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The World Bank Group

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Report No: 53953-CM

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED IDA GUARANTEE
IN THE AMOUNT OF UP TO CFA 40 BILLION
(US$82 MILLION EQUIVALENT)

AND ON A

PROPOSED IFC A LOAN
IN THE AMOUNT OF UP TO EUR 64 MILLION
(US$86 MILLION EQUIVALENT)

TO THE

KRIBI POWER DEVELOPMENT COMPANY

FOR THE

KRIBI GAS POWER PROJECT

IN THE

REPUBLIC OF CAMEROON

October 17, 2011

Africa Energy Group, World Bank
Infrastructure and Natural Resources Department, IFC

CURRENCY EQUIVALENTS
(Exchange Rate Effective September 30, 2011)

Currency Unit	=	Central African Franc (CFA)
CFA 486	=	US$1
SDR 1	=	US$1.56
EUR 1	=	US$1.35

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AER	Agence d'Electrification Rurale (Rural Electrification Agency)
AES SONEL	Private Electricity Concessionaire
AFD	Agence Française de Développement (French Development Agency)
AfDB	African Development Bank
Alucam	Compagnie Camerounaise de l'Aluminum (Aluminum Company of Cameroon)
AMR	Annual Monitoring Report
ARSEL	Agence de Régulation du Secteur de l'Electricité (Electricity Regulatory Agency)
BCF	Billion standard cubic feet
bcm	Billion cubic meters
BDEAC	Banque de Développement des Etats de l'Afrique Centrale (Development Bank of Central African States)
BTU	British thermal units
CAS	Country Assistance Strategy
CCPP	Chad-Cameroon Pipeline Project
CFA	Central African Franc
CIPP	Community and Indigenous Peoples Plan
CO_2	Carbon dioxide
COTCO	Cameroon Oil Transport Company
CPF	Central Gas Processing Facility
DFIs	Development Finance Institutions
DPDC	Dibamba Power Development Company
DSA	Debt sustainability analysis
EDC	Electricity Development Corporation
EHS	Environmental, health, and safety
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EITI	Extractive Industries Transparency Initiative
EPC	Engineering, Procurement, and Construction
ERR	Economic rate of return
ESDP	Energy Sector Development Project
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
FMO	Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden N.V. (Netherlands Development Finance Company)
GCA	Government Commitment Agreement
GDP	Gross Domestic Product
GOC	Government of Cameroon
GSA	Gas Sales Agreement
GWh	Gigawatt-hour
HFO	Heavy fuel oil
HIPC	Heaviliy Indebted Poor Countries
HV	High voltage
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IFC	International Finance Corporation
IMF	International Monetary Fund
IPP	Independent power producer
IUCN	International Union for Conservation of Nature
kJ	Kilojoules
km	Kilometer
KPDC	Kribi Power Development Company
kV	Kilovolt
kWh	Kilowatt-hour
LFO	Light fuel oil
LNG	Liquefied natural gas
LPG	Liquefied petroleum gas
LPHP	Lom Pangar Hydropower Project
LV	Low voltage
MDGs	Millennium Development Goals
MDRI	Multilateral Debt Relief Initiative
MINEE	Ministere de I'Energie et de I'Eau (Ministry of Energy and Water)
MJ	Megajoules
MMBtu	Million British thermal units
MMscf	Million standard cubic feet
MOF	Ministry of Finance
Mscf	Thousand standard cubic feet
MV	Medium voltage

MW	Megawatt
NGO	Non-governmental organization
NOx	Nitrogen oxides
PANERP	Plan d'action national Energie pour le réduction de la pauvreté (National Energy Plan for Poverty Reduction)
PDO	Project development objective
PDSE	Electricity Sector Development Plan
PEFA	Public expenditure financial accountability
Perenco	Group Perenco S.A. (oil and gas company)
PFM	Public financial management
PPA	Power Purchase Agreement
PPIAF	Public Private Infrastructure Advisory Facility
PPP	Public-private partnership
PRECESSE	Projet de Renforcement des Capacités Environnementales et Sociales du Secteur Energie (Environmental and Social Capacity Building Project for the Energy Sector)
Project	Kribi Gas Power Project
PROPARCO	Société de Promotion et de Participation pour la Coopération économique (Promotion and Investment Company for Economic Cooperation)
PS	Performance Standard
RAP	Resettlement Action Plan
REA	Regional Environmental Assessment
REF	Rural Energy Fund
RPF	Resettlement Policy Framework
SDR	Special Drawing Rights
SIG	Southern Interconnected Grid
SMEs	Small and medium scale enterprises
SNH	Société Nationale des Hydrocarbures (National Hydrocarbons Company)
SOCATRAL	Société Camerounaise de Transformation de l'Aluminum (Aluminum Fabrication Company of Cameroon)
SONARA	Société Nationale de Raffinage (National Refinery Company)
SOx	Sulfur oxides
TA	Technical assistance
TJ	Terajoules
TSO	Transmission system operator

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Sector Director:	Jamal Saghir
Sector Manager:	Lucio Monari
Task Team Leader:	Astrid Manroth

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CAMEROON
Cameroon - Kribi Gas Power Project

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CAMEROON
KRIBI GAS POWER PROJECT
PROJECT APPRAISAL DOCUMENT

AFRICA

AFTEG

DATA SHEET

Date: October 17, 2011	**IDA Team Leader:** Astrid Manroth
Country Director: Gregor Binkert	**IFC Team Leader:** Alice Laidlaw
Sector Manager: Lucio Monari	
IDA Project ID: P110177	**Sectors:** Power (80%); General energy sector (20%)
IFC Project ID: 25978	**Themes:** Infrastructure services for private sector development (P); Regulation and competition policy (S)
Industry Director: Bernard Sheahan	
Regional Industry Manager: Bertrand de la Borde	
Lending Instrument: IDA Guarantee, IFC A Loan	**Environmental screening category:** A, Full assessment

Project Financing Data

[ ] Loan [ ] Credit [ ] Grant [X] Guarantee [ ] Other:
Amount (US$m equivalent): IDA US$82, IFC A Loan US$86

Financing Plan (US$m equivalent)

Source	Local	Foreign	Total
Equity			
The AES Corporation	0	48	48
Government of Cameroon	0	38	38
Debt			
IFC	0	86	86
Other DFI debt	0	95	95
Local Loan (guaranteed by IDA)	82	0	82
Total Debt and Equity:	**82**	**268**	**350**

Borrower: Kribi Power Development Company (KPDC), Cameroon
Guarantor: Republic of Cameroon
Responsible agency: Ministry of Energy and Water, Cameroon

Content

For Guarantees:	[] Partial Credit **[**X**]** Partial Risk *Other than covering standard partial risk coverage events, the proposed guarantee directly covers a payment obligation of the Government of Cameroon (GOC) that can occur only in limited circumstances under the Local Loan Purchase Agreement. This one event and its coverage by IDA can be viewed as similar to coverage which is generally provided under IBRD partial credit guarantees* (See PAD Section IV. G)
Proposed Coverage:	The proposed IDA Guarantee would only be triggered to the extent

	that nonpayment of debt service is the result of the failure by the Government of Cameroon (GOC) to pay an amount due (i) for a specified event in accordance with dispute resolution procedures included under the terms of the Government Commitment Agreement; or (ii) under a Local Loan Purchase Agreement entered into by the GOC and a syndicate of local commercial banks (Local Lenders).	
Project Sponsors:	The AES Corporation (USA) and the GOC	
Nature of Underlying Financing:	Private commercial debt provided in CFA by the Local Lenders	
Terms of Financing for IDA Guarantee:	**Principal Amount (US$m):**	Up to 82
	Final Maturity:	Up to 14 years
	Amortization Profile:	Tailored
	Grace Period:	Up to 2 years
Financing available without Guarantee:	[ ] Yes [X] No	
If Yes, estimated Cost or Maturity:	Not applicable	
Bank Group Participation:	[X] IFC [ ] MIGA	

Project implementation period: Start: November 10, 2011 End: October 31, 2016
Expected effectiveness date: December 1, 2011
Expected closing date: October 31, 2016

Does the project depart from the CAS in content or other significant respects? *Ref. PAD I.C.*	[ ]Yes [X] No
Does the project require any exceptions from Bank policies? *Ref. PAD IV.G.*	[X]Yes [ ] No
Have these been approved by Bank management?	[X]Yes [ ] No
Is approval for any policy exception sought from the Board?	[X]Yes [ ] No
Does the project include any critical risks rated "substantial" or "high"? *Ref. PAD III.E.*	[X]Yes [ ] No
Does the project meet the Regional criteria for readiness for implementation? *Ref. PAD IV.G.*	[X]Yes [ ] No

Project development objective *Ref. PAD II.B., Technical Annex 3*
The project development objective is to (i) increase the capacity of electricity generation from the Kribi Gas Power Project and (ii) improve access to private finance for the development of the Kribi Gas Power Project, including local currency financing.

Project description *[one-sentence summary of each component] Ref. PAD II.C., Technical Annex 4*
The proposed Kribi Gas Power Project consists of (i) the development, construction and operation of a new 216 (nameplate) MW natural gas-fired power plant located near the Mpolongwe village, nine kilometers north of the coastal city of Kribi in South Province of Cameroon, and (ii) the development and construction of a new 100-kilometer 225-kilovolt double-circuit transmission line between the Kribi power plant and the existing Mangombe 225/90-kV substation at Edéa in Littoral Province, including substations and transformers, all

developed by the KPDC. Associated infrastructure includes: the offshore Sanaga South gas field, marine pipelines, and a Central Gas Processing Facility, all developed by Perenco Cameroon; an 18-kilometer onshore gas pipeline developed by the National Hydrocarbons Company (SNH); and the transmission line (including substations and transformers) after construction completion and transfer to the GOC. Electricity generated under the Kribi Gas Power Project will be transmitted into Cameroon's Southern Interconnected Grid. The Kribi power plant will run on natural gas using diesel as backup fuel. Natural gas will be supplied from the offshore Sanaga South gas field in Cameroon.

Which safeguard policies are triggered, if any? ***Ref. PAD IV.F., Technical Annex 11***

Safeguard Policies: Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04), Physical Cultural Resources (OP/BP 4.11), Indigenous Peoples (OP/BP 4.10), and Involuntary Resettlement (OP/BP 4.12)

Performance Standards: PS1 (Social and Environmental Assessment and Management Systems), PS2 (Labor and Working Conditions), PS3 (Pollution Prevention and Abatement), PS4 (Community Health, Safety and Security), PS5 (Land Acquisition and Involuntary Resettlement), PS6 (Biodiversity Conservation and Sustainable Natural Resource Management), PS7 (Indigenous Peoples), and PS8 (Cultural Heritage)

Significant, non-standard conditions, if any, for: ***Ref. PAD III.E.***

Board presentation: [None]

Guarantee effectiveness:

- Execution, delivery, and effectiveness of all project and financing agreements, including but not limited to the Common Terms Agreement, the Local Loan Agreement and security agreements, the Local Loan Purchase Agreement, the GSA 2 amendment, the Indemnity Agreement, and the Project Agreement, each in form and substance satisfactory to IDA
- Effectiveness of all required insurances (to include IDA as an additional insured on third party liability insurance)
- Provision of satisfactory legal opinions
- Payment in full of the first installment of the Guarantee Fee

Covenants applicable to project implementation: [None]

I. STRATEGIC CONTEXT AND RATIONALE

A. Country and sector issues

Country issues

1. **Despite the country's rich endowment with natural resources, Cameroon's economic growth has been sluggish and poverty levels remain unchanged.** Cameroon's economic growth was 2.7% on average over 2005-2009, is estimated at 3.2% for 2010 and projected at 3.8% for 2011. Between 2001 and 2007, average real gross domestic product (GDP) growth of 3.4% fell short of the 7% growth required to achieve the Millennium Development Goals (MDGs) by 2015. On its current trajectory, Cameroon is unlikely to meet any of the MDGs, with the possible exception of universal primary education and gender equality. While GDP per capita has increased from US$680 in 2000 to US$1,050 in 2007, average poverty has remained unchanged at 40% over the same period and increased in rural areas, with over 55% of rural households being poor.

2. **The 2009 economic crisis illustrated the economy's ongoing vulnerability to exogenous shocks.** Under a Poverty Reduction and Growth Facility (PRGF) with the International Monetary Fund (IMF) which was completed in 2009, Cameroon used windfall oil revenues to accelerate domestic debt payments, strengthen tax and customs revenue administrations, raise investment, and normalize relations with creditors. Debt relief under the Heavily Indebted Poor Countries (HIPC) Initiative and the Multilateral Debt Relief Initiative (MDRI) helped firm up debt sustainability and together with the rise in international oil prices allowed the authorities to accumulate some deposits at the regional central bank (BEAC). Weak global demand and commodity prices affected exports and fiscal revenues during the 2009 economic crisis, and tighter global financing conditions delayed investment projects. Real GDP growth decelerated from 2.9% in 2008 to 2% in 2009. Food and fuel price pressures eased in 2009, leading to a decline in headline inflation to the regional convergence criteria of 3%, down from 5.3% in 2008. Average annual inflation continued to decelerate in 2010 to 1.3%.

3. **The authorities responded to the 2009 crisis by protecting priority spending and supporting sectors in distress.** Despite lower revenues, original spending allocations to investment in health and education were maintained. Targeted measures were taken to protect the sectors most affected. In particular, the authorities reduced taxes and royalties on timber; settled outstanding VAT credits to the cotton sector; and subsidized inputs and fertilizers for agriculture. The IMF approved a US$144.1 million disbursement in June 2009 under the Rapid-Access Component of the Exogenous Shocks Facility (RAC-ESF) to help the country weather the impact of the global crisis. The Government of Cameroon (GOC) issued its first sovereign bonds at the end of 2010, raising a total amount of CFA 200 billion (US$420 million equivalent or 1.8% of GDP). Against this background, the overall fiscal deficit on a cash basis, after accounting for the clearing of outstanding government obligations accumulated in previous years, increased to 2.3% of GDP in 2010 on the back of lower oil revenue and higher capital expenditure. The GOC has also accumulated unsettled payment obligations reaching 2.4% of GDP, as well as obligations to the National Refinery Company (SONARA), amounting to 1.2% of GDP.

