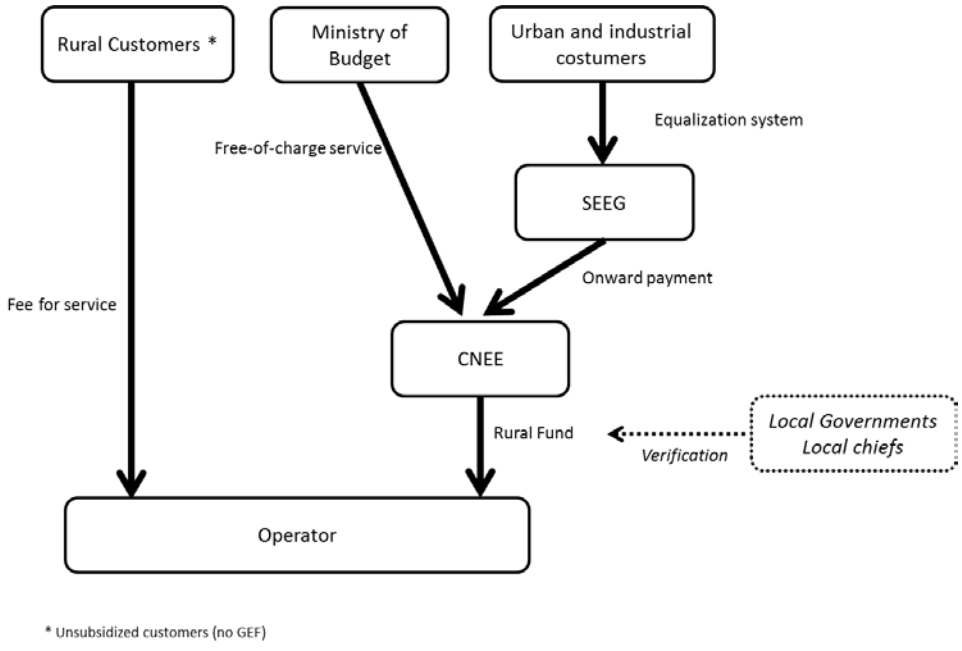
Service type ELECTRICITY	**% of Population**	**% of Unsubsidized Customers**	**Tariff (USD)**
Type 1 (lighting, radio, cell phone)	85	20	6.5–8.5
Type 2 (lighting, radio, cell phone, TV, and refrigerator)	15	100	9.5–12.5

Service type WATER	**% of Population**	**% of Unsubsidized Customers**	**Tariff (USD)**
Hand pump	20	0	0
Solar water pump (PV) Small pumping systems	80	25	4.0–8.5

Source: Improved access to basic services in rural areas study (Nodalis/Burgeap/Hydrel-Gabon)

- A dedicated account, funding of which will begin shortly after effectiveness, will be established to partly finance O&M of the basic rural service provision of water and electricity in the country. To ensure sustainability of such a fund, in the long term, it will be financed by the electricity sector itself (through cross-subsidies or *péréquation*). In the short and medium term, the national budget will still need to be tapped (Figure 6).

Figure 6. Sources of Operator Funding



19. To ensure that the model is sustainable and to ensure project readiness for implementation, the Bank financed direct technical assistance throughout project preparation and will continue through early implementation to obtain data required for operationalization of the sustainability mechanism. Specifically, the Bank has leveraged funds from the AFREA program to finance the studies described above (see Annex 2, paragraph 21).

Annex 3: Implementation Arrangements

Gabon: Access to Basic Services in Rural Areas and Capacity-building Project (P144135)

Project Institutional and Implementation Arrangements

1. The MERH will be responsible for oversight of the project. Under the MERH's supervision, the CN-TIPPEE will be responsible for the project implementation. The operational arrangement agreed upon with the GoG involves two organizational levels: (i) a project Steering Committee and (ii) the PIU, whose roles and responsibilities are outlined.

- **The Steering Committee** already exists and its composition will be revised for the purposes of the project. The Steering Committee is chaired by the Minister of Energy and Water Resources, and will include representatives of key ministries and agencies, and of the DGRH, the DGE, the CNEE, the regulator for electricity and water (ARSEE) and a Secretariat. The Steering Committee will meet at least once every quarter (or more often, if so required) and will be supported, in all of its functions, by the project's coordinator and the PIU. These are its main duties:
  - ✓ Provide overall policy and strategic direction, general project oversight, and overall operative guidance and coordination during implementation.
  - ✓ Be responsible for approving annual work plans and budgets.
  - ✓ Decide on realignment of project implementation activities and any changes in budget allocation between components (subject to the Bank's approval).
  - ✓ Bear overall responsibility for the compliance of safeguard activities with national and Bank policies (the PIU will ensure adherence to the safeguard documents of all entities involved in the project's implementation).
- **The Project Implementation Unit** will be the CN-TIPPEE, which will be responsible for the project's technical and fiduciary aspects.[13] A project coordinator, appointed by the MERH, will be responsible for operational oversight of the PIU and will ensure that project activities are carried out in line with the MERH's strategic guidance and in consultation with the MERH's respective Hydraulic Resources and Energy technical departments. The PIU will report to the Steering Committee throughout implementation of the project to ensure clear communication with all pertinent ministries and obtain decisions on issues pertaining to multiple government stakeholders. These are its main duties:
  - ✓ Report to the Steering Committee for strategic guidance, direction, and coordination.
  - ✓ Implement, manage and report on the project in accordance with the PIM, prepare

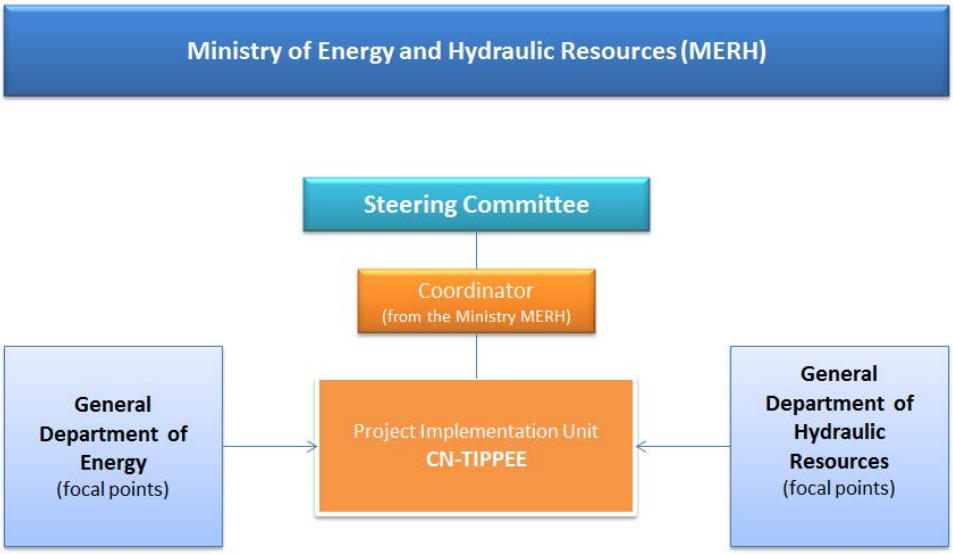
[13] According to its establishing Ministerial Decision, the CN-TIPPEE's objective is to create projects that are in the public interest on behalf of all stakeholders (the GoG, regional and local administrations, NGOs, or donors), with a view to implement best practices and sound governance. The size of the CN-TIPPEE can vary to adjust to the project workload, with a minimum of six key staff working on multiple projects. The CN-TIPPEE was the PIU of the Local Infrastructure Development Project (PDIL P082812), which closed in December 2011, and is currently in charge of the Central African Backbone—Phase 4 (CAB4) Project and of the preparation of the second PDIL.

annual work plans and budgets and annual implementation and procurement plans for submission to the Steering Committee and the Bank team for approval.

- ✓ Coordinate with the Bank on all aspects of project implementation.
- ✓ *For fiduciary tasks.* Handle all procurement and financial management for the project in compliance with the Bank's procurement guidelines and in the spirit of anti-corruption legislation, including resource monitoring, preparation of bid documents, appraisal and procurement of contracts, and contracts management. Prepare quarterly consolidated financial and auditing reports to be submitted to the Bank on financial management and procurement arrangements, respectively, and prepare the disbursement plan. Be responsible for withdrawal of funds and for payment to contractors and suppliers.
- ✓ *For environmental and social safeguards.* Ensure adherence to the safeguard documents of all entities involved in the project's implementation. Provide guidance and support for implementation of environmental and social safeguards via the PIU's Environment and Social Safeguards Department, which will be in charge of coordinating the implementation and monitoring (control and audit) social and environmental aspects and will be an interface between the project, local authorities, and other stakeholders.
- ✓ *For M&E tasks.* Update and maintain a system for monitoring the project key performance indicators, and prepare the quarterly implementation reports.
- ✓ *For communications activities.* Prepare materials related to the project for public dissemination, and coordinate stakeholder inputs and appropriate response.

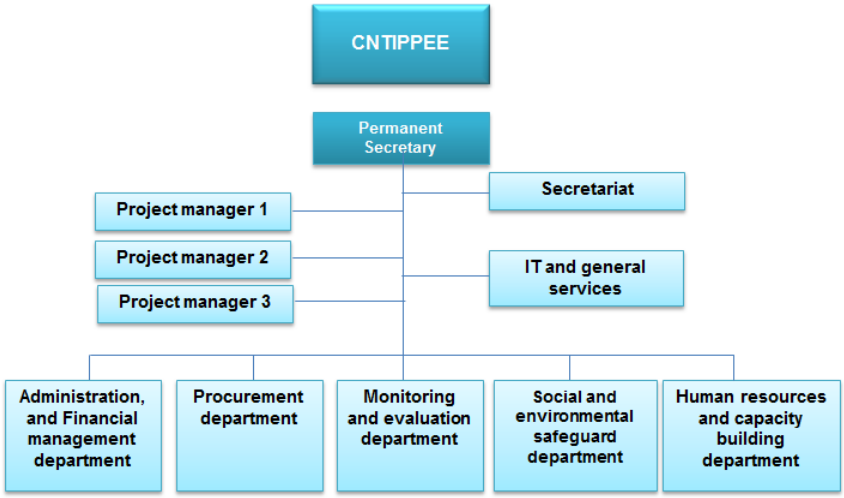
2. The CN-TIPPEE's financial management, procurement, and safeguard capacities have been assessed and they are deemed adequate to meet the minimum requirements of the Bank. Having already implemented two complex IBRD-financed projects, the CN-TIPPEE has a thorough knowledge of Bank procurement rules and procedures, which will allow for rapid and smooth implementation of the project. The CN-TIPPEE will be supported by the services of a consulting engineer for control and supervision of works to be implemented during the project.

Figure 1. Project Organization Chart



3. Directed by a permanent secretary, the CN-TIPPEE includes project managers responsible for technical implementation and five departments responsible for administration and finance, M&E, information and communication, procurement, and environmental and social safeguards (Figure 2).

Figure 2. CN-TIPPEE Organization Chart



4. To carry out its responsibilities and effectively implement the project's various components, the PIU will collaborate with several stakeholders—principally with the MERH and its technical departments, the Ministry of Economy, the CNEE, and the ARSEE. For example, while all procurement and fiduciary activities will be carried out by the CN-TIPPEE, the MERH's two technical departments will participate actively by providing their expertise and knowledge in

preparing the TOR and evaluations, participating in selection committees, and so on (see Figure 1).

5. To carry out its responsibilities under the project, the GoG will ensure that the CN-TIPPEE will keep its key management, technical, safeguard, procurement, and financial positions staffed for the entire duration of the project. The CN-TIPPEE's current composition is sufficient to handle all fiduciary activities of the project. However, to mitigate any excessive workload induced by the project, the CN-TIPPEE will be reinforced and trained in subjects such as project coordination; fiduciary activities (procurement, financial management); environmental and social safeguards; communications; and M&E. The project proposes to finance during the early years of implementation (if deemed necessary)[14] (a) an accountant and an additional procurement specialist, (b) an environmental and social specialist, (c) an assistant to the director of the M&E department, and (d) an expert in rural energy and an expert in rural water services.