4. **The economic outlook for 2011 is stable.** Non-oil growth is projected at 4.3%, with overall GDP growth at 3.8% due to a negative oil growth of 0.5%. Inflation is expected to pick up on the back of higher food prices, but remain below the regional convergence criterion of 3%. The 2011 budget targets an overall fiscal deficit of 2.6% of GDP. Achieving these targets requires an increase in non-oil revenue and higher capital expenditure. Limited infrastructure remains a major bottleneck to achieving faster economic growth rates to reduce poverty sustainably. Accumulation of payment obligations still weighs on the GOC's liquidity position in 2011, and government deposits have largely been depleted, providing only a limited buffer for further shocks at this time. Cameroon's contingent liabilities are limited and mainly relate to potential liabilities materializing in the banking sector following the financial crisis. The GOC's guarantees for the Kribi Gas Power Project would add the equivalent of 2.1% of GDP to its contingent liabilities. The Kribi Project is the next-least-cost investment in a supply-constrained energy sector and delays in its completion would have adverse consequences for economic growth.

5. **Cameroon's risk of debt distress remains low and the GOC has been strengthening its debt management capacity.** Cameroon's debt situation has substantially improved in recent years following debt relief under HIPC and MDRI. The most recent joint 2010 IMF-World Bank low-income country debt sustainability analysis (DSA) carried out indicates that all debt ratios remain below the policy-dependent thresholds in the baseline. However, ongoing and projected new domestic and external borrowings will push debt indicators to levels higher than in the 2010 DSA. Debt indicators rise under alternative scenarios and bound tests; and in the extreme case of an export shock, external debt indicators slightly breach the country-specific debt burden threshold during 2020-2025. In all other cases, debt indicators remain at a comfortable level. The country's risk of debt distress remains low, providing space for some limited non-concessional borrowing. The economic viability of projects financed with non-concessional borrowing needs to be monitored carefully to avoid adverse debt dynamics, and several loan agreements are under evaluation for waivers under IDA's Non-Concessional Borrowing Policy (NCBP). The authorities have formulated a medium-term debt management strategy for central government debt, which has been annexed to the 2010 Budget Law. They have also started producing their own debt sustainability analyses. As part of the 2011 Budget, the authorities have elaborated a national debt management strategy capping borrowing for 2011 and ensuring sustainability of public debt. A National Debt Committee has been instituted. Government guarantees, including for GOC obligations under public-private partnerships (PPPs), need to be included in the annex to the budget law to ensure a transparent management. As part of its overall dialogue on public financial management, financial and private sector development, the World Bank is assisting the GOC to strengthen its capacity in managing contingent liabilities and debt more generally, including under the Debt Management Performance Assessment (DeMPA) framework.

6. **Cameroon's oil economy is declining. Cameroon is a mature oil producer currently producing about 25 million barrels per year of crude oil.** Production is declining. In 2010, production levels fell to 23.2 million barrels per year. Extractive industries account for about 7% of Cameroon's GDP. The contribution of the sector to GDP growth has been negative in recent years due to depleting reserves, aging equipment, and postponement of development and investment projects following the financial crisis. Cameroon is a candidate country of the Extractive Industries Transparency Initiative (EITI) and has published two reports for the periods 2001-2004 and 2005, respectively, while not yet having achieved validation.

7. **Non-oil growth is significantly below expectations.** Cameroon's non-oil economy is relatively diversified with services accounting for 44% of 2009 GDP and agriculture and manufacturing accounting for 19% each. During the 2009 economic crisis, Cameroon suffered from reductions in its export commodities, including oil, timber, cotton, and aluminum. This trend was reversed in 2010 and stronger non-oil activity contributed to a recovery of GDP growth. Nevertheless, non-oil growth of 2.9% in 2009 and 4% in 2010 has not met the GOC's expectations of 10%.

8. **Governance challenges are a key impediment to economic growth.** Cameroon ranks 168 out of 183 in the Doing Business Index and governance challenges are an important deterrent for increased investment. Corruption is prevalent at all levels of society. The country usually ranks at the bottom of all major governance indexes. It ranks under the 25th percentile for all criteria of the Kaufmann-Kraay Governance indicators, significantly lagging its peers, and ranks 146 out of 178 countries in Transparency International's 2010 Corruption Perception Index. Cameroon improved its Doing Business Ranking in 2011 by simplifying procedures for creating new enterprises. Improving governance is a focus area in the GOC's revised development policy and the World Bank supports this effort through its Country Assistance Strategy (CAS) 2009-2013 which features governance as a cross-cutting theme. The GOC adopted in December 2009 an overall public financial management (PFM) reform action plan following a review conducted through a Public Expenditure Financial Accountability (PEFA) report in 2008. Implementation of the action plan has started, with donors' support, including the World Bank.

9. **Relatedly, insufficient quantity and quality of infrastructure, in particular electricity, has been slowing Cameroon's economic growth over the past 15 years.** Significant hydropower, gas, and mineral reserves (bauxite, iron, uranium, platinum, gold, etc.) remain unexploited, in part due to the lack of reliable electricity supply. Despite Cameroon's significant hydropower potential estimated to be the third largest in Sub-Saharan Africa, electricity, gas, and water account for a mere 1% of non-oil GDP. While infrastructure development—essentially penetration of telecommunication services—explains over 1% of the per capita economic growth from 1990 to 2005, it is estimated that the negative impact of power deficiencies on Cameroon's economy is close to three times the negative effect that power deficiencies have represented for Africa as a whole during the same period.[1]

10. **Unreliable and costly electricity supply is cited among the top five constraints to doing business in Cameroon[2] and is estimated to cost 5% of lost enterprise revenue and 2% of lost GDP growth.** Average historic power costs are relatively high at US$0.09 per kilowatt-hour (kWh),[3] which is striking considering Cameroon's low-cost hydropower potential. The high costs can be attributed to high transmission and distribution costs as well as a share of costly diesel and heavy fuel oil power generation plants which are required in the system during the dry season and due to the lack of lower-cost gas to date. Transmission and distribution networks are old and in need of rehabilitation, as combined system losses of 25% illustrate.

[1] Calderon, Serven (2008).
[2] Cameroon Investment Climate Assessment, World Bank, 2007.
[3] Source: AES SONEL.

11. **Unreliable electricity supply imposes additional costs on users of self-generation, limiting productivity and competitiveness of the industrial sector.** 67% of manufacturing firms cite limited access to and high cost of electricity among the top five constraints to doing business, compared to 54% and 53% in the service and hotel sectors, respectively.[4] While gains in reliability have been achieved over the past years, regular power outages persist. The lack of reliability in power supply forces the manufacturing sector and small and medium enterprises (SMEs) to revert to costly self-generation, accounting for 31% of Cameroon's total installed generation capacity of 1,337 megawatts (MW).

12. **High electricity costs make power unaffordable for the majority of the population and have negative effects on household income overall.** Electricity access rates are estimated at 48% for Cameroon as a whole. There are, however, significant regional differences, and acces in rural areas is estimated at a mere 14%. Suppressed demand is estimated between 50-100 MW. At existing average tariffs of US$0.18/kWh for low-voltage (LV) customers, a monthly subsistence bill for 50 kWh per month costs about US$9, representing 8% of average household income, and as much as 12-18% of household income for the poorest 40% of the population. While important, this direct effect of high power costs on poverty and inequality is limited to households connected to the network. However, there are broader second-order effects of high power costs on poverty that cannot be ignored. As electricity becomes more expensive to various sectors of the economy household incomes tend to decrease. On the one hand, firms tend to cut costs in those inputs with higher elasticities, such as labor costs, by lowering wages or cutting production and employment. On the other hand, higher power costs are passed through to the consumer through the price of goods and services, reducing the purchasing power of households and thereby having an effective negative impact on household budgets.[5]

13. **In its revised development strategy, *Vision 2035,* the GOC aims to reduce poverty, spur growth, and create jobs through increased industrialization, improved competitiveness, and better governance.** In implementing *Vision 2035*, the GOC aims to (i) achieve non-oil growth of 8% per year, (ii) reduce poverty to less than 10%, (iii) become a middle-income country, (iv) become an industrialized nation, and (v) improve governance. The associated *Strategy for Growth and Employment 2010-2019* aims to increase non-oil growth by investing in key infrastructure, improving productivity and the business climate, and strengthening human development and regional integration. Several gas and mining projects, including the expansion of the Aluminum Company of Cameroon (Alucam) smelter and the exploration of Cameroon's bauxite, cobalt, nickel, iron, and other mining resources, are envisaged together with the private sector. They require significant investments in enabling infrastructure, including electricity, road, rail, and port developments. The World Bank's CAS 2010-2013 supports the GOC's growth and poverty reduction objectives through a portfolio of existing and planned projects in the agriculture, mining, transport, water, urban, energy, health, and education sectors as well as public financial management, decentralization, and private sector development.

[4] Cameroon Investment Climate Assessment, World Bank, 2007.
[5] Boccanfuso, Estache, and Savard 2008a, 2008b, 2008c.

Sectoral and Institutional Context

a. Sector strategy and institutions

14. **Since 1998, the GOC has initiated a series of policy and structural reforms to improve efficiency and governance in the power sector and increase private sector participation.** The GOC adopted an Electricity Law in 1998, a complementary Electricity Decree in 2000 and established a sector regulator (ARSEL) and a rural electrification agency (AER) in 1999. The state-owned vertically integrated power utility SONEL was privatized to The AES Corporation through a twenty-year concession in 2001 and was granted exclusivity over transmission and distribution throughout its concession area in Cameroon and the right to own up to 1,000 MW of installed generation capacity. A Presidential Decree of November 29, 2006, created the Electricity Development Corporation (EDC) which, as the GOC's asset holding company, is responsible for the management of public sector assets in the power sector, in particular hydro power assets, including the preparation of the Lom Pangar Hydropower Project (LPHP). Furthermore, a presidential decree of December 10, 2009 created the Rural Energy Fund (REF) with AER as executing agency.

15. **Benefits of the privatization of the electricity utility to date include significant investment and growing connections, while loss reduction and concession monitoring need to improve.** Since its privatization in 2001, AES SONEL[6] has made over 180,000 connections and currently has 712,000 customers. At the end of 2010, the company had invested over US$460 million in generation capacity and rehabilitation of the network and committed an additional US$205 million for ongoing generation and network rehabilitation, including an IFC co-financed EUR 260 million loan financing for its five-year investment program mainly focused on rehabilitations of existing hydroelectric power stations and transmission and distribution networks. Unserved energy decreased from 2% of total energy produced in 2003 to the contractual target level of 0.5% in 2008/9. System losses continue to remain high at 25%, in part due to a high prevalence of theft. Through its ongoing investment program, AES SONEL is investing in transmission system rehabilitation and in improving distribution efficiency by reducing illegal connections, replacing malfunctioning meters, installing new prepaid meters starting with government buildings, upgrading billing software, and improving collection rates. With some delays, progress is being made regarding certain other concession obligations, including the separation of accounts by generation, transmission, and distribution activities which have been submitted to the regulator for 2009. These accounts form the basis for a regulatory model that was developed by ARSEL in 2010 funded by a Public-Private Infrastructure Advisory Facility (PPIAF) grant, and which will allow for detailed cost of service and tariff analyses going forward.

16. **The reform of the sector framework is continuing.** In April 2011, the GOC submitted to Parliament a new Electricity Law, which was subsequently passed by Parliament but which has not yet been promulgated. The new law proposes a number of changes to existing institutional arrangements in the sector, including regarding the regulator ARSEL. It also seeks to establish new arrangements for transmission operations and for the treatment of "industrial producers" *(i.e.*, generators that wished to produce power both for their own industrial facilities

[6] AES SONEL is owned 56% by The AES Corporation and 44% by the Government of Cameroon.

and for sale to the public). The new law maintains the principle that generation, transmission and distribution operators will be selected by competitive bidding. Special arrangements are allowed for industrial producers which would, however, need to optimize the size of their plant in the event they store water and to competitively bid out works for their respective power plant or transmission grid under the supervision of the regulator if they are also providing electricity for sale to the public.

17. **The World Bank is working with the GOC to improve the reform package.** The World Bank Group has engaged with the GOC, in partnership with other key stakeholders including AES SONEL and Alucam,[7] with respect to certain aspects of the new Electricity Law. This engagement has led to the realization that the law passed in Parliament in April 2011 would require amendments. A revised version of the 2011 Electricity Law is expected to be submitted to Parliament for a second reading in November 2011. The revisions address three key main areas of concern:

- In regard to ARSEL, new provisions have been added to provide additional detail as to the functions of the regulator, so as to strengthen its mandate. However, the GOC has also added a provision stipulating that the regulator will be under the supervision of the Government. The latter provision will mean that the regulator will have somewhat less independence than that which exists in other jurisdictions. Through the Energy Sector Development Project (ESDP), the World Bank is providing technical assistance (TA) to ARSEL to strengthen its capacity in sector regulation, concession monitoring, and protection of consumer rights.

- In regard to transmission operations, the law will be amended to reflect the GOC's intention to create a new publicly owned national grid company. This is a further step towards the unbundling of the power sector to enable greater competition within the market. This will, however, be a complex undertaking, necessitating more elaborate contractual arrangements amongst the market participants and a greater degree of regulatory oversight of the monopolistic elements of the sector (*i.e.*, the transmission and distribution network businesses). Also, this initiative will require that the GOC negotiates with AES SONEL to make certain changes in the concession currently held by AES SONEL, under which the company has exclusive rights over transmission operations. Through the ESDP, the World Bank will work with ARSEL and the GOC to assess the impacts of the planned creation of the transmission system operator on the concession and manage the transition in an orderly manner.

- In regard to the arrangements for "industrial producers," the new law allows for auto-producer arrangements with provisions to ensure that an agreed quantity of power will be made available for public consumers from future generation plants built by such producers. There are also provisions stipulating that this agreed quantity of power will be priced on a cost of service basis, as approved by ARSEL, and

[7] The aluminum smelter Alucam is Cameroon's largest single electricity consumer. Alucam is owned 47% by Rio Tinto Alcan, 47% by the Government of Cameroon, 5% by the Agence Française de Développement (AFD), and 1% by its employees.

stipulating that industrial producers must procure their power generation and related transmission facilities through a competitive tendering process. Further, all holders of hydro storage facility concessions, including industrial producers with such a concession, will need to optimize the related plants, so as to ensure that the full potential of Cameroon's hydropower resources is realized for the benefit of both industrial and public consumers.

18. **The World Bank is providing additional TA to further improve electricity sector governance.** Overlapping activities by all sector actors and limited capacity create coordination problems and governance challenges. Following privatization, the Ministry of Energy and Water (MINEE) took over the responsibility for sector planning, albeit with limited capacity. Concession monitoring by the sector regulator ARSEL requires further strengthening due to capacity constraints. Similarly, the launch of the REF has been slow given capacity constraints at AER. The GOC's capacity to manage environmental and social impacts in the energy sector requires strengthening. In addition to the assistance outlined above, under its ongoing ESDP, the World Bank is providing capacity building for all sector actors to better execute their mandate, including helping MINEE to update and finalize the least cost sector development plan, AER with the preparation of rural electrification projects and EDC with the preparations of the Lom Pangar Hydropower Project (LPHP) and water management issues. The parallel Environmental and Social Capacity Building Project for the Energy Sector (PRECESSE) works with the Ministry of Environment, MINEE, and other line ministries to increase capacity in managing environmental and social impacts of energy projects.

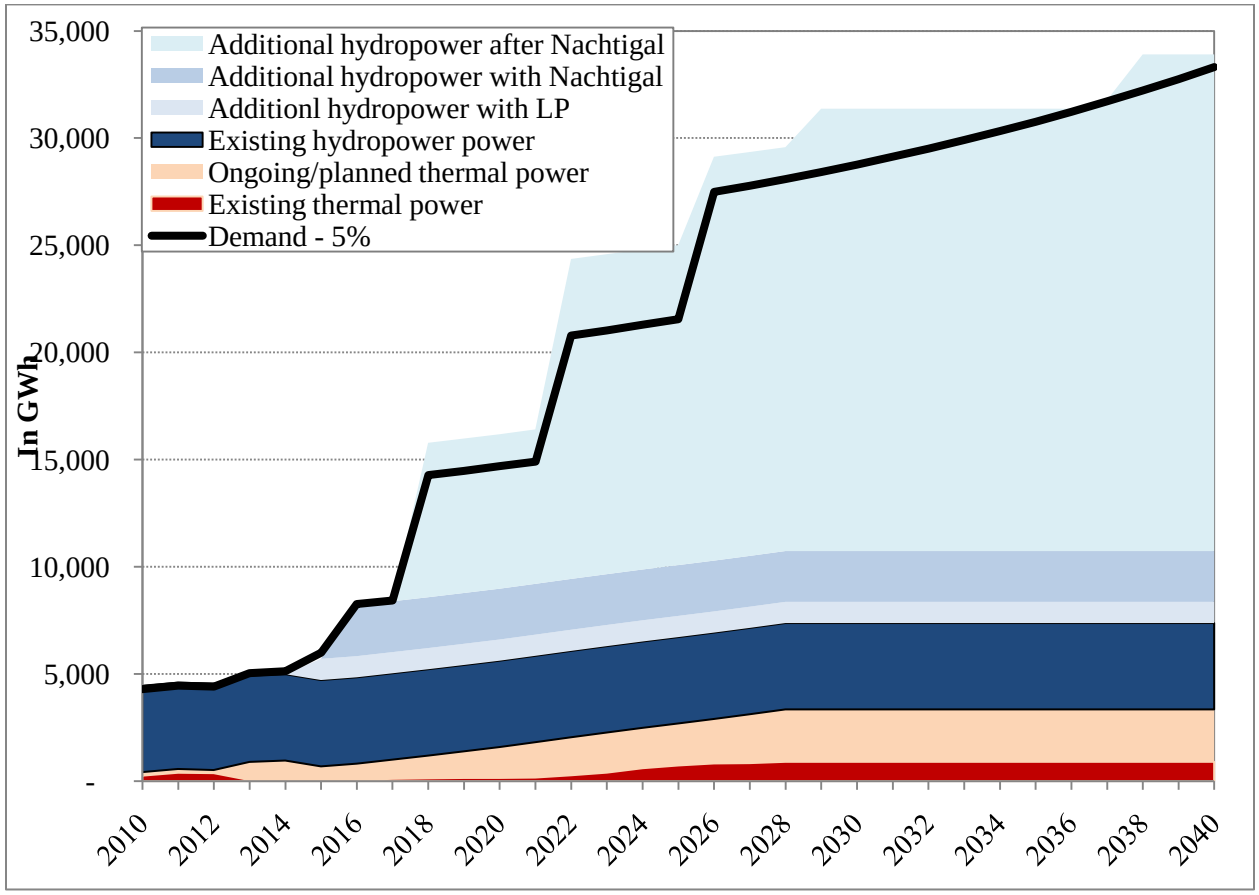
19. **In particular, the World Bank is assisting the GOC in updating the sector framework to ensure the development of Cameroon's hydropower resources for the benefit of all Cameroonians.** Cameroon has sufficient low-cost hydropower capacity along the Sanaga River to satisfy demand from industrial clients and the general public and potentially export power to neighboring countries. To ensure that future hydropower sites along the Sanaga River following the realization of the Lom Pangar regulating dam will satisfy the demand of all types of consumers, the revised electricity law lays out the principle of optimal management and equitable development of Cameroon's hydropower resources. In addition, the World Bank has requested that the GOC draft and submit a policy letter for the equitable development of hydropower resources along the Sanaga River basin as part of the preparation of the LPHP. Starting with the LPHP, the GOC plans to introduce charges for the use of water for hydropower generation through water rights. An institution for the management of water flows on the Sanaga river basin will need to be created to coordinate water flows for all water users of the Sanaga basin. Through the ESDP, the World Bank is providing TA to EDC and the GOC concerning the drafting of the policy letter and the development of pricing and management structures for hydropower generation.

b. Demand-supply overview

20. **Cameroon's current electricity demand exceeds supply, requiring investments in new generation capacity in the short and medium term to increase access.** AES SONEL's

installed generation capacity of 933 MW[8] is insufficient to meet demand growth, and available capacity is significantly lower, as the two largest hydro power generation plants, Edéa and Song Loulou, are undergoing rehabilitation. Historical average growth rates of electricity supply of 3% between 2004-2008 are half the average demand growth from the public sector (LV and medium-voltage (MV) customers) of 5-6%. In addition, Cameroon's planned mining and industrial projects, including an expansion of Alucam's aluminum smelter, and additional iron, cobalt, bauxite, uranium, and gold mining projects under negotiation, will require additional generation capacity. Against this background, the GOC's *Strategy for Growth and Employment 2010-2019* targets a total installed generation capacity of 3,000 MW by 2020. In 2010, electricity delivered and sold by AES SONEL amounted to 3,580 gigawatt-hours (GWh), 65% of which (2,286 GWh) was supplied to the general public and the remaining 35% (1,230 GWh) to industrial high-voltage (HV) customers, mainly Alucam (1,215 GWh). In addition, demand by the general public almost doubles during daily peak hours from about 230 MW to 430 MW. Electricity demand in the general public is projected to grow at 5% per annum on average to 3,558 GWh by 2015, 4,468 GWh by 2020 and 5,677 GWh by 2025. In addition, industrial demand is expected to grow considerably over the same period.

Figure 1: Demand supply projections 2010-2040 (base case)



[8] 721 MW are from the Song Loulou (384 MW), Edéa (265 MW), and Lagdo (72 MW) hydropower stations, 188 MW grid-connected thermal capacity, and 24 MW isolated thermal capacity.

21. **Cameroon's large hydropower resources will add significant least-cost power supply to the system over the medium term but take time to develop.** Cameroon's hydropower potential is estimated at over 12,000 MW of which less than 1,000 MW are currently developed through the existing Edéa (265 MW), Song Loulou (384 MW), and Lagdo (72 MW) hydropower plants. Cameroon's main river basin, the Sanaga River, has an estimated hydropower potential of 6,000 MW alone. Unlocking this potential requires the construction of the Lom Pangar regulating dam under preparation which will not be completed before 2014/15. Subsequent hydropower plants on the Sanaga River will take several additional years to construct. Emergency and least-cost thermal power solutions are therefore required to bridge the supply gap before additional hydropower will become available. In addition, as shown through sector least-cost plans, there are complementarities between hydropower and gas-fired generation in Cameroon, as gas-fired generation offers—at affordable cost—an insurance against low hydrology risk.

22. **In 2009, emergency thermal power capacity was added to the system through the Dibamba heavy fuel oil (HFO) project to address power outages.** Given the urgent need to fill short-term gaps in electricity supply, the first power producer outside of the AES SONEL concession, the Dibamba thermal power plant (88 MW) was awarded to The AES Corporation under the 1998 electricity law's emergency procedure for a heavy fuel oil plant with 88 MW installed capacity. Dibamba Power Development Company (DPDC)[9] was established to operate according to an Independent Power Producer (IPP) model, received electricity generation and sales licenses from the GOC and sells their power to AES SONEL under an arms' length tolling agreement and signed service agreements with AES SONEL and another affiliate of The AES Corporation for technical and operational services. The tolling agreement is subject to regulatory review and approval and the GOC has been advised by experienced legal advisors in the negotiation of project documents. The AES Corporation is investing US$127 million in the project. 44 MW of the Dibamba plant started producing in August 2009 with another 44 MW having come online in November 2009. In addition, in the 2011 election year, the GOC is adding emergency generation capacity of 40 MW through three diesel-fired thermal power plants to be installed in Bamenda, Ebolowa, and Mbalmayo and operated by EDC and has also signed a contract with Aggreko to rent 60 MW of generation capacity in the Yaounde area for one year.

23. **The next-least-cost development is the Kribi Gas Power Project with an installed nameplate capacity of 216 MW, which is expected to start producing power in the latter part of the dry season 2012/2013.** Comprehensive economic analysis confirms the least-cost generation investments in Cameroon's electricity sector as follows: the Kribi Gas Power Project with an optimal capacity of up to 330 MW,[10] followed by the LPHP with a planned partial filling of its reservoir in 2014 and full operations starting in 2015. The Kribi power plant and transmission line have been awarded to Kribi Power Development Company (KPDC)[11]—also based on the electricity law's emergency provisions. The Sanaga South gas field and the gas

[9] DPDC is 56% owned by The AES Corporation, 44% by the Government of Cameroon.
[10] The plant's capacity of 216 MW was designed to meet system needs in 2011, but its construction was delayed. In coming years, it is therefore expected that additional gas-fired capacity will be needed.
[11] KPDC is 56% owned by The AES Corporation, 44% by the Government of Cameroon.

processing facility are being developed by Perenco Cameroon[12] and the on-shore gas pipeline will be built by SNH.

24. **The key to unlocking Cameroon's hydropower potential is the LPHP, which will regulate water levels in the Sanaga River and thus increase the potential to generate reliable all-season hydropower downstream from 2015 onwards.** Cameroon's three existing water reservoirs do not have sufficient storage capacity to maintain reliable power supply during the dry season. Constructing the Lom Pangar regulating dam will establish a reservoir that allows for the optimal seasonal management of the water flow of the Sanaga River, thereby increasing the guaranteed average water flow on the Sanaga. In the short term, the LPHP will increase the available guaranteed power generation capacity at the two existing hydropower plants Edéa and Song Loulou in the dry season by at least 120 MW. The LPHP also includes the construction of a 30 MW power house at the foot of the dam and a 120-km long 90-kV transmission line to inject reliable low-cost hydropower into Cameroon's power system for rural electrification of the Eastern Province. In the medium term, the realization of the LPHP unlocks access to the hydrological potential of the Sanaga River of up to 6,000 MW through additional investments in downstream hydropower plants. Following the LPHP, a cascade of low-cost hydropower projects can be built along the Sanaga River, starting with the Nachtigal hydropower plant, the next least cost investment after the LPHP. Adding additional hydropower supply to the system will reduce the average cost of electricity over time and provide reliable, low-cost power supply for all consumers. The LPHP is being prepared by EDC with TA from the World Bank's ESDP.