Project Implementation Manual

6. The PIU will carry out and consolidate day-to-day overall project activities, including preparation of annual work or implementation plans, consolidation of quarterly project and financial reports, and monitoring of the project progress in accordance with the time-based action plan presented in the PIM. The PIM is being prepared and completion of the draft is an effectiveness condition. The PIM will be in line with implementation arrangements, and will clearly define the roles and responsibilities of the various stakeholders.

[14] It is expected that the CN-TIPPEE will progressively take over financing of these new staff under its own budget.

Financial Management and Disbursement Arrangements

Country Issues

7. Gabon has embarked upon a series of major reforms and initiatives, including the adoption of a new organic budget law in 2010[15] and a new procurement code in April 2012;[16] the ongoing development of a budget management system (Vectis); the outsourcing of a public investments program to the National Agency for Major Works (*Agence Nationale des Grands Travaux*), run by Bechtel; and the creation of Finance and Administrative Directorates (*Directions Centrales des Affaires Financières*) in line ministries, to ease the transition to a program-based budgeting approach, as well as the devolution of budget authority.

8. Against this background, critical challenges in public financial management (PFM) remain, as highlighted in the Bank Public Expenditure Review (2012). These challenges relate to (a) misalignment between public spending and development goals, (b) lack of a comprehensive public investment management system to manage the current tripling of the investment budget, (c) low capital budget execution in priority sectors, (d) poor value for money in public spending, and (e) insufficiencies in the arrangements for financial reporting.[17] The underlying causes include outdated procurement bidding documents; lack of transparency in the procurement process; lack of and/or delay in preparing the planning and budget execution tools (e.g., procurement/commitment/disbursement plans); lack of a procedures manual to guide the preparation of the financial reports; and, more generally, weak PFM capacities at the sectoral level.

9. To improve its economic performance, the GoG has requested technical assistance from the Bank in a number of areas, including PFM. To this end, a first Reimbursable Advisory Services (RAS) amounting to $2 million was signed and disbursed in November 2011. The PFM activities under this first RAS (P130564) focusing on improvement of the budget preparation were duly completed and received both client and Bank recognition.[18] They specifically related to (a) timely preparation, for the 2013 annual budget, of procurement, commitment, and disbursement plans in key six line ministries; (b) development of a manual of procedures for preparation of administrative accounts; and (c) piloting of the performance audit in the health sector, with the aim of assessing the value for money of underlined spending.

[15] This is being readapted to comply with the CEMAC PFM Directives adopted in December 2011.
[16] This includes creation of a Procurement Regulatory Agency (*Agence de Régulation des Marchés Publics*) and the decentralization of the Directorate of Public Procurement in line ministries.
[17] Since 2009, the Court of Accounts has been issuing a qualification on the annual financial reports as a result of the lack of comprehensiveness in the administrative accounts produced by the Ministry of Budget.
[18] A Bank Vice Presidential Unit team award was received in May 2013.

Risk Assessment and Mitigation

The overall residual risk rating is deemed to be Moderate (Table 1).

Table 1: Assessment and Mitigation of Project Risks

Risk	Risk Rating	Risk-Mitigating Measures Incorporated into Project Design	Risk after Mitigation Measures
Country level Weak capacity in PFM.	H	RAS is ongoing, with the aim to improve budget execution with World Bank support.	H
Entity level No experience of the line ministry in Bank-financed projects	M	Rely on the CN-TIPPEE.	M
Project level No major risk has been identified at this stage.	M	Rely on the CN-TIPPEE.	M
INHERENT RISK	**M**		**M**
Budgeting Delay in preparation of Annual Work Plan and Budget (PTBA) due to the late communication of budget information by the technical departments (Energy and Hydraulic Resources) involved.	M	A clear timeline for budget preparation and monitoring in the PIM has been established, and responsibility assigned to the CN-TIPPEE.	M
Accounting Untimely release of operating costs budget allocation may impact the effective functioning of the CN-TIPPEE Excessive workload of the CN-TIPPEE is due to this additional project.	S	Ensure the yearly and timely release of operating costs budget allocation to finance the CN-TIPPEE's operating costs Recruit one additional accountant if deemed necessary	M
Internal Controls and Internal Audit Untimely release of operating costs budget allocation may impact the effective functioning of the CN-TIPPEE.	S	Ensure the yearly and timely release of budget allocation to finance the CN-TIPPEE's operating costs.	M
Flow of Funds Delay in release of funds if *Caisse de Dépôt et de Consignations (CDC)* hosts the Designated Account (DA), as the CDC does not comply with 8 criteria of the disbursement letter. Risk of funds being diverted for ineligible expenditures.	S	Open a segregated DA in a commercial bank acceptable to the Bank. Perform *ex ante* and *ex post* control proposed as part of this Financial Management Assessment Report.	M

Risk	Risk Rating	Risk-Mitigating Measures Incorporated into Project Design	Risk after Mitigation Measures
Financial Reporting Delay in producing acceptable Interim Financial Reports (IFRs)	S	Rely on the CN-TIPPEE's existing financial reporting arrangements Upgrade the existing software (Tompro) to produce the project's IFRs	M
Auditing No major risk has been identified in existing external auditing arrangements	M	Amend the TOR of the existing external auditor	L
Control Risk	**M**		**M**
Overall FM risk	**M**		**M**

Note: H = high; L = low; M = moderate; S = substantial.

10. *Strengths.* The PIU has an adequate track record in implementing Bank-financed projects. The existing staff is conversant with Bank-financed projects and performs satisfactorily. A new manual of financial and accounting procedures is in place and considered acceptable by the Bank.

11. *Weaknesses and Action Plan to Reinforce the Fiduciary Arrangements.* To mitigate the risks identified (see Table 1), an action plan has been developed (Table 2).

Table 2: Significant Weaknesses or Risks and Actions for Mitigating Them

Significant Weaknesses or Risks	Action	Responsible Body	Completion
Excessive workload at the CN-TIPPEE is due to the proposed project	Recruit (if deemed necessary) one additional accountant	CN-TIPPEE	If deemed necessary
The scope of the current external audit arrangements does not include the proposed project	Amend the TOR of the existing external auditor	CN-TIPPEE	During early implementation as defined in the PIM
Existing Tompro does not include the proposed project	Upgrade Tompro	CN-TIPPEE	During early implementation as defined in the PIM

12. *Staffing.* The CN-TIPPEE's FM unit is staffed with one FM specialist and one accountant with a good track record in Bank-financed projects. The FM staff will record transactions, monitor the compliance of transactions with fiduciary requirements, and prepare the Withdrawal Application (WA) and financial reports. One additional accountant is expected to be recruited (if needed) to reinforce the FM unit for additional work to be generated by the project.

13. *Budgeting.* The CN-TIPPEE's existing budgeting arrangements will be amended to take into account the two technical departments involved in the project (Energy and Hydraulic Resources). Annual work plans to be reviewed and approved by the Steering Committee will clearly detail the project activities and will be translated into annual budgets. Budget execution will be monitored via the existing Tompro and in accordance with the budgeting procedures specified in the PIM. Any variances will be identified in the quarterly unaudited IFRs. Only budgeted expenditures will be committed and incurred, to ensure resources are used within the agreed- allocations and for the intended purposes.

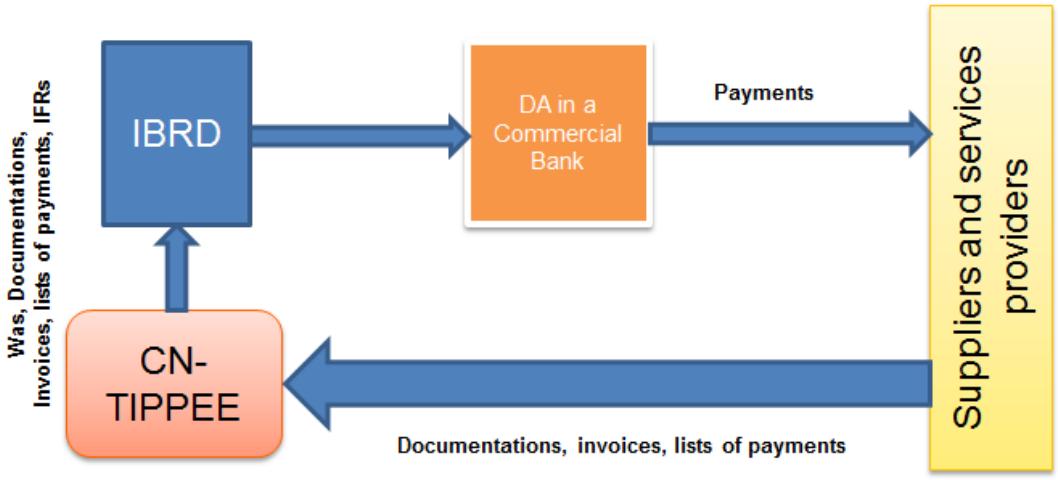
14. *Accounting Policies and Procedures.* The CN-TIPPEE's existing accounting system will be used (multi-project and multisite accounting software) to maintain the books and accounts of the project's activities, and ensure that the annual financial statements are produced in a timely manner. The annual financial statements will be produced in accordance with the accounting principles of the *Organisation pour l'Harmonisation du Droit des Affaires en Afrique,* which are in line with international accounting standards. The existing software will be upgraded to record the project's transactions and generate accurate financial reports on time. The CN-TIPPEE's financial manual of procedures is acceptable to be applied to the project.

15. *Internal Control and Internal Auditing.* Internal control will build on the existing CN-TIPPEE arrangement, which comprises segregation of duties through four units responsible for technical implementation, administration and finance, M&E, and information and communication. The M&E unit will be in charge of following up on internal control recommendations made by the external auditor. In addition, a specific PIM will be adopted for the project.

16. *Funds Flow and Disbursement Arrangements.* One Designated Account (DA) will be opened in a commercial bank acceptable to the Bank and managed by the joint signatures of the financial management specialist and the CN-TIPPEE Permanent Secretary or project coordinator. The DA will receive an initial advance equivalent to a six-month expenditures forecast, and will be replenished regularly through monthly WAs. Direct payments will be made to service providers, if needed, and Special Commitments may be issued at the Borrower's request. The borrower may also pre-finance eligible expenditures and request for Reimbursements. The WAs will be signed by signatories appointed by the GoG (Figure 3).

17. IFR-based disbursement will be used as the CN-TIPPEE has demonstrated a satisfactory FM performance to date.

Figure 3. Disbursement Channel



18. *Disbursements by category.* Table 3 sets out the expenditure categories to be financed from the loan proceeds. This table takes into account the prevailing country financing parameter for Gabon in setting out the financing levels.

Table 3. Expenditure Categories to Be Financed from the Grant/Credit Proceeds

Category	**Amount of the Loan Allocated** (EUR)	**Percentage of Expenditures to be financed** (inclusive of Taxes)
(1) Goods, works, consultants' services, and non-consulting services under Part A of the Project	40,600,000	100%
(2) Goods, non-consulting services, Operating Costs, Training, and consultants' services under Parts B and C of the Project	12,965,750	100%
(3) Front-end Fee	134,250	Amount payable pursuant to Section 2.03 of the Financing Agreement in accordance with Section 2.07 (b) of the General Conditions
(4) Interest Rate Cap or Interest Rate Collar premium	0	Amount due pursuant to Section 2.08(c) of the Financing Agreement
TOTAL AMOUNT	**53,700,000**	

19. *Financial Reporting and Monitoring.* The CN-TIPPEE's existing reporting arrangements will be maintained and IFRs will be submitted to IBRD within 45 days after the end of each calendar quarter. The current content and format of the IFR will continue to be used. The IFR will comprise the sources and uses of funds and the detailed expenditures by component. At the end of each fiscal year, the project will prepare annual financial statements.