25. **Access to electricity in rural areas is facilitated by the Rural Energy Fund.** The REF, executed by AER, puts in place a transparent and coordinated approach to rural energy projects with a view to rapidly improving access to modern energy by rural communities. Improving access to electricity remains a top priority in Cameroon with only about 14% of rural households currently having access. Following similar successful models in Mali and Senegal with respect to off-grid rural electrification, the REF pools budget and donor funds to provide partial investment subsidies to private rural energy operators. The ongoing ESDP is currently being re-structured to facilitate a fast-track implementation of grid-based rural electrification utilizing AER to manage planning and construction of infrastructure and AES SONEL to manage operations, maintenance, and commercial management. Participation in construction by rural communities after suitable training is a significant aspect of the revised approach and will assist in enabling rural economic empowerment in the newly electrified areas. As part of the financing, AES SONEL will be required to make a contribution to infrastructure cost based on the subsidies allowed by the REF. The GOC and AES SONEL have agreed in principle to the revised approach to grid-based rural electrification. Through the ESDP, the World Bank has facilitated the creation of the REF and is co-financing the REF with US$40 million. This funding will enable approximately 105,000 households to have access to electricity. Other donors have expressed interest in contributing to the REF in the future.

c. Tariffs

26. **In Cameroon's electricity market, low (LV) and medium (MV) voltage tariffs are regulated, while high voltage (HV) tariffs are freely negotiable.** Under the concession

[12] A subsidiary of Group Perenco S.A. (France).

contracts, LV and MV tariffs are regulated according to a tariff formula and under the supervision of ARSEL, while HV tariffs are subject to commercial negotiations. Since privatization, LV and MV tariffs were increased four times between 2001 and 2004. These increases were justified as no tariff increase had previously occurred for fifteen years and price adjustments were necessary to cover overdue investments and to ensure that AES SONEL was profitable without subsidies from the Government budget. In mid-2010, ARSEL rejected the tariff increase proposed by AES SONEL (in accordance with the tariff formula) ahead of upcoming 2011 presidential elections. The GOC and AES SONEL have signed a compensation agreement pursuant to which the GOC commits to pay tariff compensation to AES SONEL for 2010 and 2011 to ensure the utility's financial viability. The compensation agreement includes the GOC commitment to return to regulatory tariff increases as stipulated in the concession agreements from 2012 onwards to ensure that AES SONEL is able to meet profitability targets without Government subsidies. For 2010, a transparent budget transfer was affected from the GOC to AES SONEL in the amount of CFA 10 billion (US$21 million equivalent). The compensation amount for 2011 has indicatively been budgeted at CFA 11 billion (US$23 million equivalent) and included in the GOC's 2011 budget law, but is in the process of being audited by the regulator before payment. These are the only payments expected to be made from the GOC's budget to the electricity sector and they are temporary in nature. The issue of the application of the tariff increase will be at the core of the World Bank sector dialogue going forward.

27. **LV and MV tariffs are higher than HV tariffs due to several factors.** In 2010, the average tariff for the public sector was CFA 72.9/kWh (US$0.16/kWh equivalent), while the average tariff for Alucam was CFA 13.01/kWh (US$0.028/kWh equivalent). Cameroon's electricity network consists of three isolated networks, including the Southern Interconnected Grid (SIG) and the Northern and Eastern grids. As hydropower accounts for the majority of generation capacity in the SIG, its average production costs are lower than those of the Northern grid and especially the Eastern Grid, a network of expensive diesel-fuelled power plants. All HV clients, including the aluminum smelter Alucam, are connected to the SIG and therefore benefit from its relatively lower production costs. In comparison, the higher tariffs for LV and MV consumers cover (i) the higher share of expensive thermal generation in other networks, (ii) a significant share of high-cost thermal peaking power, (iii) significant distribution losses of close to 30% and, until 2009, (iv) a historic cross-subsidy to Alucam.

28. **Historic cross-subsidies from LV and MV consumers to Alucam are being phased out.** For the construction of Cameroon's first hydropower plant at Edéa on the Sanaga River in 1953, Alucam's demand represented 96% of total power demand at the time, of base load, which has decreased to about 30% of total power demand by 2009. Until end-2009, Alucam benefited from a 30-year historic Power Purchase Agreement (PPA) with AES SONEL for up to 165 MW during the wet season and 145 MW during the dry season at very beneficial tariffs which were cross-subsidized by higher tariffs for LV and MV consumers. Under a new long-term PPA with AES SONEL in effect since January 2010, Alucam's average electricity tariff for up to a maximum of 250 MW of power during the wet season once the Kribi Project is online was increased to CFA 12.94/kWh (US$0.028/kWh equivalent) before indexation, an increase of over 80% from historic levels and above the average global electricity tariff to aluminum companies of US$0.025/kWh.[13] In line with international market practice, the new PPA includes additional

[13] 2008 / CRU data 2006.

indexation mechanisms. This indexation has been applied since 2010. As the aluminum smelter is directly connected to the Edéa hydropower plant, the cost of service to Alucam includes dedicated generation costs, transmission and transmission system management costs, and minimal commercial costs, but no distribution costs. An independent review by a consultant of ARSEL of the separated accounts submitted by AES SONEL confirms that the new indexed tariff for Alucam covers AES SONEL's average cost of production for Alucam, including the capacity charge for generation and transport for electricity supplied by the Kribi Project and a pass-through mechanism for the cost of gas of the Kribi Project going forward. With TA financed by the World Bank, ARSEL has conducted an independent review of the gas price negotiated between SNH and KPDC to ensure that it covers all investment costs and does not contain hidden subsidies. As a result of the regulatory review, the gas price has been increased. Under the revised tariff structure, Alucam does not receive any fiscal subsidy from the GOC's budget.

29. **Going forward, the difference in LV and MV tariffs compared to HV tariffs is expected to decrease further due to an increasing share of low-cost hydropower available to LV and MV consumers after the construction of the LPHP**, a higher tariff for Alucam effective since 2010, expected results from ongoing investments to reduce distribution losses and a change in tariff system from price control to revenue control, allowing for improved tariff regulation. Beyond the 250 MW of electricity supply from AES SONEL to Alucam under the new PPA and if Alucam's plans for expanded operations in Cameroon materialize, a new cost of service based concession contract is expected to be concluded for any additional power sales to Alucam.

30. **LV and MV tariffs under the AES SONEL concession have historically operated under a price cap formula which, as provided for under the concession agreements, is scheduled to change to a revenue cap mechanism.** In the first ten years of the concession contracts, the applicable tariff formula was based on a price control mechanism for LV and MV customers. Starting from 2011, the tariff regime was scheduled to change to a revenue control mechanism to be applied based on types of activities (LV/MV sales, distribution, transmission, transmission system operation, generation) and which is expected to continue to include adjustments for improvements in efficiency. In preparation of the new tariff regime and in line with its obligations under the concession contract, albeit with some delay, AES SONEL has submitted its separated accounts by activities for 2009 to ARSEL. ARSEL is conducting an audit of these separated accounts with TA from the World Bank's ESDP and has built a regulatory model with TA financed by PPIAF. This provides ARSEL for the first time with detailed data required to adequately regulate tariffs and allows implementing the change in tariff regime for LV and MV consumers from a price cap to a revenue cap mechanism as foreseen in the concession contract.

c. The Kribi Gas Power Project

31. **As the next-least-cost generation investment in Cameroon's electricity sector, the Kribi Gas Power Project will add 216 MW (nameplate) of power generation capacity and trigger the development of Cameroon's gas reserves that have so far not been exploited.** KPDC was created in 2008 as an IPP to develop the Kribi Gas Power Project. The proposed Project consists of (i) the development, construction, and operation of a new 216 (nameplate)

MW natural gas-fired power plant located near the Mpolongwe village, nine kilometers (km) north of the coastal city of Kribi in South Province of Cameroon, and (ii) the development and construction of a new 100-km 225-kilovolt double-circuit transmission line between the Kribi power plant and the existing Mangombe 225/90-kV substation at Edéa in Littoral Province, including substations and transformers. The Project is structured as build, own, operate, and transfer (BOOT) and KPDC will receive twenty-year electricity generation and sales licenses from MINEE based on the recommendation from the electricity regulator, ARSEL. The Kribi power plant will operate on natural gas supplied from the Sanaga South gas field, Cameroon's first gas field to be developed by Perenco Cameroon. A Gas Sales Agreement (GSA 1) has been signed between SNH and Perenco Cameroon, and SNH will sell the gas to KPDC under the Gas Sales Agreement 2 (GSA 2). AES SONEL will be the sole off-taker of electricity produced by KPDC under a twenty-year arms' length PPA that is under finalization. Electricity generated under the Kribi Gas Power Project will be transmitted into Cameroon's Southern Interconnected Grid. (See Annexes 4 and 6.)

32. **The Project provides a low-cost diversification of generation resources and increases the availability and reliability of electricity supply.** The Project will serve as a base load plant in the short to medium term and will also have a role in addressing peaking demand from the general public and add much needed spinning reserve in the system which will add to the stability and reliability of Cameroon's mainly hydropower based electricity system. In addition, with a levelized tariff of US$0.128/kWh, the Project is a relatively low-cost thermal addition to Cameroon's power system before additional hydropower generation capacity becomes available. The Project will provide the anchor investment to develop the gas reserves in the Sanaga South gas field, which are larger than the gas needs of the Project.[14]

33. **The electricity generated by the Kribi power plant will allow AES SONEL to relieve suppressed demand in the SIG for the equivalent of about 163,600 households.** It is estimated that Kribi will enable AES SONEL to serve 129 GWh of suppressed demand due to insufficient power generation. Based on current 25% total system losses and estimated average household consumption of 600 kWh per year (disregarding any consumption by businesses), this would be equivalent to the consumption of about 163,000 households (*i.e.*, about 815,000 people (assuming an average household size of 5)).

34. **Supplying 50 MW of capacity to Alucam provides a stable base load for the Project with positive benefits for the economy.** Under the new PPA between AES SONEL and Alucam, in effect since January 2010, Alucam's guaranteed electricity supply from AES SONEL increases to 190 MW in 2013 and 2014 and a maximum of 250 MW from 2015 onwards. 50 MW will be supplied to Alucam from the Kribi Gas Power Project through AES SONEL, thereby ensuring a stable base load demand for the Project. The power supplied to Alucam under the PPA with AES SONEL will provide more reliable electricity to Alucam's existing smelting operations which are currently producing below capacity. Direct benefits of Alucam's operations include the incremental value-added from its production operations, employment and

[14] SNH has estimated the recoverable gas resources of the total Sanaga South gas field at 1,154 billion cubic feet (BCF) (equivalent to 32.66 billion cubic meters (bcm)). This figure corresponds to the best estimate, between the low estimate of 428 BCF and the high estimate of 1,605 BCF. (SNH technical and economic study, 2005). The annual contract quantity for the Kribi power plant is estimated at about 10 BCF (equivalent to 0.283 bcm or 10,550 terajoules (TJ)) (Amendment No.1 to GSA, March 2009).

contribution to the state budget. Alucam's activities at the current production level (including taxes and customs fees paid) yield positive economic benefits of about 0.57% of GDP on average for 2010-2012. The power generated by the Kribi power plant will allow Alucam to operate at full capacity, so production will increase from 79,000 tons per year to 95,000 tons. The value added is sensitive to the price of aluminum and Alucam's cost structure, in particular alumina and electricity inputs. Based on the cost structure prevailing in 2007 with the current electricity price charged to Alucam of US$ 2.8 cents per kWh, the price of aluminum forecasted by the World Bank (around US$2,540 per ton in 2010 prices for the period 2013-2015) and standard multipliers for the industry, in particular the experience of Mozal smelter in Mozambique, the incremental direct and indirect value-added and contribution to state budget from the additional power made available to Alucam by the Kribi Project is estimated at 0.11% of GDP. Access to power from the Kribi power plant will allow Alucam to contribute about 0.65% of GDP between 2013-2015. The incremental direct and indirect employment is estimated at 195 employees. This represents an 18% increase over current level of employment generated by Alucam.

35. **The proposed IDA Guarantee for the Project will trigger access to long-term private finance for the development of Cameroon's electricity sector.** Historic investments in Cameroon's electricity sector by AES SONEL have been financed by equity and loans from Development Finance Institutions (DFIs) on a corporate finance basis and, in the case of Dibamba, on a project finance basis. Local and international commercial banks have only provided short-term corporate finance to AES SONEL and have not participated in any long-term project finance. The proposed IDA Guarantee will open up access to private project financing from local and international commercial banks for projects in the electricity sector. As the reliability of the GOC, the state-owned gas supplier SNH, and the electricity regulator ARSEL to honor their contractual obligations under the project documents in an IPP-type transaction have not yet been tested, the IDA Guarantee can help overcome perceived uncertainty and risks related to government performance from the perspective of a private lender by backstopping political and regulatory risks under the Government Commitment Agreement (GCA).

36. **Access to long-term local currency financing will reduce foreign exchange risk for KPDC and AES SONEL and reduce interest rates with a positive impact on consumer tariffs**. Foreign exchange rate risk and unexpected currency movements have led to failures of some PPPs and concession contracts globally. Access to local currency financing can therefore increase the sustainability of PPPs and reduce the cost of borrowing. Cameroon's financial market benefits from strong liquidity, but suffers from structural and regulatory limitations which limit the intermediation of this liquidity to long-term productive investments. Banks have primarily short-term deposits limiting their ability to lend at maturities required for long-term infrastructure investments. Current loan maturities without credit enhancement cannot exceed seven years. To minimize the impact on the bulk supply tariff, KPDC is looking to raise financing with a fourteen-year maturity. To bridge these differences in maturities and allow local banks to participate in the financing of the Project, a financing structure has been developed which allows local banks to extend their loan after an initial seven-year maturity. In case KPDC is unable to extend or refinance all or part of the local currency tranche for the Project, the GOC has agreed to step into the position of the commercial lenders until KPDC can arrange for replacement of such commercial lenders to take over the relevant loan participations (see paragraph 54*ff*). This GOC commitment will be supported by the proposed IDA Guarantee.

37. **As the first private project financing in Cameroon, the local currency financing for the Project will contribute to the development of Cameroon's financial markets.** By creating a precedent in project finance by local commercial banks, the IDA Guarantee will contribute to capacity building in local markets in project finance type transactions and long-term lending. Cameroon's financial sector suffers from a lack of functioning capital markets and the absence of a long-term pricing benchmark in the absence of long-term government bonds.[15] In this environment, the local currency tranche of the Project will establish a reference transaction for future project finance transactions, thereby contributing to the development of term finance in Cameroon's financial system and allowing for further intermediation of available liquidity to productive uses, in particular infrastructure.

38. **IFC is coordinating a Euro-denominated loan by DFIs.** IFC, African Development Bank (AfDB), European Investment Bank (EIB), Netherlands Development Finance Company (FMO), the French Promotion and Investment Company for Economic Cooperation (PROPARCO), and the Central African Development Bank (BDEAC) are expected to provide about 61% of project debt through Euro-denominated parallel loans, with BDEAC providing a CFA-loan, in the aggregate amount of EUR 135 million (US$181.7 million equivalent), complementing the CFA 40 billion (US$82 million equivalent) local currency loan from commercial banks benefiting from the IDA Guarantee. Given the limited financing capacity of the commercial financial markets, DFI financing is required to realize the Project. The Project is therefore an example of a successful PPP between a private developer, the GOC, and private and public lenders. See Annex 5 for the financing plan of the Project.

39. **The successful realization of the Kribi Project with the participation of private lenders will send a positive signal for Cameroon's business climate.** Cameroon is ranked almost at the bottom of the Doing Business indicators (168 out of 181 in the 2011 report) and potential investors cite the country's poor investment climate as a major impediment to increased private investment. At the same time, the large financing needs required for the realization of the GOC's *Growth and Employment Creation Strategy 2010-2019* cannot be met by the GOC alone and require access to large-scale private sector investment. The successful financing and implementation of the Project will send a strong signal that (i) PPPs are possible in Cameroon, thereby setting an attractive precedent for future private investments in the power and infrastructure sectors, and (ii) that the GOC is committed to developing large-scale infrastructure projects in a sustainable way.

40. **The GOC developed a comprehensive Gas Masterplan in 2003, including the development of the Project and scenarios for the planning of future gas developments projects.**[16] The Kribi Gas Power Project is the trigger for the development of Cameroon's considerable offshore gas reserves. The Sanaga South gas field is being developed at a scale which is dedicated to the needs of the Kribi power plant, but can be scaled up in the future. Further development of Cameroon's gas reserves would provide the opportunity to transform some of the existing HFO-fired power stations to lower cost gas-fired solutions in the future, such as the 85 MW HFO plant at Limbe if the Logbaba gas field is developed. The GOC is envisioning to add value to the country's gas resources in at least the following areas: (i)

[15] The only sovereign bond issued by the GOC to date has a maturity of 5 years.
[16] *Cameroon Gas Masterplan*, SNH/Shell, 2003.

reduction of flaring (approximately 3 million cubic feet per day in Rio del Rey); (ii) supply of the local market (new Kribi and converted Limbé thermal generation plants, SONARA, and possibly some industrial consumers in Douala); (iii) extraction of condensates and liquefied petroleum gas (LPG) (the LPG consumption is 60,000 tons per year, at present half produced by SONARA and half imported in small cargoes at a high price); and (vi) export of the dry gas to Equatorial Guinea for liquefaction and liquefied natural gas (LNG) exports. Under the ESDP, the World Bank is assisting the GOC to further determine the role of gas in electricity production as part of the update of the least-cost electricity sector development plan.

B. Rationale for World Bank Group involvement

41. **World Bank Group (WBG) Strategy.** The GOC's development vision, *Vision 2035*, and the related poverty reduction strategy, the *Growth and Employment Creation Strategy 2010-2019* are focused on improving governance and increasing investment in key infrastructure sectors, starting with electricity, to improve Cameroon's competitiveness and economic growth. The World Bank is a strategic partner to help the GOC realize its growth and poverty reduction objective. The 2010-2013 CAS proposes a comprehensive program of operations and analytical work to assist the GOC to increase competitiveness and improve service delivery, with a focus on governance as a cross-cutting theme. Under the competitiveness pillar, the CAS includes operations to improve access to reliable least-cost energy supply for growth, employment creation, and poverty reduction. The World Bank's existing energy portfolio in Cameroon includes the US$65 million ESDP and the US$20 million PRECESSE. The Bank has lent US$53.4 million to the GOC to finance its equity stake in the Cameroon Oil Transportation Company S.A. (COTCO) for the Chad-Cameroon Pipeline Project (CCPP). The World Bank proposes to support KPDC in the development of the EUR 259 million (US$350 million equivalent) Kribi Gas Power Project through the provision of an IDA Guarantee in the amount of up to CFA 40 billion (US$82 million equivalent).

42. World Bank interventions in Cameroon are closely coordinated with IFC and look to maximize synergies between World Bank Group institutions. IFC acted as advisor to the GOC in the privatization of AES SONEL and was the lead arranger for a EUR 260 million syndicated loan for AES SONEL's EUR 380 million five-year investment program, providing EUR 70 million. IFC is a senior lender to ExxonMobil for the CCPP and is arranging the EUR-denominated DFI-loan for an amount of EUR 135million (US$181 million equivalent) for the Project with an IFC participation of up to EUR 64 million (US$86 million equivalent). IFC and World Bank teams have closely collaborated in Project preparations.

43. The World Bank is focusing on a coordinated cross-sectoral approach towards improving governance in the energy sector, including links with an improved investment climate and improved capacity for the GOC to fully comply with international due diligence standards for environmental and social standards. Since the GOC's capacity to handle this issue is limited, the World Bank is, through its ongoing PRECESSE, helping to strengthen capacities to monitor environmental and social impacts of the CCPP, the Kribi Gas Power Project, and the LPHP.

44. Benefits of World Bank Group engagement in Cameroon's energy sector to date include the mobilization of significant investment for the realization of least-cost sector investments, the establishment of a transparent and private sector based financing mechanism for rural

electrification, capacity building for all sector stakeholders to better execute their mandates and prepare the opening of the sector to new operators and TA with the preparation of complex energy sector projects, including the LPHP. IDA support for the Project is critical as (i) it improves access to private finance for Cameroon's largest IPP to date, thus contributing to ongoing private sector participation in the sector; (ii) it reduces exchange rate risk for AES SONEL which generates its revenues in local currency; and (iii) it helps the development of local financial markets to provide project finance with longer-term maturities.

45. As one of the first IPPs in Cameroon, the Kribi Project is in line with IFC's long-term strategy for Africa which aims to overcome structural constraints to private sector development and to support improvement to power infrastructure. Since 2001, IFC has been working in close coordination with the World Bank to engage the GOC and key sector institutions to help facilitate sustainable institutional and regulatory reforms in the country's power sector.

46. IFC will play an important mobilization role, by coordinating the long-term financing from DFIs. IFC additionality encompasses: *(i) providing comfort against political/regulatory risks:* AES values IFC as a long-term partner in the Project and Cameroon's power sector. Through its role as lenders to AES SONEL and Dibamba and its in-country presence, IFC, together with the World Bank, is well placed to have an effective dialogue with sector stakeholders to help facilitate the Project's development; *(ii) bringing extensive knowledge and experience in financing IPPs in Africa and in emerging markets globally:* the Project's long-term sustainability requires ensuring that the contractual structure allows for balanced risk sharing among stakeholders according to market practice for similar projects; *(iii) structuring long-term financing:* by structuring the financing in a way that is consistent with industry practice for limited recourse project finance, the Project will be able to secure long-term debt from DFIs which matches the long-term nature of the asset while maintaining a reasonable impact on tariff levels; *(iv) creating conditions for replicable IPP model:* in coordination with the Bank, IFC has been instrumental in (i) the development of an economic study of the power sector which has included a least-cost expansion plan and (ii) supporting the GOC in it's hiring of experienced legal, technical, and financial industry advisors to assist in their negotiations of contractual arrangements.

47. **Indications of GOC commitment.** The GOC has shown political will to open the electricity sector to private sector participation. The state-owned vertically integrated power utility was privatized through a twenty-year concession in 2001 and a second operator, DPDC was created in 2009. KPDC was established in 2008 to develop the Kribi Gas Power Project according to an IPP-type model. The GOC, the private sector, and the World Bank are engaged in an intensive policy dialogue in the energy sector. The GOC has requested IDA support to the Project through the proposed IDA Guarantee since 2007. Given the Project's important role in addressing the electricity supply gap in 2012/2013, the GOC has actively been facilitating the realization of the Project. The GOC has committed EUR 28 million (US$38 million) in equity to the Project, the majority of which has been paid in. The GOC has recruited an experienced advisor for negotiations of key project agreements with a view to adopting a balanced approach to risk sharing. The GOC is committed to the development objective to allow local banks to participate in the financing of the Project, as illustrated by the GOC commitment to guarantee the refinancing risk of the local currency loan to the Project. This will facilitate the intermediation of financial market liquidity to productive investment uses.

C. Higher level objectives to which the Project contributes

48. **The Project is in line with the World Bank Group's energy strategy, supporting Cameroon to achieve shared growth and to reach the strategic objectives of the GOC's *Vision 2035.*** To address these higher level development objectives the energy strategy focuses on improving access to and the reliability of clean energy for enterprises and households. Closing the energy infrastructure gap to spur economic and shared growth is a key priority of the GOC. In its revised development strategy, *Vision 2035*, the GOC aims to reduce poverty, spur growth, and create jobs through increased industrialization, improved productivity, and better governance. The GOC's *Growth and Employment Strategy Paper 2010-2019* aims to increase non-oil growth by investing in key infrastructure, improving productivity and the business climate, and strengthening human development and regional integration. Developing Cameroon's vast energy resources, including the Kribi Gas Power Project, as enabling infrastructure for growth and poverty reduction is a strategic pillar of *Vision 2035*.

49. **Support to the Project is in line with the World Bank Group's Sustainable Infrastructure Action Plan, assisting Cameroon to improve the reach and quality of infrastructure investments in a sustainable manner through increased financial and analytical support.** The Sustainable Infrastructure Action Plan encourages increased cooperative approaches among different institutions of the World Bank Group, the donor community, and the private sector on large and complex energy infrastructure projects in Africa. The Project aims to facilitate a successful PPP between the GOC, KPDC, DFIs, and commercial lenders to ensure economic, financial, environmental, and social sustainability of this complex energy sector investment in Cameroon. The World Bank and IFC are therefore working in close collaboration with the GOC, KPDC, and other DFIs (AfDB, EIB, FMO, PROPARCO, BDEAC) to support Project preparations. The partnership aspects of the proposed Project are inspired by the Africa Strategy which has as a main instrument for the Bank in the region the deployment of partnerships for greater development impact.

50. **The Project is inscribed in Cameroon's 2010-2013 CAS.** The World Bank has aligned its CAS for Cameroon 2010-2013 with GOC's revised poverty reduction strategy, the *Growth and Employment Creation Strategy 2010-2019*. The CAS is focusing on helping Cameroon stimulate growth through improving the competitiveness of the Cameroonian economy and enhancing private sector participation in infrastructure investments with the objective to maximize the impact on growth and poverty reduction. The Project, which, amongst others, is an instrument for the successful implementation of the least-cost energy sector development plan and the National Energy Plan for Poverty Reduction (PANERP), contributes to these higher level objectives.

II. PROJECT DESCRIPTION

51. **The Kribi Gas Power Project**, which benefits from financing facilitated by the proposed IDA Guarantee and the proposed IFC loan, consists of the development, construction, and operation of a new 216 MW (nameplate) natural gas-fired power plant located near the Mpolongwe village, 9 km north of the coastal city of Kribi in South Province of Cameroon, and the development and construction of a new 100-km 225-kV double-circuit transmission line between the Kribi power plant and the existing Mangombe 225/90-kV substation at Edéa in

Littoral Province, including substations and transformers. Electricity generated under the Project will be transmitted into Cameroon's Southern Interconnected Grid. The Kribi power plant will run on natural gas using light fuel oil (LFO) as backup fuel. Natural gas will be supplied from the offshore Sanaga South gas field in Cameroon. Following construction by KPDC, the transmission line will be transferred to the GOC and operated by AES SONEL or a successor transmission company. See Annex 4 for a detailed description of the Project.

52. **Associated infrastructure facilities** required for the proper functioning of the power plant include (i) the transmission line (including substations and transformers) after construction completion and transfer to the GOC with AES SONEL or a successor transmission company as operator, (ii) the development of the Sanaga South gas field by a joint venture between SNH and Perenco Cameroon under a production sharing agreement and financed by Perenco Cameroon; (iii) a Central Gas Processing Facility (CPF) being developed by Perenco Cameroon; (iv) the marine and terrestrial gas pipelines, including a 14-km offshore gas pipeline from the Sanaga South gas field to the CPF, a 14-km offshore glycol injection pipeline between the gas field and the CPF and a 21-km offshore condensate/process water pipeline from the CPF to the existing KB-4 well from where it will be connected to the existing Ebome storing platform for exports, all financed by Perenco Cameroon; and (v) an 18-km onshore gas pipeline from the CPF to the Kribi power plant at Mpolongwe, financed by SNH.

53. In terms of **contractual arrangements**, Perenco Cameroon and SNH have signed GSA 1 and its amendment for SNH to purchase the gas and supply it to KPDC under GSA 2 and its amendments. KPDC will sell the electricity produced to AES SONEL under a twenty-year PPA and in conformity with its twenty-year power generation and sales licenses to be obtained from the GOC. Other contractual agreements related to the project include EPC contracts between KPDC and its suppliers for the power station, engines, transmission line, substations and transformers; connection installations and technical services agreements between AES SONEL, another AES affiliate and KPDC; financing agreements between KPDC and its lenders; and a Government Commitment Agreement between the GOC, KPDC, and its main shareholder, AES Kribi Holdings BV. See Annex 6 for detailed implementation arrangements.

A. Bank Group instruments—IDA Guarantee and IFC Senior Loan

54. The GOC has requested an IDA Guarantee to facilitate the participation of local banks in the financing of the Project as well as build capacity in local lending markets. As confirmed by local banks and the project sponsor, the local currency loan is not able to go ahead without the IDA Guarantee due to the risk perception by private lenders associated with the Project and structural limitations in their funding base preventing them from lending for the required fourteen years without a credit enhancement mechanism. IFC-led DFI financing is required as available private sector finance is not sufficient to finance total Project costs. Successful Project realization therefore depends on World Bank Group participation.