20. *Auditing.* The annual financial statements prepared by the CN-TIPPEE and its internal control system, will be audited annually. To this end, the existing external auditor's TOR will be amended to include this project. The auditor will provide one opinion on the annual financial statements, in compliance with the International Federation of Accountants' standards for auditing. In addition to preparing audit reports, the auditors will be expected to prepare a management letter providing observations, comments, and recommendations for improvements in accounting records, systems, controls, and compliance with financial covenants in the Financing Agreement. The project will be required to produce the audited annual financial statements no later than six months after the end of the fiscal year.

21. *Implementation Support Plan for Financial Management.* (See Annex 4)

22. *Conclusions of the FM Assessment.* The overall FM risk is considered Moderate, since the implementing agency is an existing and adequately performing PIU. The proposed FM arrangements for this project are considered adequate to meet the Bank's minimum fiduciary requirements under OP/BP 10.00. Among other measures, the assessment recommended: (a) adopting the PIM, including the manual of procedures; (b) recruiting (if needed) one additional accountant; (c) upgrading Tompro to include this new project; and (d) amending the TOR of the CAB project's external auditor to include this project.

Procurement

Guidelines

23. *Procurement***.** For the project, procurement has been/will be carried out in accordance with the World Bank Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011 (revised July 2014); Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credit & Grants by World Bank Borrowers, dated January 2011 (revised July 2014); and the provisions stipulated in the Legal Agreement. Procurement (works, goods, and non-consulting services) or consultant selection methods, prequalification requirements, estimated costs, prior review requirements, and time frame have been agreed upon and specified in the Procurement Plan. The Procurement Plan will be updated at least annually, or as required, to reflect the actual project implementation. The Bank's Standard Bidding Documents (SBDs) or Gabon National Standard Bidding Documents satisfactory to the Bank will be used. To the extent practicable, the Bank's SBDs for works, goods, and standard Requests for Proposals (RFPs), as well as all standard evaluation forms, will be used throughout project implementation.

24. *Advertising.* A comprehensive General Procurement Notice (GPN) has been prepared by the borrower and published in the United Nations Development Business online (UNDB online) before Board approval, to announce major consulting assignments and any international competitive bidding (ICB). The GPN will include all ICB for works, goods, and non-consulting services contracts and all large consulting contracts (that is, those estimated to cost $300,000 or more). In addition, a specific procurement notice is required for all works and goods to be procured under ICB in the UNDB online. Requests for expressions of interest (EOIs) for consulting services expected to cost more than $300,000 will be advertised in the UNDB online. Regardless of the contract amount, all EOIs must be published in the national gazette, a national newspaper, or an electronic portal with free access for all consulting firm services. In the case of national competitive bidding (NCB), a specific procurement notice will be published in the national gazette, a national newspaper, or an electronic portal with free access. Contract awards will also be published in the UNDB online in accordance with the Bank's procurement guidelines (paragraph 2.60) and consultant guidelines (paragraph 2.31).

25. *Requirements for NCB.* Works, goods, and non-consulting service contracts will use NCB procurement methods in accordance with national procedures using SBDs acceptable to the IBRD and subject to the additional requirements:

- In accordance with paragraph 1.16 (e) of the procurement guidelines, each bidding document and contract financed out of the proceeds of the financing will provide that (a) the bidders, suppliers, contractors, and their subcontractors, agents, personnel, consultants, service providers, or suppliers will permit the Bank as the supervising entity, at its request, to inspect all accounts, records and other documents relating to the submission of bids and contract performance, and will have the said accounts and records audited by auditors appointed by the Bank or supervising entity and (b) the deliberate and material violation of such provision may amount to an obstructive practice as defined in paragraph 1.16 (a)(v) of the procurement guidelines.
- Invitations to bid will be advertised in national newspapers with wide circulation.

- The bid evaluation, qualification of bidders, and contract award criteria will be clearly indicated in the bidding documents.
- Bidders will be given adequate response time (at least four weeks) to submit bids from the date of the invitation to bid or the date of availability of bidding documents, whichever is later.
- Eligible bidders, including foreign bidders, will be allowed to participate.
- No domestic or CEMAC regional preference may be given to domestic or regional contractors or to domestically or regionally manufactured goods. Association with a national or regional firm will not be a condition for participation in a bidding process.
- Bids are awarded to the most responsive and lowest evaluated bidder, provided that the bidder is qualified. No scoring system will be allowed for evaluation of bids, and no "blanket" limitation to the number of lots that may be awarded to a bidder will apply.
- Qualification criteria will only concern the bidder's capability and resources to perform the contract, taking into account objective and measurable factors.

26. *Procurement environment.* No special exceptions, permits, or licenses need to be specified in the Loan Agreement, since the procurement code, approved by the president of the Gabonese Republic on June 19, 2012, allows World Bank procedures to take precedence over any contrary provisions in local regulations. A decree creating a regulatory body was already issued; however, this institution is not currently operational.

27. *Procurement of works.* Under this project, procurement of works consists mainly of (a) electrification of villages through decentralized mini-grid solutions, powered by micro/mini hybrid power (solar/diesel), mini hydro, or individual solutions, such as solar electrification; (b) construction of boreholes and standpipes to provide access to drinking water; (c) provision of electricity and drinking water in social infrastructure and improvement of public and community facilities in these villages (including street lighting); and (d) infrastructure for creating and/or optimizing income-generating activities. Civil works costing more than $5,000,000 will be procured through ICB. Other works contracts costing less than $5,000,000 will use NCB procurement methods in accordance with national procedures using SBDs acceptable to IBRD and subject to the additional requirements set forth or referred to above under Requirements for National Competitive Bidding. Small works estimated to cost less than $200,000 per contract may be procured through shopping procurement method, based on price quotations obtained from at least three contractors in response to a written invitation to qualified contractors.

28. *Procurement of goods and non-consulting services.* Under this project, no major procurement of goods or non-consulting services through ICB is foreseen. Procurement of goods under this project will include procurement of office equipment and so on. Taking into account the level of value added, and manufacturing/production capacity in the country, procurement of goods will be bulked, where feasible (of similar nature and need in the same period), into bid packages of at least $1 million, so that they can be procured through suitable methods to secure competitive prices. Goods estimated to cost $1 million or more per contract will be procured through ICB, which will use the Bank's SBDs. For other goods contracts costing less than $1 million, NCB procurement methods will be used in accordance with national procedures using SBDs acceptable

to the Bank and subject to the additional requirements set forth or referred to above under Requirements for National Competitive Bidding:

- Goods and non-consulting services—including those of readily available off-the-shelf maintenance of office electronic equipment, and other services, such as printing and editing, which cannot be grouped into bid packages of $100,000 or more—may be procured through prudent shopping procurement method in conformity with clause 3.5 of the procurement guidelines.

- Based on country-specific needs and circumstances, shopping thresholds for the purchase of vehicles and fuel may be increased up to $500,000, considering that major car dealers and oil providers are consulted.

- At the beginning of the project, vehicles procurement packages estimated to cost $200,000 or less can be procured through the United Nations Office for Project Services or other United Nations agencies.

29. *Selection of consultants.* Consulting services will used be for (list non exhaustive) (a) environmental and social impact studies; (b) implementation of the master plan for rural electrification and rural water supply; (c) establishment of a specific institutional framework for sustainable and rural electrification studies; (d) recruitment of a consulting engineer to support project implementation in the finalization of bidding documents, evaluation of proposals, monitoring work, and 'reporting' on the results and impact of the project; (e) contracting with a consultant or NGO for implementation of environmental management plans and social and resettlement plans and compensation; (f) expertise to support the MERH in a number of communications and awareness efforts in villages; (g) analytical work and more specific studies to support strategic decision-making or implementation of decisions (including institutional evolution and regulation); (h) update of the Electricity Transmission and Generation Master Plan; (i) establishment of the electricity and water development policies (*Code de l'Eau* and *Code de l'Electricité*) (j) financial audits; and (k) five technical experts to assist the MERH, DGE, DGRH, CNEE, and ARSEE.

30. These consulting services will be procured with the following methods allowed by Bank guidelines and included in the approved procurement plan: quality- and cost-based selection, quality-based selection, selection under a fixed budget, and least-cost selection:

- Selection based on consultants' qualifications (CQS) will be used for assignments that do not exceed $300,000. Single-source selection (SSS) will also be used in accordance with the provisions of paragraphs 3.9 to 3.13 of the Bank's consultant guidelines, with the Bank's prior agreement. All TORs will be subject to prior review of the Bank.

- Assignments of engineering designs and contract supervision in excess of $300,000, and all other technical assistance assignments above $100,000, must be procured on the basis of international short lists and in accordance with the provisions of paragraph 2.6 of the consultant guidelines.

- Consultants for services meeting the requirements of section V of the consultant guidelines will be selected under the provisions for Selection of Individual Consultants through comparison of qualifications among candidates expressing interest in the assignment or approached directly.

31. Operating costs financed by the project include, inter alia, utilities, offices supplies, vehicle operation, vehicle maintenance and insurance, and building and office equipment maintenance costs. These goods and services will be procured using the project's financial and administrative procedures included in the PIM and based on the annual work plan and budget. For services (such as car maintenance and computer maintenance) to be financed through operating costs, the project will proceed by service contracting for a defined period.

32. Training, workshops, seminars, conferences, and study tours will be carried out on the basis of an approved annual work plan and budget that will identify the general framework of training and similar activities for the year, including the nature of training, study tours, and workshops; the number of participants; and cost estimates.

Institutional Arrangements for Procurement and Capacity Assessment, including Risk Mitigation Measures

33. *Procurement implementation arrangement.* CN-TIPPEE will be in charge of the implementation of the fiduciary aspects of the project activities.

34. *Procurement capacity assessment of the implementation arrangement of the CN-TIPPEE.* A procurement risk and management assessment of the capacity of the CN-TIPPEE for the purposes of the project was carried out. The assessment indicated that the procurement risk for implementation of the project is rated as Moderate, because (a) the procurement specialist currently on board is qualified, but needs to be retained to work on this new project or replaced by any other procurement specialist with qualifications and expertise satisfactory to the Bank; and (b) the PIM needs to be updated.

35. The procurement risk rating is Moderate. To mitigate the procurement risk, an action plan has been agreed upon. Implementation and monitoring of the mitigation action plan, as outlined in Table 4, will reduce the procurement residual risk to Low**.**

Table 4: Procurement Action Plan

Action to Be Undertaken	Time Frame	Responsible Body
Finalize and submit to World Bank for approval, a satisfactory version of the PIM comprising a section on procurement for use by the project	Effectiveness	CN-TIPPEE
Confirm that the current procurement specialist will be retained for the project, or recruit and maintain any other procurement specialist with qualifications and expertise satisfactory to the Bank	As needed during project life	CN-TIPPEE

36. *Procurement Plan*. An SPP for the first 18 months of project implementation has been agreed between the Bank and GoG. This plan provides the basis for the procurement methods and the type of reviews. The SPP will be updated in agreement with the project team annually, or as

required, to reflect the actual project implementation needs and improvement in institutional capacity.

37. *Publication of Results and Debriefing.* Publication of results of the bidding process is required for all ICBs, limited international biddings, and direct contracting. Publication should take place as soon as the no-objection decision is received except for direct contracting, which may be done quarterly and in a simplified format. Publication of results for NCB and shopping procurement method should follow the requirements of the GoG's procurement code. The disclosure of results is also required for selection of consultants. All consultants competing for the assignment should be informed of the result of the technical evaluation (number of points that each firm received) before opening of the financial proposals, and at the end of the selection process, the results should be published. The publication of results in the selection of consultants applies to all methods; however, for CQS and SSS, the publication may be quarterly and in a simplified format. The results may be published through the Bank's Client Connection website. Unsuccessful bidders and consultants will be debriefed on why they were not awarded the contract if they request an explanation.