55. The Project is a major infrastructure investment in Cameroon and would benefit from an IDA Guarantee and IFC lending. An IDA Guarantee of up to CFA 40 billion (US$82 million equivalent) is proposed to facilitate the participation of local commercial lenders in the financing of the Project. In addition, IFC is proposing to provide an A Loan of up to EUR 64 million (US$86 million equivalent). The total World Bank Group exposure to the Project would be of up

US$168 million equivalent. In view of the significant amount of investment required, the perceived country and sector risks, Cameroon's limited track-record in attracting private capital for large infrastructure investments and the limited depth of Cameroon's financial markets, the Project would not be financeable for equity investors and local commercial lenders without the participation of IFC, the other DFIs, and IDA. KPDC and the commercial bank lender group have indicated that broad World Bank Group participation is also critical to mitigate the risks associated with the provision of long-term financing for a gas power project in Cameroon. Given the significant capital required for the Project and the benefits of mobilizing private investment, the Project has been developed as a PPP.

a. IDA Guarantee

56. Without credit enhancement, the local lending market in Cameroon is currently limited to maximum maturities of about seven years (door-to-door), which is insufficient for long-term infrastructure finance. No private project finance transaction has been concluded in Cameroon's financial markets and projects have been exclusively financed by DFIs. The GOC has requested IDA support of a proposed Local Loan to enable local bank participation in the transaction and lower the impact of the Local Loan on the bulk supply tariff. The proposed structure allows local banks to participate in the financing and lend up to CFA 40 billion (US$82 million equivalent) to KPDC, corresponding to about 31% of overall project debt. This reduces exchange rate risk for KPDC, AES SONEL, and end-consumers, creates a benchmark transaction for private project finance for infrastructure in Cameroon's domestic financial market, and reduces financing costs. Market soundings show that the proposed IDA Guarantee will reduce all-in financing costs of the Local Loan compared to financing costs without an IDA Guarantee.

57. The proposed Local Loan is from local lenders in the local currency of the Central African Monetary Union, the Central African Franc (CFA, or XAF in currency trading). The CFA has been pegged to the Euro since 1999 (and French Franc before 1999 for many years).

58. The proposed Local Loan is structured as a seven-year loan with a fourteen-year amortization profile, resulting in a balloon payment at year seven corresponding to about 65% of the original amount. The Local Loan Agreement will contain a pre-negotiated extension option at year seven, for Local Lenders to extend their loan for another seven years. In case a Local Lender does not opt to extend its participation in the Local Loan, it can put its Local Loan participations to the GOC under the Local Loan Purchase Agreement, to be held until KPDC or the GOC has found replacement commercial lenders for the Local Loan amounts held by the GOC, as described below.

59. **Risk allocation.** The GCA and the proposed IDA Guarantee are structured to respect standard risk allocation principles under PPPs and to allocate the risks to those parties which are positioned to manage them best. Construction, operational, and commercial risks are borne by the project sponsor and lenders. The risks of events of force majeure (both natural and political) and breach of contracts or licenses by public entities are, after applicable cure periods, borne by the GOC under the GCA. The proposed IDA Guarantee would cover debt service default caused by certain buyout trigger events under the GCA, as described below and in Annex 10. In addition, to address the shortcomings of local financial markets and to enable local lenders to participate in the financing, the GOC will agree to purchase the Local Loan participations under

a Local Loan Purchase Agreement, as described below; the proposed IDA Guarantee would backstop the GOC payment obligation under the Local Loan Purchase Agreement.

60. The proposed IDA Guarantee would guarantee private lenders of the Local Loan against debt service default caused by breach by the GOC of certain contractual obligations under the GCA or the GOC's breach of its payment obligation under the Local Loan Purchase Agreement. Those obligations are anticipated to be of five types:

- Certain buyout amounts triggered by the early termination of GSA 2 due to breach by SNH;

- Certain buyout amounts triggered by unilateral modification, termination, or breach by the GOC under the Electricity Sales and Electricity Generation License agreements;

- Certain buyout amounts triggered by an event of political force majeure under the project agreements, including political force majeure causing termination of the PPA;

- Certain buyout amounts triggered by a non-renewal or termination of the AES SONEL concession and failure to replace it with a qualified and acceptable concessionaire; and

- Certain amounts payable by the GOC to the Local Lenders under a Local Loan Purchase Agreement to be entered into by the GOC and the Local Lenders as described below.

61. The proposed IDA Guarantee coverage does not include payments by AES SONEL under the PPA. However, as noted above, if the PPA were terminated by KPDC due to an event of political force majeure, leading to a buyout of the shares in KPDC held by AES Kribi Holdings BV (the private investor in KPDC), the GOC obligation to make certain payments in respect of that buyout would be a covered event under the proposed IDA Guarantee.

Table 1: Allocation of key risks

Phase	Risks/Obligation	Sponsor and Lenders	Government	Risk Mitigation Package
Pre-construction	Project design	■		
	Financing	■		
Construction	Cost overruns	■		
	Construction delays	■		
	Implementation of ESMP, RAP	■	■	
Operation	Operation and maintenance	■		
	Output quality specifications	■		

Phase	Risks/Obligation	Sponsor and Lenders	Government	Risk Mitigation Package
	Implementation of ESMP	■	■	
	Tariffs	■	■	
	Gas supply		■	■ [17]
	Payments under the PPA	■	■	■ [18]
License term	Foreign exchange risk[19]	■		■ [20]
	Political force majeure		■	■ [21]
	Natural force majeure		■	
	Changes in law		■	■ [22]
	Expropriation		■	■ [23]
	Extension of the Local Loan (see paragraph 62)	■	■	■

62. **Local Loan Purchase Agreement.** Subject to at least [six] months prior notice, at the expiry of the initial seven-year term, each Local Lender may either (i) opt to extend the existing Local Loan Agreement per the pre-negotiated extension option in the Local Loan Agreement by another seven-year term or (ii) opt to leave the Local Loan Agreement by receiving a balloon payment (outstanding principal and interest, less a "put fee" (see paragraph 67)); provided that neither the Local Lenders nor International Lenders have already initiated acceleration proceedings or KPDC has already entered voluntary or involuntary bankruptcy proceedings. In the case of (ii), during a special cure period (*i.e.*, prior to the exercise date), such Local Lender may put its loan to the GOC according to the Local Loan Purchase Agreement.

[17] Nonpayment of certain buyout amounts under the GCA triggered by the early termination of GSA 2 due to breach by SNH is covered by the IDA Guarantee to the extent it affects debt servicing on the Local Loan. SNH has recourse to Perenco for certain payments under the GSA 1.

[18] Nonpayment of certain buyout amounts under the GCA triggered by the early termination of the PPA due to an event of political force majeure are covered by the IDA Guarantee to the extent it affects debt servicing on the Local Loan.

[19] AES SONEL generates revenues primarily in CFA. The PPA is in part indexed to Euros, creating a mismatch for AES SONEL between revenues and expenses. However, AES SONEL is permitted to pass through, within limits, the foreign exchange risk to end-consumers. Access by KPDC to the CFA-denominated Local Loan reduces exchange rate risk to AES SONEL and end-consumers.

[20] IDA would be taking limited CFA devaluation risk with a Euro cap.

[21] Events of political force majeure as defined under the GCA can lead to buyout of the private shareholder in KPDC under that agreement, a portion of which (representing payment in respect of amounts owing to the lenders) would be covered under the IDA Guarantee to the extent it affects debt servicing on the Local Loan.

[22] Changes in law are included in the definition of political force majeure in the GCA. Events of political force majeure can lead to buyout of the private shareholder in KPDC under the GCA, which buyout amount would be covered under the IDA Guarantee to the extent it affects debt servicing on the Local Loan.

[23] Expropriation is included in the definition of political force majeure in the GCA. Events of political force majeure can lead to buyout of the private shareholder in KPDC under the GCA, which buyout amount would be covered under the IDA Guarantee to the extent it affects debt servicing on the Local Loan.

63. It is, however, expected that Local Lenders would agree to extend their existing participations in the Local Loan on terms and conditions comparable to the original Local Loan Agreement. It is furthermore expected that the cost of such extension would be equal to or lower to KPDC than the costs associated with the original Local Loan Agreement since under normal circumstances the Project would be a better performing asset at the time of extension, as the construction period will have been completed and the Project will have an operating track record.

64. The IDA Project Agreement will require KPDC to agree upfront to a set of strict covenants whereby KPDC would be required to formally commence a process seeking extension or refinancing [twelve] months before the balloon date in the Local Loan Agreement. This would entail actively engaging with the existing Local Lenders with a view of retaining the same set of original Local Lenders on terms and conditions similar to those contained in the original Local Loan Agreement.

65. Each Local Lender will agree in the Local Loan Agreement to investigate in good faith the extension of its participation in the Local Loan Agreement during the period between [twelve and six] months prior to the expiry of the seven-year term, such good faith undertaking will include discussion with KPDC; due consideration; if considered appropriate, presentation of the option to such Local Lender's credit committee; and written communication with KPDC accepting or declining the extension. Any Local Lender unable to extend its loan must give at least [six] months prior notice to KPDC, the GOC, and the World Bank. Failure to notify by the deadline will be deemed agreement to the pre-negotiated extension.

66. The purchase price to be paid to Local Lenders by the GOC under the Local Loan Purchase Agreement would be equal to:

(i) if neither the Local Lenders nor International Lenders have declared any material default that remains uncured nor there is an event which with the passing of time will become such a default, par value of the balloon payment plus accrued interest; or

(ii) if, at the date six months prior to the balloon date, the Local Lenders or International Lenders have declared any material default that remains uncured or there is an event which with the passing of time will become such a default, the lower of fair market value or par of the balloon payment amount plus accrued interest. Fair market value would be determined by an independent third party (accounting firm or investment bank to be selected in agreement by both parties) using a pre-agreed methodology, such determination process starting six months prior to the balloon date. Provisions for the cost of the appraisal process will be included.

67. In any event, in the absence of a documented regulatory prohibition on extension of such Local Lender's Loan (or loan participation), the purchase price by the GOC would be reduced by a "put fee" of [50-100] basis points of principal. The put fee and the fair market value approach serve as incentives to Local Lenders to extend the Local Loan for a second seven-year period.

68. It is envisaged that the underlying commercial loan would be assigned from any outgoing commercial lenders to incoming commercial lenders and that the benefit of the proposed IDA Guarantee would also be correspondingly assigned. In case the GOC needs to step in as a

purchaser of participations under the Local Loan Purchase Agreement, the Local Loan Agreement is structured to encourage KPDC and the GOC to actively seek eligible replacement commercial lenders by, *inter alia*, restricting voting rights on those loan participations. The Local Loan Agreement will require the GOC to sell any loan it holds to a commercial bank buyer or buyers arranged by KPDC, provided that the GOC has approved the terms of such sale. In any period during which the GOC holds participations in the Local Loan according to the Local Loan Purchase Agreement, as the case may be, the IDA Guarantee would not benefit the GOC (or any other ineligible note-holder) as lender, although subsequent eligible holders of such participations would benefit from the IDA Guarantee unless the GOC holds such participations beyond a 24-month period.

69. The structure above contains incentives for extension of the Local Loan. First, under normal circumstances, the credit profile of the Project will have improved after the first loan period given that it has passed the construction phase and is generating revenues. It will therefore be attractive for local lenders to continue financing the project. Second, there is a natural incentive for KPDC and the International Lenders to avoid having the GOC in the lending consortium because (a) it cannot be expected to behave in a commercial manner and (b) it is already a shareholder in KPDC and could upset the balance of control within KPDC. To reinforce this, the legal agreements will have a "good faith" undertaking that requires Local Lenders and KPDC to meet and attempt to negotiate an extension; IDA may choose to participate in such meetings. If the Project is performing, the Local Lenders still choosing to leave will have to pay a "put fee" to leave. And if the Project is not performing (*i.e.*, in default with lenders), an exiting Local Lender would receive only the fair market value of its loan, creating the situation where extension may well look more attractive than the write-down of its loan.

70. The project agreements are described in Annex 6. Contractual arrangements relevant to the IDA Guarantee are illustrated in Figure 2 and include:

- The ***Local Loan Agreement*** between KPDC and Local Lenders;

- ***GSA 2*** between SNH and KPDC;

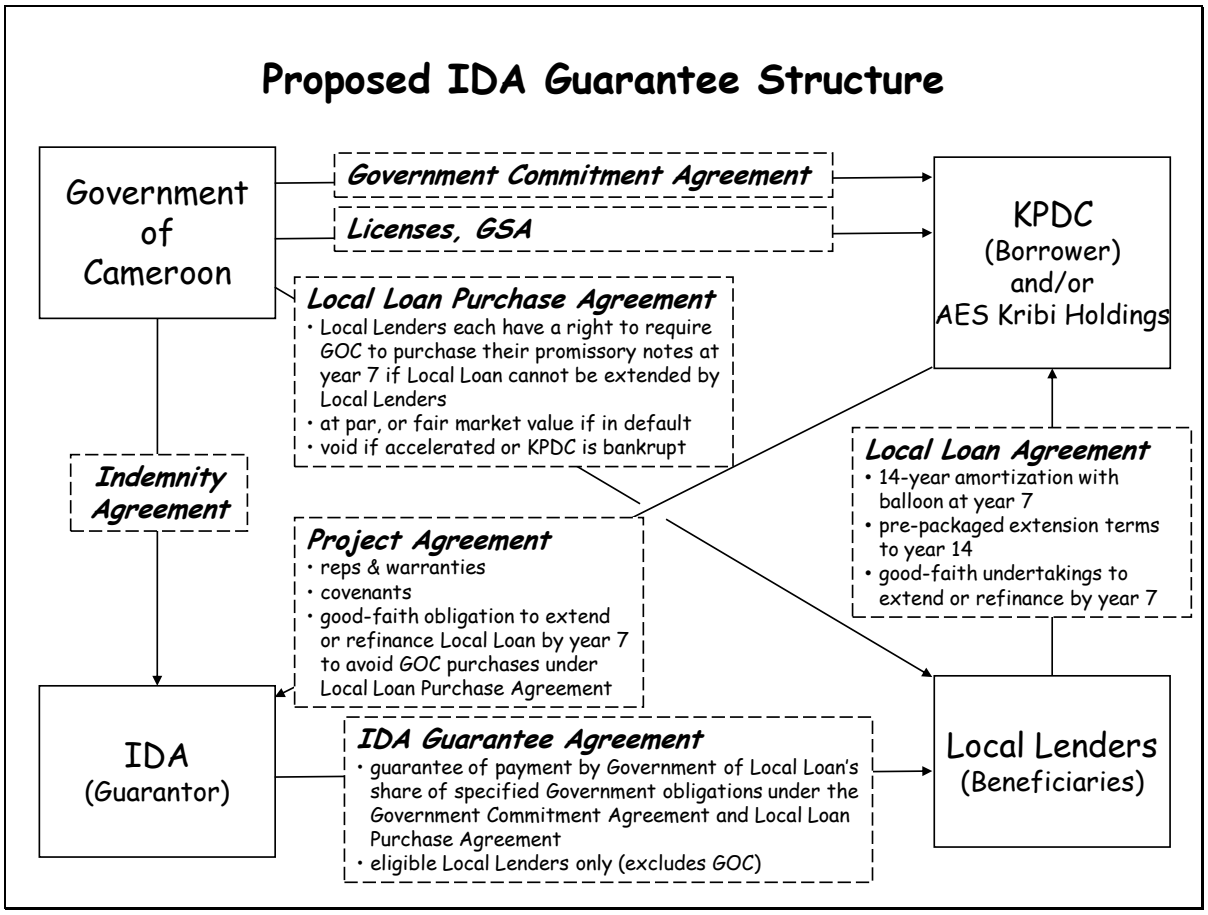
- The ***Electricity Generation and Electricity Sales License Agreements*** between the GOC and KPDC;