38. *Fraud and Corruption.* The procuring entity as well as bidders, suppliers, contractors, and service providers must observe the highest standard of ethics during procurement and execution of contracts financed under the program, in accordance with paragraphs 1.14 and 1.15 of the procurement guidelines and paragraphs 1.22 and 1.23 of the consultant guidelines. The Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants, dated October 15, 2006, and revised in January 2011 will apply to this project.

39. *Implementation Support Plan for Procurement.* See Annex 4.

Summarized Procurement Plan

40. The main works, goods, and non-consulting services to be procured in the project are listed in Table 5.

Table 5. Works, Goods, and Non-consulting Services Contracts to Be Procured

Ref. No.	Description	Estimated Cost (US$ millions)	Procurement Method	Domestic Preference (yes/no)	Review by World Bank (Prior/Post)	Comments/ Completion date
To be procured the first 18 months of the project						
1.	Goods: Electric equipment (i.e. SHSs) for the first 30 villages in Region 1 (several contracts)	3	ICB	No	Prior	March 2017
2.	Goods: Water equipment (small scale water piped schemes) for the first 30 villages in Region 1 (several contracts)	1	ICB or NCB	No	Prior	March 2017
3.	Works: Water boreholes and/or autonomous water station for the first 30 villages in Region 1 (several contracts)	2	NCB	No	Prior	March 2017
To be procured after the first 18 months						
4.	Goods: Electric equipment for additional villages (several contracts)	15	ICB	No	Prior	December 2019
5.	Goods: Water equipment (small scale water-piped schemes) for additional villages (several contracts)	4.5	ICB or NCB	No	Prior	December 2019
6.	Works: Water boreholes and/or autonomous water station for additional villages (several contracts)	11.5	NCB	No	Prior	December 2019

41. *Prior Review Thresholds for Works, Goods and Non-consultant Services.* Contracts estimated to cost more than $5 million for works and $500,000 for goods per contract, the first NCB contracts for works and goods, eventually others as identified in the procurement plan, and all direct contracting will be subject to prior review by the Bank.

42. The main consulting assignments of the project are listed in Table 6.

Table 6. Consulting Assignments with Selection Methods and Time Schedules

Ref. No.	Description of Assignment	Estimated Cost (USD millions)	Selection Method	Review by World Bank (Prior / Post)	Comments/ Completion date
To be procured the first 18 months of the project					
1.	O&M operator for the first region[19]	To be decided	LCS	Prior	June 2020
2.	Safeguard studies for the first 30 villages in Region 1	0.15	QCBS	Post	March 2016
3.	Consulting engineer (owner's engineer)	1	QCBS	Prior	December 2019
4.	Update of the electricity generation and transport master plan	0.5	QCBS	Prior	March 2017
5.	Elaboration of the electricity code	0.5	QCBS	Prior	December 2016
6.	Elaboration of the water code	0.5	QCBS	Prior	December 2016
7.	Master plan for access to basic services in rural areas	0.75	QCBS	Prior	March 2017
8.	Communication, education and awareness campaigns	0.5	QCBS	Prior	December 2019
9.	Technical assistant for the MERH	0.3	IC	Prior	Internationally recruited/ December 2017
10.	Technical Assistant for the DGE	0.3	IC	Prior	Internationally recruited/ December 2017
11.	Technical assistant for the DGRH	0.3	IC	Prior	Internationally recruited/ December 2017
12.	Technical assistant for the CNEE	0.3	IC	Prior	Internationally recruited/ December 2017
13.	Technical assistant for the ARSEE	0.3	IC	Prior	Internationally recruited/ December 2017
14.	Technical assistance to implement ESMP, RAP and Compensations	0.25	QCBS	Prior	June 2018
15.	Work for energy and water sector reform (post-concession) --- several studies	0.75	QCBS	Prior	December 2017
16.	Project coordinator	0.25	IC	Prior	November 2021

[19] Project will only finance "installation activities"

Ref. No.	Description of Assignment	Estimated Cost (USD millions)	Selection Method	Review by World Bank (Prior / Post)	Comments/ Completion date
To be procured the first 18 months of the project					
17.	Junior procurement specialist (CN-TIPPEE)	0.15	IC	Prior	December 2017
18.	Accountant (CN-TIPPEE)	0.15	IC	Prior	December 2017
19.	Safeguard/M&E specialist (CN-TIPPEE)	0.15	IC	Prior	December 2017
20.	External auditor (2015-2016)	0.1	SSS	Prior	March 2017
To be procured after the first 18 months					
21.	External auditor (after 2016)	0.15	QCBS	Prior	Closing date
22.	Safeguard studies for the remaining villages	0.30	QCBS	Prior	December 2017
23.	Broader analytical and sector studies (multiple contracts)	0.75	QCBS	Prior	June 2019

Note: LCS = Least-cost selection; QCBS = Quality and cost-based selection; ESMP = Environmental and Social Management Plan.

43. *Prior Review Thresholds for Consultant Services.* Consultant services estimated to cost more than $200,000 for firms and $100,000 for individuals per contract, and SSS of consultants (firms and individuals) will be subject to prior review by the Bank. Similarly, all audit contracts will be subject to prior review, as will be the first contracts to be awarded in accordance with each selection method of consulting firms and individual consultants, regardless of contract amount. Short lists of consultants for assignments of engineering design and contract supervision estimated to cost less than $300,000, and all other consultancy assignments whose estimated cost do not exceed $100,000 per contract, may be composed entirely of national consultants, in accordance with the provisions of paragraph 2.7 of the Bank's consultant guidelines.

Environmental and Social (including Safeguards)

A. Introduction

44. The project is rated Category B, Partial Assessment. Although the potential environmental and social impacts of the infrastructure investments under the proposed project are expected to be generally minimal, localized impacts may occur, thus requiring appropriate mitigation. Four World Bank safeguard policies are applicable to this operation: OP 4.01 - Environmental Assessment, OP/BP 4.10 - Indigenous Peoples, OP 4.11 - Physical Cultural Resources, and OP 4.12 - Involuntary Resettlement.

45. An ESMF, RPF, and IPPF relating to Component 1 of the project have been prepared. Table 7 presents the dates of disclosure for the documents.

Table 7. Safeguards Documents Disclosure Dates

Document	Date of Disclosure	
	In Country	At Info-Shop
Environmental and Social Management Framework	October 9, 2014	October 9, 2014
Resettlement Policy Framework	October 9, 2014	October 9, 2014
Indigenous People Planning Framework	October 9, 2014	October 9, 2014

46. Component 1 of the project will include (a) electrification of villages through decentralized mini-grid solutions, powered by micro/mini hybrid power (solar/diesel), mini hydro, or individual solutions, such as SHSs; (b) construction of boreholes and standpipes to provide access to drinking water; (c) supply of electricity and drinking water in social infrastructure and improvement of public and community facilities in these villages (including street lighting); and (d) construction of infrastructure to support income-generating activities in relation to the electricity/water access program.

47. Since the specific subproject locations have not yet been selected at this stage, an ESMF, IPPF, and RPF have been prepared to establish the process and provide guidelines to plan for and implement the physical activities. The ESMF also provides for compliance with the relevant existing environmental rules and regulations applicable in Gabon and the World Bank guidelines. The environmental assessment process described in the ESMF comprises (a) an initial environmental screening, including public consultations; (b) an assessment of whether the particular activity under review will generate environmental impacts; and (c) if environmental impacts are expected, an ESMP needs to be prepared and should ensure that adequate implementation arrangements are in place. Similarly, the RPF specifies the process for determining the need for RAPs or compensation plans and principles and procedures to be followed in preparing and implementing them.

B. Safeguards Policy Issues

48. The following will apply to Component 1 of the project:

49. *OP 4.01 - Environmental Assessment.* Rehabilitation and construction of new rural electrification infrastructure, and construction of wells and small-scale piped networks will have environmental and social impacts. The impacts will probably be limited in magnitude and scale. As the locations of the activities remain unknown, the borrower has prepared an ESMF.

50. *OP/BP 4.10 - Indigenous People.* This policy was triggered because it is known that pygmies are settled throughout Gabon. Since the exact locations of the project activities are not yet defined, the borrower has prepared an IPPF that will guide the project implementation in the areas where the screening process will reveal the presence of indigenous people. The objective of the IPPF is to enable a 'community consultation of the affected indigenous peoples' based on the communication of information, especially at the stage of project preparation, in order to obtain their views and ensure they adhere to the project's requirements.

51. The IPPF provides information on the location of indigenous people in areas likely to be affected by the project. Therefore, it provides information to 'judge the positive and negative impacts of the project on indigenous populations'. The IPPF is an analysis of alternatives to the project likely to have significant impacts. The type, scope, and level of detail of the analysis conducted as part of this social assessment depends on the nature and magnitude of positive or negative impacts of the proposed project on the indigenous people.

52. The IPPF was prepared and discussed, and has been disclosed in Gabon and at the Bank's InfoShop on October 9, 2014.

53. *OP 4.11 - Physical Cultural Heritage.* Activities under component A will involve excavations and earth movement. Although the ESMF has not yet anticipated any threat against physical cultural resources, it includes clear procedures that will be required for the identification and protection of cultural property from theft and the treatment of discovered artifacts, and will be included in the SBDs. It also provides procedures for handling 'chance finds' during the implementation of project activities.

54. *OP 4.12 - Involuntary Resettlement.* This policy is triggered to assist in management of involuntary resettlement, land acquisition, or restriction of access to assets in the project areas during the project's implementation. The activities under Component A might require limited land acquisition and/or involuntary resettlement. As the exact locations of these activities are not yet known, the borrower has prepared an RPF.

C. Environment

55. The ESMF prepared and disclosed in Gabon and at the InfoShop on October 9, 2014 summarizes all the anticipated environmental impacts and their associated mitigation measures during the design, construction, and operational phases. It refers to the relevant law and contract documents, approximate location, timeframe, possible mitigation costs, and the responsibility for its implementation and supervision. A field-monitoring checklist has been prepared based on the

ESMF and monitoring plan. The checklist will be used by the CN-TIPPEE and its owners' engineer, who will be responsible for the appropriate follow-up and compliance reporting.

56. Safeguard measures will be incorporated in the project design, technical specifications, and contract documents. During the **construction phase,** the contractor will proceed according to the design and technical specifications and will implement the ESMF with the supervision of the CN-TIPPEE and the owner's engineer.

57. *Major Impacts.* The major environmental impacts associated with Component A of the project are: (a) the effects on existing land use (land value, ecologically sensitive sites, existing utilities, such as water, and telecommunications pipes and cables); (b) aesthetic impact on the surroundings; (c) increased erosion and interference with local drainage patterns; (d) increased access and its associated effects (from the transmission and distribution lines themselves or from construction and maintenance of access roads); and (e) hazard of electrical shock and strike to birds. However, in all cases, the impacts of the project are expected to be minor, temporary, readily mitigated, and in most cases, easily reversible.

D. Involuntary Resettlement

58. Temporary acquisition of land may be required during construction of power lines and substations. There may also be cases where assets, such as crops and trees, may be affected to make way for footpaths or road access. While acquisition of land will be avoided whenever feasible and while all viable alternatives will be explored, it may be necessary to acquire parcels of land to be used as rights-of-way for power lines or to install substations or transformers. This will not be clear until the investments to be financed have been precisely identified. To address this issue, an RPF was developed and disclosed in the country and at the Bank's InfoShop on October 9, 2014. The RPF identifies principles to be followed in the event of temporary land acquisition; damage to or removal of assets, such as crops and trees; and the acquisition of land.

59. The purpose of the RPF is to provide guidance for the resettlement process and the intended outcomes of resettlement plans. It seeks to ensure that people whose assets are directly affected by the project can share project benefits and improve—or at least restore—their standard of living to the level prior to the beginning of project implementation. Compensation will be paid by the Government and any other resettlement entitlements will be provided, before physical and economic displacement arises.