- A ***Government Commitment Agreement*** among the GOC, KPDC, AES SONEL, and AES Kribi Holdings BV. This agreement contains, *inter alia*, the GOC obligation to purchase the shares of KPDC held by AES Kribi Holdings BV in the event of specified trigger events, including but not limited to termination of GSA 2 due to a breach by SNH; a breach of the GOC's obligations under the Electricity Generation License or Electricity Sales License; and the failure by the GOC to arrange for extension of the AES SONEL concession or for a creditworthy offtaker under the PPA after the end of AES SONEL's concession.[24]

[24] AES SONEL's concession agreement expires in 2021, while KPDC's PPA has a twenty-year maturity.

- A ***Local Loan Purchase Agreement*** between the GOC and Local Lenders. This agreement will be entered into by the GOC and the Facility Agent on behalf of Local Lenders. Upon due notification by Local Lenders, the GOC would be obliged under the Local Loan Purchase Agreement to purchase, during a special exercise period at the end of the seven-year term (which runs coterminously with a special grace period under the Local Loan Agreement), the participations of Local Lenders that have not opted to extend as provided in the Local Loan Agreement.

Figure 2: IDA Guarantee contractual arrangements



71. In addition, IDA will enter into the usual documentation for IDA guarantees (Guarantee Agreement, Project Agreement, and Indemnity Agreement). See Annex 10 for a detailed description of the IDA Guarantee documentation.

b. IFC investment

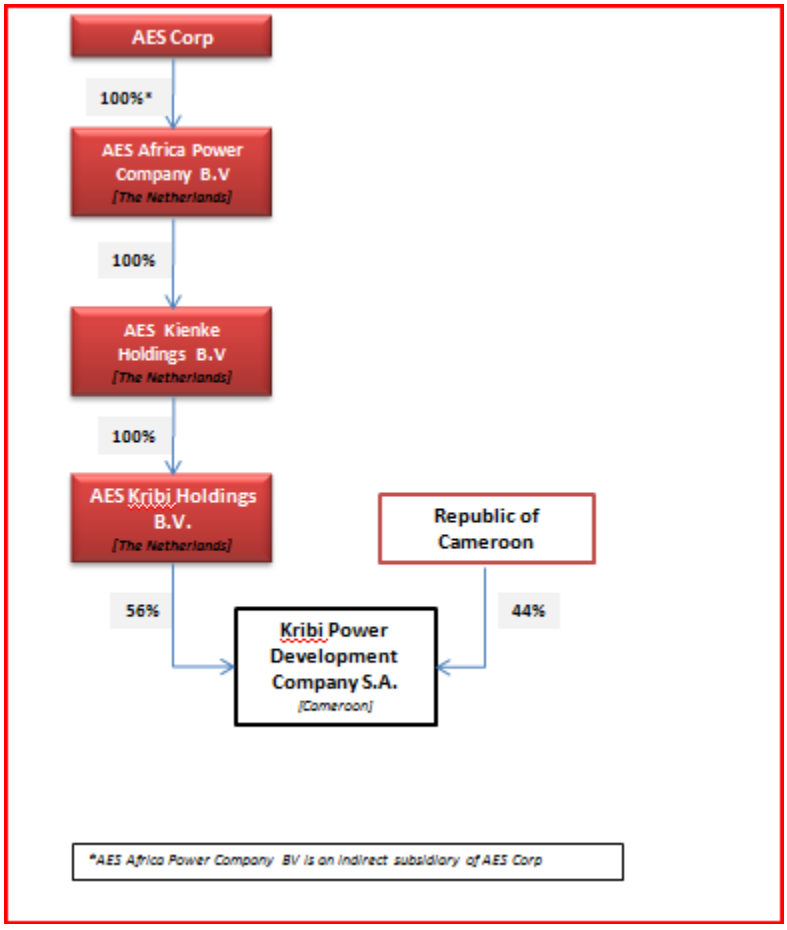
72. **Proposed IFC investment.** The proposed IFC investment is a senior A Loan of up to EUR 64 million (US$86 million equivalent) with a maturity of up to 14 years to KPDC.

73. Other key financing terms of the proposed IFC A Loan:

- Currency: Euros

- Amount and Currency: Up to EUR 64 million (US$86 million equivalent)
- Maturity: Up to 14 years
- Grace period: Up to 18 months
- Repayment profile: Semiannual equal installments

74. The AES Corporation (AES), (a Delaware corporation the shares of which are publicly traded on the NYSE) indirectly owns a 56% shareholding in KPDC, while the Republic of Cameroon holds 44%. AES holds its investment in KPDC as well as in other African assets through a series of wholly owned Delaware and Dutch holding companies as shown below:



75. All intermediate holding companies between AES and AES Africa Power Company B.V. not shown in the chart above are incorporated either in the United States or in The Netherlands.

76. This Dutch holding structure has been chosen as it results in tax efficiencies (availability of income tax exemptions for dividend income at the Dutch holding level as well as the existence of a tax treaty between The Netherlands and the United States). KPDC will pay income tax in Cameroon according to applicable tax legislation and distributions made by KPDC to the Dutch holding companies will be subject to withholding tax. Cash distributed from the Project and realized at a US entity will be subject to tax in the United States. As part of its due diligence, IFC

has also reviewed the various technical assistance arrangements between AES subsidiaries and KPDC and has found the fee arrangements to be in line with market practice.

77. In this proposed investment, IFC performed its standard enhanced due diligence, with emphasis on the business and tax planning rationale for the structure. Based upon the information available to IFC and the analysis conducted, IFC is satisfied that, from a transactional stand point, the structure was put in place for legitimate reasons and not for tax evasion, tax abuse or other illegitimate purposes.

78. In addition, IFC notes as one element (but not the only element) of its comprehensive due diligence review that The Netherlands has met all benchmarks for international tax transparency of the Peer Review Process of the Global Forum for Transparency and Exchange of Information for Tax Purposes. Specifically, The Netherlands recently underwent a combined Phase 1-Phase 2 review by the Global Forum and of all of the elements assessed, none were found to be "not in place." IFC notes also, that the Netherlands has a tax treaty that meets international standards in place with the United States, which is an additional factor giving IFC comfort with the tax transparency of the transaction structure.

79. IFC has been satisfied with its integrity due diligence on all relevant persons involved in the transaction in line with IFC's IDD guidelines.

B. Project development objective and key indicators

80. The project development objective is to (i) increase the capacity of electricity generation from the Kribi Gas Power Project and (ii) improve access to private finance for the development of the Kribi Gas Power Project, including local currency finance. IFC's results framework and arrangements for results monitoring (DOTS) is included in Annex 3.

81. The Project's proposed PDO indicators are:

- Quantity of electricity generated from Kribi power plant (GWh/year)
- Amount of private finance raised under the project (amount)

82. The Project's intermediate outcomes relate to the commissioning of the Project on time and budget. The following intermediate outcome indicators will be monitored:

- Generation capacity of conventional generation constructed under the Project (MW)
- Commissioning of the Project completed on schedule (yes/no)
- Trial run results of the Project meet owner's performance targets (yes/no)
- Indirect Project beneficiaries (number, of which % female)

C. Project components

83. The main components of the Kribi Gas Power Project, benefiting from the IDA Guarantee and the IFC loan, are (i) the development, construction, and operation of a new 216 (nameplate) MW natural gas-fired power plant (with LFO as alternative fuel) including auxiliary equipment and (ii) the development and construction of a new 100-km 225-kV double-circuit

transmission line between the Kribi power plant and the existing Mangombe 225/90-kV substation at Edéa in Littoral Province, including substations, transformers, and auxiliary equipment. See Annex 4 for a detailed description of the Project and associated facilities.

D. Lessons learned and reflected in the project design

84. The Project reflects the lessons learnt from the World Bank's energy sector operations and project finance transactions, in particular IPP financing. Specifically, the project design takes account of the following aspects:

85. **Guarantees can act as catalyst for access to private debt finance which would otherwise not be forthcoming in reform environments where governments have not yet an established track record of honoring their contractual obligations.** This is relevant in the context of Cameroon, as KPDC is managing the first gas to power IPP-type project finance structure to be implemented in the electricity sector. The reliability of the state-owned gas supplier SNH, the electricity regulator ARSEL, and the GOC to honor their contractual obligations under the project documents (GSA, IPP licenses, etc.) have not yet been established. The proposed IDA Guarantee can help overcome perceived uncertainty from the perspective of a private lender by backstopping political and regulatory risks.

86. **Any PPP-type intervention needs to take place in the context of a sound and transparent sector policy and regulatory framework in order to create sustainable access to private finance for investments in the electricity sector.** Cameroon's regulatory framework is evolving. Ongoing ESDP focuses on providing capacity building to all electricity sector stakeholders in Cameroon to improve the execution of their statutory mandates and increase planning capacity, transparency and governance in the sector. The ESDP is providing TA for the development of a gas-to-power strategy in the context of the update of a least-cost sector development plan for the electricity sector. In addition, the World Bank also supports the GOC in improving governance and the investment climate.

87. **A high quality sponsor is an important determinant of the long-term success of an IPP.** Sponsors needs to have the technical and financial strength and capability to successfully manage and implement the Project. The AES Corporation is a global power company with considerable experience in electricity generation and distribution in emerging markets. The AES Corporation and the GOC have signaled their long-term commitment to the Project through their respective equity contributions.

88. **Appropriate risk sharing between government and the private sector is key to the sustainable development of PPPs.** Each party should take the risks it controls and knows how to manage best. In line with this approach, the proposed IDA Guarantee in the Project will focus on backstopping government-related risks, including gas supply and regulatory risks, while leaving commercial risks to be absorbed by the Project sponsor and its lenders. In particular, the proposed IDA Guarantee does not backstop payments under the PPA, thereby providing reduced coverage compared to other guarantee transactions.

89. **Access to local currency financing can increase the sustainability of PPPs by reducing exposure to currency fluctuations.** Foreign exchange rate risk and unexpected

currency movements have led to failures of PPPs and concession contracts globally. This Project therefore aims specifically at reducing this risk by facilitating access to long-term local currency financing for Cameroon's first gas-to-power IPP project and helps overcome structural limitations of Cameroon's local financial markets through a refinancing option in case the local currency loan cannot be refinanced in the market for reasons beyond the control of KPDC.

90. **Maturity extension for local currency financing is difficult to achieve and requires innovative enhancement mechanisms.** Maximum maturity extensions achieved through other local currency IDA Guarantees, such as the Mozambique Southern Africa Regional Gas Project or the Senegal Electricity Sector Efficiency Enhancement Project, have been limited and loan maturities have not exceeded ten or fourteen years, respectively. Similarly, the maturity extension achieved by the IFC Partial Credit Guarantee for the mobile telecom operator Orange in Cameroon was only three years, increasing maturity from five to eight years. The proposed IDA Guarantee therefore includes an innovative extension mechanism under the Local Loan Purchase Agreement feature to allow local lenders to extend the CFA tranche by another seven years, bringing the total maturity up to fourteen years, in line with financing requirements for infrastructure projects.

91. **In light of limited donor financing for infrastructure investment and large investment needs, it is the most efficient use of limited IDA resources to help attract private finance through an IDA Guarantee where possible rather than using IDA lending for direct on-lending to public-private utilities.** This frees up fiscal space for direct government borrowing for infrastructure investments in areas which are not commercially viable on a stand-alone basis, such as rural electrification. This is the approach taken in the ongoing ESDP, which co-finances the recently created REF.

E. Alternatives considered and reasons for rejection

92. **Potential project alternatives:** Comprehensive economic analysis carried out by Sogreah Consultants (France) on the basis of an update of the *Plan de Développement à Long Terme du Secteur de l'Electricité Horizon 2030 (PDSE 2030)* has confirmed that the Project is the next-least-cost investment in Cameroon's electricity sector, following the 88-MW emergency Dibamba thermal power project which has been developed to address power shortages from 2009 onwards from unserved demand at peak hours. Over eighty scenarios were analyzed to assess Cameroon's least-cost power generation expansion options under various demand and supply scenarios, including different oil and gas price projections and levels of demand including and excluding Alucam (closure, status quo, expansion). Given the relatively longer gestation period of hydropower investments, potential alternatives to the Project, which will provide much needed peaking capacity from 2012 onwards, are additional HFO units which could be added at existing HFO plants. The resultant development plan is distinctly more expensive than involving natural gas. Therefore, HFO power plants were not considered a feasible alternative to developing the Project.