E. Institutional Arrangements

60. Overall coordination of the project's environmental and social safeguards will be carried out by the PIU. Throughout project's implementation, the environmental and social team within the CN-TIPPEE will maintain at least one knowledgeable environmental specialist and will recruit a social specialist, if necessary. These specialists will be responsible for overseeing the project's compliance with the environmental and social guidelines established under the ESMF and RPF, in accordance with national and Bank policies and procedures. The PIU/CN-TIPPEE will ensure adherence to the safeguard documents of all agencies involved in the project's implementation, including contractors.

61. All contractor bidding documents will include specific environmental and social clauses to be strictly implemented during the project's implementation phase. The owner's engineer, who is to be recruited under the project, will closely monitor contractors' work. The owner's engineering team will include an environmental and social specialist, who will attend to the effective mitigation measures incumbent on the contractor.

62. Bank supervision teams will also include environmental and social safeguard experts. To ensure effective Bank supervision, the environmental specialist and, if necessary, the social specialist of the CN-TIPPEE will prepare and update, for review, detailed reports on the implementation of the ESMP and RAP (if necessary) before Bank implementation support missions. The Bank's safeguard specialists will be responsible for corroborating these results and contributing to updating of the ISRs.

63. *Financing Land Acquisition.* Land acquisition, if any, will be financed and executed by the GoG according to existing legislation and Bank policies.

64. *Grievance Redress Mechanism.* The mechanism for redressing grievances was presented and explained in the initial consultations and will be discussed again once the affected people, if any, have been identified. The GoG has in place a grievance mechanism that allows people to file complaints with the courts and make appeals to higher courts.

65. *Monitoring of the RPF*. It is the responsibility of the GoG to make an assessment to determine that the objectives of the RPF have been achieved. The GoG, through the CN-TIPPEE, will undertake internal monitoring of the project's progress. In addition, the World Bank will assess the implementation of the RPF and other associated activities during implementation support.

F. Monitoring and Evaluation

66. Data on compliance with the ESMF will be collected by the CN-TIPPEE and its engineering consultant as part of their regular duties. The ESMF contains monitoring forms to be used for this purpose. Data regarding land acquisition will be available in the RAPs, if acquisitions were to be carried out. This will include the list of people affected and the rates of compensation that they will be paid before commencement of the work.

67. Data collection will be included in the engineering consultant's TOR. The data will be used during implementation to (a) verify that people have been compensated for assets lost or land acquired before commencement of the work, as per World Bank and GoG policies; and (b) ensure that the contractors are complying with the ESMF.

68. *Monitoring Arrangements and Data Collection.* The PIU/CN-TIPPEE will monitor and evaluate all project indicators.

69. *Views of Direct Beneficiaries.* The views of the direct beneficiaries will be brought into the M&E process. Comprehensive M&E reporting will be needed to monitor the results and performance of the project. It will involve mainly the direct beneficiaries of project activities, but will be extended to other beneficiaries, such as private operators.

70. *Reporting*. The PIU/CN-TIPPEE will have overall responsibility for reporting to the Steering Committee. There is already a person responsible within the CN-TIPPEE for M&E. This person will liaise with the Steering Committee's focal point, and will produce the M&E report biannually. The report will include the updated results framework and action table, listing the corrective actions to be implemented with deadlines and people responsible clearly identified. The report will be sent to the Bank for informational purposes.

G. Consultations

71. Extensive public consultation was carried out during the whole safeguard instruments process and will continue throughout the project's preparation and implementation. Civil society, project-affected people, and various stakeholders were consulted on the ESMF, IPPF, and RPF. Most of the concerns expressed by the stakeholders were taken into consideration. Safeguard documents will be disclosed locally and through the Bank's Info-Shop.

H. Other Issues

72. The project poses no environmental or social risks or issues that go beyond the coverage of the safeguards policies.

Annex 4: Implementation Support Plan

Gabon: Access to Basic Services in Rural Areas and Capacity-building Project (P144135)

Strategy and Approach for Implementation Support

1. The strategy for implementation support has been developed based on the nature of the project and its risk profile. It will aim to make implementation support to the client more flexible and efficient and will focus on implementation of the risk-mitigation measures as described in the main text.

2. The Bank task team leader (TTL) will handle the day-to-day matters of the project as well as coordination with the client and among Bank team members. The implementation support envisaged under the proposed project includes technical and fiduciary (financial management and procurement) support and safeguards support.

3. Supervision missions involving every member of the task team are also planned at least three times a year during the early implementation of the project. When all the pieces of the institutional, organizational, and financial framework are in place and civil works are underway, mission schedules will decrease, and in line with the Bank's policy, the team will conduct twice-yearly supervision missions, including by technical and fiduciary staff.

4. In conjunction with their GoG counterparts, the Bank team will monitor and report on progress against the monitoring indicators agreed in the Results Framework and verify achievement of the indicators. They will also monitor risks, updating the SORT as needed and paying particular attention to the implementation risks. Supervision in other areas of the Bank's due diligence (such as environment, social development, procurement, and financial management) will be planned as needed but will take place at least twice a year (see below).

5. *Fiduciary management support.* The FM implementation support mission will be consistent with a risk-based approach and will involve a collaborative approach with the entire project task team (including the procurement specialist). A first implementation support mission will be performed six months after project effectiveness. Afterward, the missions will be scheduled by using the World Bank Africa Financial Management Unit's risk-based approach model and will include the following efforts: (a) monitoring the FM arrangements during the supervision process at intervals determined by the risk rating assigned to the overall FM assessment at entry and subsequently during implementation (Implementation Status and Results Report [ISR]); (b) reviewing the IFRs; (c) reviewing the audit reports and management letters from the external auditors; following up on material accountability issues by engaging with the TTL, client, and/or auditors; closely monitoring the quality of the audit to ensure it covers all relevant aspects and provides enough confidence on the appropriate use of funds by recipients; (d) physical supervision on the ground especially for the matching grant scheme; and (e) providing assistance to build on or maintain appropriate FM capacity. Regarding procurement support, the procurement team will conduct supervision missions to visit the field at least twice a year and a post-review of procurement actions will be conducted annually.

6. *Safeguards management support.* The Bank's safeguards team will work closely with the CN-

TIPPEE during the supervision missions (at least twice a year) and will provide relevant safeguards training.

7. A mid-term review will encompass a more in-depth stocktaking of performance under the project. It will be carried out approximately half-way through implementation of the proposed project. The mid-term review will assess progress toward achieving the individual project development indicators and PDOs. Based on the assessment of progress at the mid-point of the program, recommendations for improvements/changes and use of the contingency funds to the project will be considered by both the GoG counterparts and the Bank management team. The mid-term review will also cover overall project implementation arrangements, making adjustments as necessary.

8. Tables 1 and 2 map out the proposed implementation plan, skills mix, and other inputs required.

Table 1: Implementation Plan

Time	Focus	Skills Needed	Resource Estimate	Comments
First 24 months	Team leadership, technical and procurement review of the TOR and procurement documents, and coordination of institutional arrangements and project supervision	TTL and rural electrification, energy, procurement, financial management, and safeguards specialists	US$ 400,000 ($200,000 per year)	Ongoing exchanges of information, as required by the preparation of the project, preparation of TOR, procurement of goods and consultants, and preparation of project reports Project implementation specialists appointed and available for training
24–72 months	Project overall supervision, technical and procurement review of the TOR and procurement documents, technical support, and coordination of project supervision Fiduciary compliance	TTL and rural electrification, energy, procurement, financial management, and safeguards specialists	US$ 375,000 ($125,000 per year)	Supervision of project activities and investments

Table 2: Skills Mix Required

Skills Needed	Number of Staff Weeks (SWs)	Number of Trips	Comments
TTL/Power Sector Specialist	12 SWs annually for first 12 months; 6 SWs annually afterward	2 to 3 per year (4 during the first 12 months)	Country office staff
Rural Electrification Specialist	4 SWs annually for first 12 months; 3 SWs annually afterward	2 per year	Washington, D.C. based staff
Rural Water Specialist	4 SWs annually for first 12 months; 3 SWs annually afterward	2 per year	Country office staff
Energy Specialist	4 SWs annually for first 12 months; 3 SWs annually afterward	2 per year	Washington, D.C. based staff
Environmental/Social Specialists	3 SWs annually for first 12 months; 2 SWs annually afterward	1 per year	Country office staff
Procurement Specialist	3 SWs annually for first 12 months; 2 SWs annually afterward	2 per year	Country office staff
Financial Management Specialist	3 SWs annually for first 12 months; 2 SWs afterward	2 per year	Country office staff

Annex 5: Economic and Financial Analysis

Gabon: Access to Basic Services in Rural Areas and Capacity-building Project (P144135)

A. Project Economic Analysis

1. The proposed project will support investments in access to basic services for the rural population as well as capacity-building and institutional support to sector institutions. The benefits expected from technical assistance and capacity-building activities are indirect (increased sector efficiency). Since the benefits of these activities are difficult to assess quantitatively, their justification is necessarily based in large part on qualitative judgment. For this reason, the scope of this analysis is limited to the investments in access to basic services, which will directly target identifiable beneficiaries. This analysis compares the direct benefits expected from the project at the individual beneficiary level with the costs associated with the investments (initial capital expenditure and O&M).

2. *Value added of Bank's Support*: Despite the efforts made by the Government in the past years, most decentralized electrification projects developed have proven to be expensive and difficult to maintain: a large part of the installed equipment is today nonfunctional due to poor maintenance. Bank's Support has helped the Government in designing a coherent program and putting in place an appropriate institutional framework to ensure the long term sustainability of the investments and delivery of services. In addition to the financing of rural infrastructures, Bank's support will also allow reinforcing the electricity and water sectors through capacity building, analytical work and specific studies.

3. *Rationale for Public Sector Provision/Financing*: Globally, multiple effective rural electrification models have been piloted. Some of them are based on public sector provision, others on private operators and/or cooperatives. All of them, however, have been based on sustained commitment of the authorities and on public sector financial support. Gabon has a long standing policy of providing basic water and electricity services without charge to its poor population (this benefit being reserved for households meeting criteria for both income level and electricity consumption below defined thresholds). This policy has been in place in urban areas for years and its cost remains modest as a percentage of total sector revenue. The Project would extend service delivery in rural areas and therefore create an additional need for resources to support expanded coverage. However, at the same time, the Project seeks to establish mechanisms to better manage and maintain existing equipment. This will contribute to reduce the need for renewing badly maintained equipment in rural areas, which is a source of recurrent budget expenditure.

4. The analysis is based on the assumption that a limited number of technical configurations (two for electricity, three for water) will be deployed. It is assumed that all beneficiary households will benefit from both water and electricity service (Table 1).

Table 1: Proportion of Households per Technical Configuration

Water		**Electricity**	
Hand pump	20%	SHS Level 1	85%
Solar Water Pump (PV)	60%	SHS Level 2	15%
Mini-Network	20%		
Total	**100%**	**Total**	**100%**

5. This is a simplifying assumption, especially for electricity. Depending on the local demand and circumstances, the feasibility and viability of other technical configurations will be considered before deployment. In particular, a mini-grid option will be considered, especially in localities that can be equipped with micro hydro. Also, given the downward trend in prices of solar PV, the demand for systems larger than SHS Level 2 should be considered (the additional cost being passed on to users through an initial contribution and/or higher monthly fee).

6. Gabon has put in place a national policy of providing access to basic services. The benefit of this policy is limited to households officially classified as poor by the Social Security Administration. It is estimated that a significant majority of rural households will qualify as poor and will receive subsidies (Table 2). Therefore, only a minority of the beneficiary households will effectively be charged for the service. For this reason, revenues collected from users by O&M operators will be insufficient to cover repair, replacement, and customer service costs, and the sustainability of services will require a dedicated financing mechanism. While this policy has financial costs, it also has operational advantages. Initial adoption of services will be greatly facilitated by the fact that most households are subsidized. Therefore, achieving a critical mass of users will be much easier.

Table 2: Proportion of Households per Technical Configuration

Technical Configuration	User Fee	Unsubsidized Households
	USD/month	*%*
Water		
Hand pump	-	0%
Solar Water Pump (PV)	5.0	25%
Mini-Network	9.0	25%
Electricity		
Solar Home System Level 1	8.0	20%
Solar Home System Level 2	12.0	100%

7. *Cost Assumptions.* Detailed cost assumptions are provided in Tables 3, 4 and 5. They reflect the fact that the costs per unit in Gabon tend to be high due to the small size of the market and limited competition. The assumptions used reflect a cautious approach in the analysis. Equipment financed by the project will be procured under competitive methods. For SHSs, the initial investment for Levels 1 and 2 is estimated at $978 and $1,384 per kit, respectively. Annual O&M costs are estimated at 12 percent of the initial costs of the equipment (not including installation costs). The cost estimates for water systems also reflect observed high unit costs. They assume that wells will have to be drilled 50 percent of the time (the remainder being rehabilitation of existing systems). Spare parts costs would be lower (as a percentage) than for SHSs (no battery replacement), but other maintenance and repair requirements would be higher, resulting in total O&M costs also around 12 percent of the initial investment.

8. *Economic benefits.* The economic benefits for electricity are derived from observing the energy budgets of rural households before and after electrification. For water, the benefits will mostly take the form of time saved in transporting water. The time reduction will differ from one location to another. In the absence of precise data, global estimates regarding the benefits of access to water have been used. However, the valuation of time saving is usually based on each country's per capita GDP. In the case of Gabon, the oil sector represents more than 50 percent of the GDP. For this reason, the value of each hour saved has been adjusted downward (by 60 percent). Provision of clean water is also expected to create health benefits, which are not quantified in this analysis in the absence of data.

9. *Key results: economic analysis.* With an initial project investment of $33.2 million, 15,000 rural households would gain access to water and electricity services. The estimated NPV of the investment with a 10 percent discount rate would be $2.6 million, corresponding to a 11.3 percent EIRR.

B. Financial Analysis of O&M operations

10. A key objective of the project is to put in place sustainable mechanisms for O&M financing in rural areas. The mechanisms would be applicable to the entire rural sector and not just to the equipment financed by the Bank project. The stated objective of the GoG is to achieve an access rate to basic services of 80 percent in rural areas by 2025 (and 100 percent by 2035). This would correspond to about 44,000 rural households covered by O&M mechanisms (of which about a third connected through the Bank project itself).

11. *Key results and conclusion.* In this scenario, the estimated annual operating deficit of all rural O&M operators in 2025 would be $8.3 million. This would represent 1.5 percent of the total turnover of the SEEG, the national concessionaire for water and electricity services. Additionally, in this scenario of 80 percent access in 2025, the annual requirement for equipment renewal is estimated at $5.7 million. The total rural access deficit (including O&M and investment) would amount to $14.0 million per year (2.5 percent of SEEG sales in 2025). Significant progress toward universal access to basic electricity and water services in rural areas appears therefore to be financially achievable and would require financing which could come entirely from cross-subsidies originating from customers who receive services from the national utility (through a dedicated fee on customer invoices). The GoG could also decide to mitigate the burden falling on urban power and water consumers through a variety of means, including for instance, providing alternative source of funding for renewal investments or increasing the fee-for-service collected from rural customers. Also, over the long term, SEEG coverage will expand gradually, thereby reducing the number of rural consumers.

Table 3: Solar Home Systems – Details of Costs and Benefits per kit and per households

Monthly household energy budget (Level 1 SHS)		without SHS			with SHS	
	Unit price	use/month	total cost		Monthly use	total cost
dry cell batteries (lamp)	600	2	1,200		2	1200
dry cell batteries (radio)	600	4	2,400		2	1200
Kerosene in litre for 2 lamps *	652.5	8	5,220		1	652.5
mobile phone recharge	250	4	1,000		0	0
Total Monthly budget			9,820			3,053
** Including 45% mark up for transport costs*						
	(FCFA/m)	(USD/m)				
Savings from substitution	6,768	13.5				
Benefits from extra consumption*	1,555	3.1				
Wilingness to pay	8,323	16.6				
**extra consumption of 50% lighting and phone recharge valued at half the cost of first tranches*						
Monthly household energy budget (level 2 SHS, in subsitution to diesel gensets shared by 10 households)						
		without SHS			with SHS	
	Unit price	use/month	total cost		Monthly use	total cost
dry cell batteries (lamp)	600	2	1,200		2	1200
dry cell batteries (radio)	600	0	-		0	0
Kerosene in litre for 2 lamps	652.5	4	2,610		4	2610
mobile phone recharge	0	8	-		8	-
Amortization/maintenance diesel gensets	60000	0.1	6,000		0	0
Transport for Gasoil (20 litre can)	4500	0.6	2,700		0	0
Gasoil including transport (litre)*	350	12.0	4,200		0	0
Total Monthly budget			16,710			3,810
** based on 15kWh consumed per month per household and consumption of 0.8l/kWh with small gensets*						
	(FCFA/m)	(USD/m)				
Savings from substitution	12,900	25.8				
Benefits from extra consumption	-	0.0				
Wilingness to pay	12,900	25.8				

Solar Home System - level 1										
Year	1	2	3	4	5	6	7	10	15	20
Initial Capex - equipment	-179,000	-179,000								
Initial Capex - installation		-131,000								
O&M (including battery replacement)		-42,960	-42,960	-42,960	-42,960	-42,960	-42,960	-42,960	-42,960	-42,960
Customer interface		-14,400	-12,600	-10,800	-9,600	-8,400	-7,200	-7,200	-7,200	-7,200
Economic Benefits		99,870	99,870	99,870	99,870	99,870	99,870	99,870	99,870	99,870
Net benefits (costs)	-179,000	-267,490	44,310	46,110	47,310	48,510	49,710	49,710	49,710	49,710
Revenue collected from users		9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600	9,600
Operating deficit		-47,760	-45,960	-44,160	-42,960	-41,760	-40,560	-40,560	-40,560	-40,560
Nominal discout rate	10%									
Inflation	2.5%									
Initial Investment	489,000	FCFA/kit	978	USD/kit						
Economic NPV	10,039	FCFA/kit	20	USD/kit						
EIRR (nominal)	10%									
Households paying for service	20%									
Fee-for-service	4000	FCFA/m	8.0	USD/m						
Solar Home System - level 2										
Year	1	2	3	4	5	6	7	10	15	20
Initial Capex - equipment	-274,000	-274,000								
Initial Capex - installation		-144,000								
O&M (including battery replacement)		-54,800	-54,800	-54,800	-54,800	-54,800	-54,800	-54,800	-54,800	-54,800
Customer interface		-14,400	-12,600	-10,800	-9,600	-8,400	-8,400	-8,400	-8,400	-8,400
Economic Benefits		154,800	154,800	154,800	154,800	154,800	154,800	154,800	154,800	154,800
Net benefits (costs)	-274,000	-332,400	87,400	89,200	90,400	91,600	91,600	91,600	91,600	91,600
Revenue collected from users		72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000	72,000
Operating deficit		2,800	4,600	6,400	7,600	8,800	8,800	8,800	8,800	8,800
Nominal discout rate	10%									
Inflation	2.5%									
Initial Investment	692,000	FCFA/kit	1,384	USD/kit						
Economic NPV	220,808	FCFA/kit	442	USD/kit						
EIRR (nominal)	15%									
Households paying for service	100%									
Fee-for-service	6000	FCFA/m	12.0	USD/m						

Table 4: Water – Details of Costs and Benefits per Kit and per Household

Characteritics per household	Hand pump	Solar pump	Mini-network
	FCFA	FCFA	FCFA
Investments			
equipment	-302,000	-474,000	-491,000
well	-69,000	-30,000	-13,000
installation	-101,000	-103,000	-139,000
Total initial investment	-472,000	-607,000	-643,000
Annual Opex			
Spare parts	-20,234	-31,758	-32,897
Other O@M	-12,140	-19,055	-19,738
Customer Management	-14,400	-14,400	-14,400
Annual Opex	-46,774	-65,213	-67,035
Benefits			
hours saved (per day/hh)	0.75	1	1.25
Value of hour saved (FCFA)	343	343	343
hours saved / year	234	390	390
Annual benefits (FCFA)	80,239	133,731	133,731
GDP per capita	11,430	USD/capita	for year 2012
Reduction for oil sector weight	60%		
Corrected GDP/capita	4,572		
hours of work per year / person	2,000		
GDP per hour worked per person	2.286	USD/hour	
ratio	30%	source WHO - MDG assessment	
value of hour of work saved	0.6858	USD/hour	
	342.9	FCFA/h	

Table 5: Water and Electricity – Key Results

Water and Electricity Investments	In millions of USD								
Year	1	2	3	4	5	6	10	15	20
Initial Capex - equipment	-12.4	-12.4							
Initial Capex - installation and well		-8.3							
O&M (including spare parts)		-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8
Customer interface		-0.9	-0.8	-0.8	-0.7	-0.7	-0.6	-0.6	-0.6
Economic Benefits		6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Net benefits (costs)	-12.4	-17.5	3.4	3.4	3.4	3.5	3.5	3.5	3.5
Revenue collected from users		0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Operating deficit (susbidy requirement)		-2.8	-2.8	-2.7	-2.7	-2.7	-2.6	-2.6	-2.6
KEY RESULTS									
Initial Investment	**33.2**	**US$ million**							
Economic NPV	**2.6**	**US$ million**							
EIRR (nominal)	**11.3%**								
Average operating subsidy requirement	**3.16**	**USD/month/beneficiary water and electricity**							
Assumptions									
FCFA/USD	500								
Total household equipped with water	15,000	direct beneficiaries		75,000					
Total SHS installed	15,000								
Household size	5.0								
Nominal discount rate	10%								
Inflation	2.5%								

Table 6: Water and Electricity – O&M Financing Requirements in 2025

Estimated O&M operators financial requirements in 2025		
Rural households in 2025	number	55,000
Rural coverage target in 2025	%	80%
Rural Households equipped in 2025	number	44,000
SEEG turnover (2013)	MFCFA	189,281
SEEG turnover in 2025 (@3.5% annual increase)	MUSD	572
Annual costs and revenues		
Total O&M (including spare parts)	MUSD	-8.1
Total customer management costs	MUSD	-2.5
Revenue collected from users	MUSD	2.3
Annual O&M deficit	MUSD	-8.3
As percentage of SEEG total power and water sales		*1.5%*
Initial Capex	MUSD	-85.2
Average life of equipment	years	*15*
Annualized renewal costs	MUSD	-5.7
Annual rural access deficit (O&M and renewal)	MUSD	-14.0
As percentage of SEEG total power and water sales		*2.5%*

Annex 6: Policy Letter for Rural Access

Gabon: Access to Basic Services in Rural Areas and Capacity-building Project (P144135)

[Translated version of the Policy Letter for Rural Access approved by the Government on October 1, 2014 in an Inter-ministerial Sectorial Council]

FRAMEWORK PAPER ON POTABLE WATER AND ELECTRICITY IN RURAL AREAS IN GABON

1. INTRODUCTION

1. In an effort to step up the pace of economic growth and reduce the poverty plaguing close to one-third of the population, in July 2012, the Government of the Republic of Gabon prepared the Strategic Roadmap for an Emerging Gabon [*Plan Stratégique Gabon Emergent* PSGE], which sets forth in the form of programs and targeted actions the vision and the directions necessary to transform Gabon into an emerging country, with a double-digit growth rate, by 2025. In accordance with the new policy of the Social Pact, introduced in February 2014, the authorities also simultaneously aim to focus on reducing inequality and poverty.

2. In terms of social and human development, Gabon faces the paradox of being a middle-income country (MIC), with a per capita GDP estimated at US$11,114, but with the social indicators of the least developed countries (ranked 112 out of 187 countries on the Human Development Index). Given that the weakness of all types of infrastructure has been identified as one of the major obstacles to development, it is becoming increasingly evident that the enhancement of institutional capacities and sustainable access to basic services such as housing, health, education, water, and electricity can only better position Gabon to achieve its overall long-term growth objectives.

3. Thus, in accordance with the PSGE directions and consistent with the Social Pact strategy, the Government has assumed a dual responsibility: (i) the preparation of programs and structural reforms that promote wealth and job creation and (ii) the implementation of a policy of redistribution of the benefits of growth, with a view to markedly enhancing the standard of living for citizens and improving access to basic social services.

4. In particular, access to basic water and electricity services appears to be a priority across the whole of Gabon, and the Government has already decided to mobilize close to CFAF 150 billion over the next 10 years through programs to improve access to basic social services with respect to water and electricity, with the goal of increasing the share of the rural population with access to potable water, which currently stands at 43 percent, to 85 percent by 2025; raising the rate of access to electricity services from 15 percent at present to 85 percent by 2025; and, finally, keeping equipment breakdown rates below 10 percent, given that at present, almost 80 percent of the equipment installed by the previous government programs is no longer functioning.

5. This sectoral policy on access to water and electricity in rural areas describes how the Government of Gabon intends to achieve these ambitious objectives, particularly with respect to the durability of equipment.

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2. PREAMBLE

6. More than 75 percent of the Gabonese population, which was estimated at 1,672,000 in 2013,[20] is concentrated in the major urban centers, primarily Libreville, Port-Gentil, and Franceville. National rates for electricity and access to improved water sources are relatively high: close to 83 percent and 78 percent respectively. Yet, these figures mask a considerable contrast because by comparison, in the rural areas where just under 25 percent of the population lives, the rate of access to electricity is estimated at 15 percent and the rate of access to a source of potable water at 43 percent. In this context, the simultaneous provision of electricity and water services in rural areas presents a major challenge for the Gabonese Government in its poverty reduction and human development efforts

7. In the past, investments aimed at providing electricity and water distribution programs across Gabon have improved coverage rates overall, but this progress is still largely confined to the urban centers. Rural areas, where many services are still in short supply, remain largely excluded from these advancements, with the consequence that citizens' living conditions become precarious and a certain form of health and environmental insecurity persists.

8. To remedy this situation, the PSGE--as stated in its strategic objectives 8 and 19--plans "***to develop an electricity supply that is diversified, sustainable, and accessible to all***," and "***to ensure universal access to potable water and sanitation for all***." To this end, its efforts will be based on an ambitious restructuring program for the entire electricity and water system, which, in rural areas, will take the form of the extension of water services and the provision of electricity in order to provide economic stability to residents and reduce poverty.

9. Moreover, this sectoral policy on water and electricity in rural areas aims to be aligned with Gabon's human development strategy (Social Pact), prepared based on the findings of the McKinsey report (December 2013) and built around the implementation of four (4) complementary components: (i) the promotion of social safety nets; (ii) the development of income-generating activities (IGA); (iii) the improvement of access to basic services; and (iv) the deployment of infrastructure aimed at economic and social integration (in urban and rural areas).

Institutional Context

10. In Gabon, the concession of the public service of producing, transporting, and distributing potable water and electricity was granted to the electricity and water utility, *Société d'Energie et d'Eau du Gabon* (SEEG). The area covered by the concession includes all the urbanized areas as well as those that were slated for urbanization when the concession took effect in June 1997.

[20] Source: World Bank.

11. The electricity and water sectors are covered by the same State-SEEG concession contract and are the responsibility of both the Ministry of Energy and Water Resources (MERH) and the Ministry of the Economy. The MERH is composed of two general directorates (the Directorate General of Energy (DGE) and the Directorate General of Water Resources (DGRH)), with responsibility for defining the policy and strategy of the sector and of entities under their oversight charged with implementation of this policy, namely the water and electricity sector regulatory agency [*Agence de Régulation du Secteur de l'Eau et de l'Energie* ARSEE], the national water and electricity council [*Conseil National de l'Eau et de l'Electricité* CNEE], the Gabonese electricity generation and transmission company [*Société de Production et de Transport d'Electricité du Gabon* SPTEG], and the water and electricity asset-holding company [*Société de Patrimoine de l'Eau et de l'Electricité* SPEE].

12. Within the concessionary area, the SEEG is responsible for the operation, maintenance, and replacement of equipment and works used in the production, transport, and distribution of electricity and potable water. However, with respect to street lighting and standpipes, responsibility for maintenance and replacement lies with the CNEE.

13. The State-SEEG concession contract is managed by the MERH and, since a 2006 amendment, investments in production, transport, and distribution with a lifespan exceeding the term of the concession contract are the responsibility of the Government. In return, a usage fee must be paid by the concessionaire for the use of this State-financed equipment.

14. Outside the area covered by the concession, the management of public services, in particular with respect to rural electrification and village water supply, is the sole responsibility of the State. Management of rural electrification is governed by the DGE through its Department of New and Renewable Energies [*Direction des Energies Nouvelles et Renouvelables* DENR]. The DGRH is responsible for management of the village water supply through its Department of Rural Water Supply [*Direction de l'Hydraulique Rurale* DHR].

Access to Basic Services in Rural Areas

15. In the medium term (2025), the State plans to develop universal access to electricity and potable water supply services for the entire country and to provide customized service in both urban and rural areas by completing major infrastructure projects to mobilize Gabon's considerable hydroelectric and hydrological potential. However, in order to provide service to the segment of the population in the area not covered by the concession, mainly located in the rural areas and lacking access to the most basic infrastructure, the State must establish an intermediate structure through its dedicated services, namely, the DENR and DHR, to provide basic services through decentralized facilities and cover all expenses relating to equipment installation and service delivery.

16. Any part of the country located outside the urban and peri-urban areas is considered rural. To date, despite the high cost of electricity and water access programs, the State remains the sole actor in the areas of both investment and rehabilitation of equipment. While the implementation of rural programs is relatively costly, basic services are provided free of charge to village residents, from equipment installation to service provision and maintenance and rehabilitation operations. This situation cannot continue because the State is no longer in a position to be solely responsible

for the financial viability of such operations and the sustainability of the investments agreed upon is no longer guaranteed. Financing to cover the cost of these services, either wholly or partially should be based on a more sustainable foundation: **in this regard, a shift from an approach based on the provision of equipment to one based on the provision of service appears inevitable.**

What does "Basic Services" mean?

17. Offering these basic services in rural areas provides residents with the minimum needed to cover their household as well as socio-community and productive needs.

18. *At the household level*, providing electricity service to rural households consists of providing lighting through a number of light sources and making an electrical socket available for audio-visual use or to recharge low energy-use devices such as mobile telephones. The possibility of using higher energy-use devices (refrigerators, freezers, air conditioners, household appliances) would not be viewed as a basic service. Potable water is made provided through the establishment of village water systems (hand pumps; independent, solar-powered water points; and mini potable water supply networks) to allow for the pumping and treatment of water.

19. *At the socio-community level*, service takes the form of lighting and electrical sockets in common spaces (for example, schools, health centers, community centers, police stations, places of worship), as well as street lighting. Health centers and schools will be able to benefit from increased installed electrical capacity, with a view to taking their specific needs into consideration, such as the preservation of pharmaceutical products. The provision of potable water will also be adapted to needs.

20. *The development of productive uses poses a major challenge:* feedback from different sources reveals that the provision of basic services in rural areas is not systematically followed by the stimulation of economic activities or by wealth creation. Furthermore, to facilitate the development of this type of activity, it will be imperative to move beyond the provision of traditional household and socio-community services and consider the possibility of requesting private water connections from the common water point to a personal space and/or the possibility of supporting additional functions such as refrigeration/freezing and supplying artisanal facilities (manioc mills or sugarcane presses) or small businesses in order to promote the development of income-generating activities (IGAs).

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3. ACCESS TO BASIC SERVICES IN RURAL AREAS – OVERVIEW

21. Gabon has approximately 3,000 villages or village clusters of varying sizes, dispersed across the entire territory, with a total of roughly 400,000 residents and representing approximately 25 percent of the Gabonese population. As of 2012, close to 1,300 modern water points and 36 mini potable water supply networks were constructed in rural areas, and around 1,140 households benefited from solar photovoltaic energy (through individual or shared systems).

22. In Gabon, rural areas are characterized by specific constraints: they are remote, difficult to access, population density is low, and the population is widely scattered. Added to this, the high

costs of the factors of production to a large extent further limit the economic feasibility of conventional methods of providing basic services. Water and electricity servicing rates remain relatively low, and the absence of basic commodities is a powerful driver of rural exodus and hinders potentially income-generating economic activities and local social development.

23. Moreover, despite efforts undertaken by the Government in previous years, much of the equipment available is in a state of extreme disrepair. This stems directly from a lack--or even an absence--of maintenance of the equipment. A diagnostic study[21] conducted on the water supply equipment revealed that in the case of more than 56 percent of the equipment, no maintenance whatsoever was provided and 25 percent was completely nonfunctional owing to a lack of repair, while only 19 percent functioned normally. Ongoing and systematic planning for the repair and maintenance of the equipment from Libreville is proving to be a difficult task for the State to accomplish given that its technical departments are not deconcentrated in the provinces

24. In view of the complexity inherent in making plans to ensure the durability of the equipment, it is difficult to find village communities that are capable of organizing themselves to compensate for the absence of the State. Given the necessity of individual and/or shared water or electrical equipment for the community, in the best case scenario, ad hoc contributions can be organized to finance the repairs, but generally speaking, the residents have adopted a wait-and-see approach and are counting on intervention by a politician, a public figure, or a rehabilitation campaign initiated by the State.

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4. OBJECTIVES, STRATEGY, AND CHALLENGES

Objectives

25. As indicated above, with respect to access to basic social services in rural areas, the Government's objective is to increase the share of the population with access to potable water, which currently stands at 43 percent, to 85 percent by 2025 and to raise the rate of access to electricity services from 15 percent at present to 85 percent by 2025. At the same time, the Government would like to keep equipment breakdown rates below 10 percent. At the moment, almost 80 percent of the equipment installed by the previous government is no longer functioning.

Strategy

26. The policy governing access to basic services by the rural population rests on two complementary approaches:

- ***The "centralized" approach*** through extension of the SEEG concession for the villages that can be served in the short or medium term owing to the possibility of extending the existing SEEG network. Once connected, these villages are included de facto within the concessionary area and their management is transferred to the SEEG.

[21] Study conducted in 2007 by the village water component of the SYSMIN Project - 8th EDF, financed by the European Commission.

- ***The "decentralized" approach*** for remote villages located outside of the area covered by the concession for which the extension of existing electricity networks will only be possible in the long term. These villages are and will be the focus of specific equipment and rehabilitation programs piloted by the relevant MERH units.

27. In the interest of harmonization, the Government's strategy is to provide potable water and electricity simultaneously in the villages lacking these services and to bridge the gap created in a number of areas by the separate provision of these two services in order to ensure that every village that was the focus of an installation program benefits simultaneously from both water and electricity services. To this end, the strategy consists not only of rehabilitating existing equipment, but also continuing the construction and installation of equipment in rural areas where they are completely absent by prioritizing economically sustainable solutions.

28. As indicated previously, in the past, the decentralized approach was never subject to a regular system of maintenance. The direct consequence of this is that despite the increasingly substantial investments mobilized by the State for rural areas, gains in capacities and service are severely constrained by it. Moreover, this sectoral policy seeks to address the need to develop access to basic services in a ***sustainable*** manner for rural populations. ***This requires the establishment of a system for ensuring the sustainability of services providing access to potable water and electricity***.

29. Discussions on the optimization of these services, conducted jointly with the stakeholders involved (donors, the Government, operators, NGOs, beneficiaries), resulted in the consideration of a new structure, which will henceforth consist of transferring responsibility for providing operation and maintenance services to a specialized, private operator.

Institutional Organization through the Decentralized Approach

30. In this new system, the CNEE, an entity that falls under the MERH, will be the operational entity responsible for implementation and monitoring of the operation-maintenance component. The CNEE appears to be the most appropriate entity to operate at this level in view of the similarity of its mandate in urban areas (street lighting in villages covered by the SEEG concession and installation of standpipes). Clearly, it will be strengthened both in terms of its financial means and its technical capacities, and its bylaws will be revised. Over time, the creation of a State entity dedicated to providing basic services in rural areas can be considered, if necessary.

31. The mandate to be assigned to the CNEE is envisioned as follows: Responsibility for State infrastructure is vested with the *Société de Patrimoine*. As such, when equipment is received by the MERH, it will be transferred to the *Société de Patrimoine*, which will delegate responsibility for its operation and maintenance to the CNEE. The latter will then be responsible for outsourcing this operation-maintenance work to private operators with whom it will directly establish multiyear contracts. The contract term will take into account in particular the required training period for the operator, amortization of its set up costs, and the lifespan of some of the equipment subject to wear and tear (batteries, regulators, pumping accessories, etc.). An indicative period of five years for operation-maintenance contracts could be envisioned. The MERH will perform a regulatory function between the CNEE, operators, and consumers in the operation-maintenance phase. The CNEE will assume general responsibility for oversight of operators with regard to the technical

quality of the operation and maintenance of the public potable water and electricity distribution service, oversight of the condition of equipment in rural areas, and economic and financial management.

32. Each operator will be hired through a competitive bidding procedure and will have exclusive rights to maintenance and operation services for the equipment installed in a clearly defined region. Installation operations for new equipment, including through the various State programs, will be assigned as needed to the maintenance operator, but without any exclusivity rights in this area. The planned territorial division defining the intervention zones for each regional maintenance operator includes four (4) regions:[22]

(i) **Zone 1:** Center Region including the provinces of Estuaire, Moyen-Ogooué, and Ogooué-Maritime,
(ii) **Zone 2:** East Region including Haut-Ogooué and Ogooué-Lolo,
(iii) **Zone 3:** South Region including Ngounié and Nyanga,
(iv) **Zone 4:** North Region including Woleu-Ntem and Ogooué-Ivindo.

33. Once the contracts have been signed, the operator will be responsible for maintaining the equipment, connections, and meters in perfect working condition. The operator will help households assume ownership of the equipment provided to them so that they can take effective action as part of the system put in place, for example, by indicating possible breakdowns. The operator will offer individualized paid services with higher value-added that will also be better tailored to needs (a shift from the concept of free service provision). It will also collect payment for bills and will serve as the direct link between rural consumers and the competent authority (MERH), thereby facilitating reliable communication of needs and challenges from one to the other. The operators' mandate, as defined, will go beyond mere operation and maintenance. They will have to clearly demonstrate their capacity to assume the multidisciplinary responsibilities that will be assigned to them.

34. Operators' remuneration will be based on their performance and the results obtained: this means that they will not be paid for each intervention carried out, but rather based on their sound management of the equipment (a "leasing" style of management). This remuneration should cover the costs of operation and maintenance of the water and electricity production, transport, and distribution equipment as well as overhead and operator margins. Remuneration will also include the costs of the connection works, equipment monitoring costs, and the fees for disconnecting and reconnecting service. This type of remuneration will only work if a customer management interface that includes a system for monitoring energy consumption is implemented (for example, individual payment cards for each subscriber).

35. Financing for operation and maintenance activities cannot be provided entirely by households; their contributions must be supplemented by a State subsidy. The difference between the perceived rate and the revenue required to ensure the sustainability of the service (service cost) will therefore be covered by a subsidy. Economically disadvantaged households will benefit from the application of the principle of the provision of free water and electricity services. Customers who are ineligible for free services and those who have subscribed to paid services that go beyond

[22] See Attachment.

basic service must pay the established rate in full for the service contracted with the operators. The subsidy will cover the portion of energy consumption for customers eligible for free service as well as the portion of the cost of services not covered by the rate.

Technical Aspect

36. It is important to specify that for obvious reasons relating to the harmonization of equipment management in the area not covered by the concession, it would be useful to establish a principle of standardization of equipment (to the extent possible). This would avoid adding to the complexity that could arise from the maintenance of stocks of widely varying spare parts, equipment, and technologies. Moreover, through various State programs, it would be beneficial to prioritize the acquisition of equipment for which operation-maintenance solutions are available. The selection of programs developed with the support of development partners should be guided from this point forward by the principle of adherence to a standard with respect to the equipment; otherwise, in the case of proposals that are too far removed from existing solutions, there must be a requirement to propose an operation-maintenance plan at the same time as the investment plan.

37. Traditionally, through State programs, MERH departments have prioritized the equipping of villages that could not be connected to existing networks in the short or medium term. With respect to electricity, this means supplying remote villages or those that are located far from networks through decentralized systems such as photovoltaic systems, small hydropower systems when geographic conditions permit, and thermal generation units; biomass and wind energy are still the focus of testing. The overall principle consists of installing individual or shared equipment (solar panels, generators, etc.).

38. With respect to the rural water supply, equipping of villages and districts outside of the concessionary area is achieved through the establishment of shared village water systems proportional to the size of the affected population, the norm being that each household has a water point less than 300 meters from its location. Depending on whether it is a small, medium, or large village, the equipment will not be exactly identical. There will be hand pumps for the very small villages of between 50 and 150 residents' maximum, independent water points for medium-sized villages of between 150 and 300 residents, and mini potable water supply systems for large villages with over 300 residents.

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5. FINANCING

Investment

39. The policy governing access to basic services in rural areas expresses the strategic orientations of the Gabonese Government in terms of economic development and social and territorial cohesion. The financing of investments and the works aimed at replacing and upgrading equipment representing reinvestment are covered by the State budget through regular maintenance programs and/or the associated resources allocated in the CNEE budget. Nevertheless, other actors can contribute to financing these works, such as donors, NGOs, politicians, third parties, etc…

40. The MERH has responsibility for and is empowered to regulate and monitor the water and electricity sectors and to accomplish this through the Directorates General of Energy and Water Resources. To this end, the two directorates are responsible for defining, organizing, and monitoring the equipment policy in rural areas. In particular, they set forth all of the guidelines regarding the analytical methodology and the selection of sites for completing works.

Operations and maintenance

41. In Gabon it is an article of faith that it is the State's responsibility to provide basic services to economically disadvantaged Gabonese citizens [*gabonais économiquement faibles* GEF]. Given that this is the prevalent attitude in urban areas, there is no question of it being challenged for rural areas where populations are likely less materially endowed. In light of this fact, and with respect to the sustainability of services in rural areas, the financing solutions envisaged for operation and maintenance (excluding the cost of equipment) would involve three complementary sources:

- An equalization contribution between rural and urban areas: particularly given that the population distribution in Gabon lends itself to this, with a larger percentage of urban dwellers than rural,

- An allocation from the State budget aimed at ensuring free coverage for eligible consumers (Social Pact strategy) and the successful delivery to citizens of budget-allocated social assistance,

- A contribution to rural households that is ineligible for free assistance or that subscribe to paid private services that go beyond the basic service.

42. An operation-maintenance account managed by the CNEE will be established, most likely with the *Caisse des Dépôts et Consignations*, for the funds that will be used to subsidize the cost of the service, which the operator will receive for the equipment maintained. It will be absolutely critical for this account to always have sufficient funds to cover the operator's costs for operation and maintenance, based on a predefined annual installment, because the State will use these dedicated funds to pay the difference between the real service rate and the cost paid by users as well as to take care of economically disadvantaged households. Naturally, this implies that pricing and subsidy rates will be clearly determined ahead of time. Initially, the fund will be maintained using various resources (special contributions for electricity and water bills, the State budget, or other resources yet to be defined, including the *Fonds National d'Aide Sociale* (FNAS), to cover

the cost for the economically disadvantaged). However, the long-term goal is to have this fund supplied with resources derived exclusively from the water and electricity sectors.

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6. CONCLUSION

43. Access to potable water and electricity in rural areas is a public service for which the State is responsible, through its dedicated technical departments. This principle does not mean that it is the sole actor, but rather that in assuming primary responsibility, the State has the right to mobilize all its resources to ensure that service is provided in a satisfactory and sustainable manner. Today, to ensure better development and sound functioning that optimize financial and human resources, it is necessary to reorganize the sector and redefine the roles of all stakeholders.

44. Implementation of this policy aims to lay the necessary foundation for the achievement of socially sustainable development focused on poverty reduction, economic growth, and health and environmental security. There is no doubt that it will create an enabling environment for development with a view to achieving the Millennium Development Goals as well as the Vision 2025 objectives advocated by the public authorities. Active participation by the private sector and support from international donors will be indispensable in order to achieve the goal of this policy.

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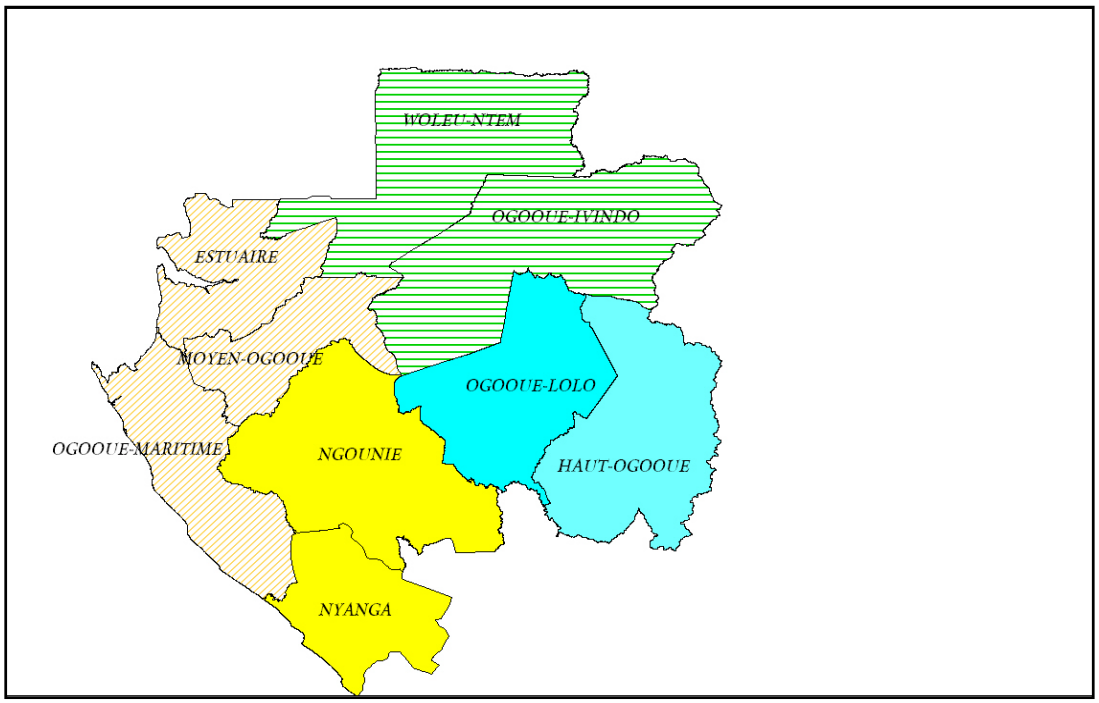
ATTACHMENT: DIVISION OF THE COUNTRY INTO FOUR ZONES:

- **Zone 1:** Estuaire (1), Moyen-Ogooué (3), Ogooué-Maritime (8).
- **Zone 2:** Haut-Ogooué (2), Ogooué-Lolo (7).
- **Zone 3:** Ngounié (4), Nyanga (5).
- **Zone 4:** Ogooué-Ivindo (6), Woleu-Ntem (9).



Annex 7: Map

Gabon: Access to Basic Services in Rural Areas and Capacity-building Project