93. **Potential technology alternatives for the Project:** The study of least-cost expansion plan of the SIG had resulted in proposing for the Kribi gas-fired power plant gas engine technology with an optimum capacity of 300 MW (Sogreah Consultants, 2007). With regard to technology alternatives, gas engines were compared to gas turbines in combined cycle mode.

Gas engines with 16.6 MW unit capacity were confirmed as least-cost investment due to their lower investment costs. In addition, gas engine installation in several stages is feasible at the selected power plant site, allowing to potentially scale-up generation capacity from 216 MW to 330 MW in the future.

94. **Guarantee structure versus direct lending:** A Specific Investment Loan was considered as potential alternative to the proposed IDA Guarantee and rejected. Euro-denominated debt finance is available for the Project from DFIs (*i.e.*, IFC, AfDB, EIB, FMO, PROPARCO, and BDEAC). The proposed IDA Guarantee provides access to private commercial finance for the Project in local currency, thereby reducing exchange rate risk. It would not be an efficient use of IDA resources to lend directly to the Project through a foreign currency loan to GOC which would be retroceded to KPDC at market rates. Instead, providing an IDA Guarantee will allow KPDC and the GOC to (i) access local currency loans from domestic banks at favorable interest rates and with a long-term maturity, (ii) facilitate the development of long-term debt finance for infrastructure from domestic banks, and (iii) free additional IDA resources for lending to electricity sector investment projects which are not commercially viable, such as rural electrification.

III. IMPLEMENTATION

A. Partnership arrangements

95. The Project is a PPP between the KPDC, the GOC, and multilateral and bilateral DFIs which have expressed interest in providing a syndicated loan in foreign currency to the Project (IFC, AfDB, EIB, FMO, PROPARCO, and BDEAC), as well as local commercial banks that have expressed interest in providing a syndicated loan in local currency to the Project as beneficiaries of the proposed IDA Guarantee.

B. Institutional and implementation arrangements

96. **Ministry of Energy and Water (MINEE):** MINEE is responsible for developing the policy for the electricity sector, including opening up the sector to competition through IPPs in coordination with the sector regulator ARSEL, for planning the next least-cost investments in Cameroon's energy sector and for monitoring their implementation. For this purpose, MINEE has created a committee to follow the implementation of the Project. KPDC will receive twenty-year electricity generation and sales licenses from MINEE following a recommendation by ARSEL.

97. **Electricity Sector Regulatory Agency (ARSEL):** ARSEL is the electricity sector regulator responsible for setting tariffs, monitoring concession performance, protecting consumer interests, and regulating IPPs. ARSEL will review the generation and sales licenses and issue a recommendation to MINEE for their award. ARSEL will also review the financial model and the PPA with AES SONEL. In addition, ARSEL has conducted a review of the gas price in the GSA 2 between KPDC and SNH following which the gas price has been reviewed upwards.

98. **Perenco Cameroon:** Perenco Cameroon will develop the offshore Sanaga South gas field under a production sharing agreement with SNH. Perenco Cameroon will construct the gas

facilities (offshore gas field, marine pipelines, and gas processing facility) financed by its own resources. Perenco Cameroon will sell the gas to SNH under GSA 1 and its amendments. Perenco Cameroon is a subsidiary of Group Perenco S.A., an independent private oil and gas company with operations in 16 countries worldwide, including Gabon and Cameroon. Perenco has a track record of timely project completion in the region as evidenced by its oil and gas operations in Gabon and its oil operations in Cameroon. In Gabon, the company supplied gas from the Diga gas field to power plants in Libreville and Port Gentil in about 18 months.

99. **National Hydrocarbons Company (SNH):** SNH is the state-owned national oil and gas company. SNH is responsible for financing and developing the 18-km gas pipeline between the CPF and the Kribi power plant. SNH will sell the gas to KPDC under a take-or-pay arrangement stipulated in the GSA 2, as amended.

100. **Kribi Power Development Company (KPDC):** KPDC is owned 56% by The AES Corporation of the United States through a number of investment vehicles, including AES African Power Company (APCO) and AES Kribi Holdings B.V. in the Netherlands, and 44% by the GOC under a shareholder agreement. KPDC will be responsible for developing, constructing, operating, and maintaining the Kribi power plant and for developing and constructing the transmission line. KPDC appointed a management team and will sign a Technical Services Agreement (TSA) with AES Engineering LLC and an Assistance & Services Agreement (ASA) and Connection Installations Agreement (CIA) with AES SONEL. KPDC signed a fixed price turn key engineering, procurement, and construction (EPC) contract for the Kribi power plant with Wärtsilä Finland Oy (December 2009), and another for the transmission line and substation with Siemens Transmission & Distribution/KEC International Limited (January 2010). The EPC contractors for the power plant and the transmission line to the Southern Interconnected Grid were selected through a competitive bidding process. An adequate insurance program will be developed upon finalization of both EPC contracts in line with requirements by GOC, lenders, and IDA. About fifteen core staff with significant experience in the development of power plants, including international AES SONEL and trained local employees, will ensure sound construction management and Project implementation. The Technical Services Agreement will allow KPDC to benefit from AES's global, extensive experience in power plant operations. In addition, the Assistance & Services Agreement will allow KPDC to benefit from AES SONEL's services, such as human resources and information technology. KPDC will also require the EPC Contractors to provide plant and specific training courses as part of their contracts.

101. **The AES Corporation:** The AES Corporation is parent company and majority shareholder of KPDC, is one of the world's largest global power companies. AES was established in 1981, and as of today has 132 generation plants with over 40,000 MW of installed capacity in 29 countries. As of December 2010, AES had US$16.6 billion in annual revenue and US$9 million in net income. AES is incorporated in Delaware, United States of America, and listed on the New York Stock Exchange.

102. **AES SONEL:** AES SONEL is the concessionaire operating Cameroon's vertically integrated utility since 2001 under a 20-year concession contract. AES SONEL is owned 56% by The AES Corporation and 44% by the GOC. AES SONEL was granted a twenty-year concession in 2001 including exclusivity over transmission and distribution throughout its concession area in Cameroon and the right to own up to 1,000 MW of installed generation capacity. AES SONEL

will be the sole off-taker of power produced by KPDC under an arms' length PPA. KPDC will prepare regular Project progress reports for monitoring and evaluation of the Project.

103. Annex 6 illustrates institutional and implementation arrangements of the Project, including the contractual structure.

C. Monitoring and evaluation of outcomes/results

104. KPDC will be responsible for coordination and monitoring of the complete Project progress and prepare Project progress reports. KPDC will also facilitate coordination between energy sector actors as required and be a focal point for the World Bank supervision of the Project.

105. IDA's and IFC's key indicators to be monitored and used in the evaluation of outcomes are presented in Annex 3. Specific data for gathering and reporting, including responsibility thereof, have been identified and agreed on with KPDC and the GOC. Indicators will be monitored mainly on the basis of quarterly reports to be made available by KPDC.

D. Sustainability

106. The sustainability of the Project in general depends on the broader stability and financial equilibrium of Cameroon's electricity sector. In particular, the sustainability of the Project will be dependent on (i) the financial health of KPDC, (ii) the reliability of the contractual gas supply by SNH, (iii) the financial health of AES SONEL, as the privatized vertically integrated utility is the sole off-taker of power produced by KPDC and, consequently, (iv) the future electricity tariff paid by Alucam, Cameroon's single largest electricity consumer, to AES SONEL.

107. In terms of overall sector framework, the legal and institutional framework established through the Electricity Law of 1998, the creation of ARSEL and AER, the privatization of the utility through a concession, and the recent creation of EDC have put in place an adequate framework to facilitate further reforms in the sector. The recent agreement with the GOC on a revised electricity law will further promote sector reform with a focus on optimal and equitable development of Cameroon's hydropower resources, the creation of a national transmission system operator (TSO) and the role of the regulator. While a degree of uncertainty exists given that the revised law is not yet submitted to parliament, the World Bank has signed a protocol of understanding with the GOC that the law will be submitted to parliament in November 2011. Transition arrangements are being put in place regarding the creation of the TSO and the management of its impacts on the existing concession. In light of the GOC's governance and capacity challenges, the World Bank is providing comprehensive TA to assist the GOC with the preparation of energy projects according to best practice standards. The ongoing ESDP includes a capacity building component to help all sector stakeholders (including MINEE, ARSEL, AER, and EDC) to fulfill their statutory mandate. Technical assistance and training to MINEE is targeted to improve the planning of least-cost investments. ARSEL will benefit from TA and training to improve regulatory governance, concession oversight, and consumer protection, including a tariff review in preparation of the change in regulatory regime foreseen under the concession contract. The ESDP will also provide TA to the creation of the TSO and the orderly management of transition arrangements.

108. Financial projections for KPDC show that the Project will generate positive cash flow in year 1 after starting commercial operations. The structure of the PPA with AES SONEL will allow KPDC to recover its costs through the capacity fee and a pass-through of fixed and variable operations and maintenance costs and related fees. The participation of DFIs and commercial lenders in the project financing will ensure adherence to minimum cash flow and debt service coverage covenants.

109. Proven reserves in the Sanaga South gas field exceed the amount required for the Project.[25] The risk of gas availability is therefore mainly a technical risk which, according to best practice contractual arrangements, should be borne by SNH/Perenco Cameroon. Under GSA 2, SNH is responsible to deliver the agreed take-or-pay volume to KPDC or else pay damages to KPDC. Gas supply failure-related termination payments under the GCA are covered by the IDA Guarantee to the extent they affect debt servicing on the Local Loan.

110. AES SONEL will need to generate sufficient revenues to fully cover its costs, including the capacity payment payable to KPDC under the PPA for the Project. AES SONEL's historic financial situation shows that it has been profitable since at least 2005 and generated positive net cash flow since 2007. Since its privatization in 2001, AES SONEL has invested over US$460 million in generation capacity and network rehabilitation and committed an additional US$205 million for ongoing generation and network rehabilitation. Financial projections confirm that AES SONEL's financial strength is sufficient to comfortably cover the required payments to KPDC under the PPA. Existing credit agreements with lenders include minimum debt service coverage ratios to be maintained and monitored by senior lenders. Significant scope exists to further improve AES SONEL's efficiency, as total system losses remain relatively high at about 25%.

111. Regarding the impact of Alucam's electricity tariff on AES SONEL's future revenues, the recent increase in tariffs for Alucam with effect of January 1, 2010, is a positive development, as the aluminum smelter is the single largest consumer of power in Cameroon, accounting for 35-40% of electricity produced. Alucam has historically benefited from very low tariffs for its electricity which is delivered directly from the Edéa hydropower station to the Alucam plant and for which water is currently free of charge. Since the guaranteed electricity mix provided by AES SONEL to Alucam in the future will include new generation investments, including electricity generated by the higher cost Kribi power plant and the LPHP,[26] charging cost-reflective tariffs for Alucam is important to maintain the financial equilibrium of the sector. The World Bank has requested to respect best practice principles in setting electricity tariffs for Alucam from 2010 onwards, including an increase in tariffs to cost-reflective levels to phase out historic cross-subsidies from other consumers. According to the negotiating parties, these principles have been adhered to in the tariff negotiations between Alucam and AES SONEL who

[25] SNH has estimated the recoverable gas resources of the total Sanaga South gas field at 1,154 BCF. This figure corresponds to the best estimate, between the low estimate of 428 BCF and the high estimate of 1,605 BCF. (SNH technical and economic study, 2005). The annual contract quantity for the Kribi power plant is estimated at about 10 BCF (Amendment No.1 to GSA, March 2009).

[26] The Lom Pangar regulating dam and reservoir will allow for improved water flow management of the Sanaga River. This will increase available capacity at the existing Edéa and Song Loulou hydro power plants by 120 MW and allow for the development of additional downstream hydro power projects, including Nachtigal (330 MW) which Alucam has proposed to finance and Songmbengue (900 MW) which is undergoing feasibility studies.

signed a new PPA on November 20, 2009 (effective January 2010) with an average tariff which is 80% higher than Alucam's historical tariff and above the global average electricity tariff for aluminum producers.

112. The potential risks, possible controversial aspects and mitigating factors are discussed in Table 2 below.

Table 2: Critical risks and possible controversial aspects

Risk	Risk Rating	Mitigation
Cameroon's stable macroeconomic framework may be reversed. The impact of the financial crisis and imprudent fiscal policies could jeopardize the availability of planned DFI and commercial bank financing for the Project. The execution of public investments leaves room for improvement.	Moderate	The IMF's PRGF program was concluded successfully in 2008 mainly due to satisfactory macroeconomic performance and improved fiscal management. As part of its *Vision 2035* and *Strategy for Growth and Employment 2010-2019*, GOC is committed to implementing vital investments in the energy sector, including the Kribi project. Sufficient financing is available between DFIs and commercial lenders. Cameroon received support from the IMF's Exogenous Shock Facility.
Corruption remains widespread and limited improvement has been registered to date. The choice of the sponsor for the Project without competitive bidding might negatively impact on Project economy and efficiency.	Substantial	The GOC is making an effort to limit extra budgetary expenditure and improve the transparency of budget expenditure. The Bank's transparency and accountability project aims to improve public financial management, while implementation is slow. Cameroon is in the process of EITI validation. In the electricity sector, the privatization of the utility has improved efficiency, and the recent creation of the REF will improve transparency and procurement of electrification projects in rural areas. The ESDP provides TA for critical governance subjects in the electricity sector, including least-cost planning, water rights, and electricity tariffs. EPC contractors for the Project have been selected competitively and transparently, ensuring economy and efficiency. Contract prices for the Project are in line with comparable gas-to-power projects. Contractual arrangements (GSA, PPA, licenses) have been reviewed by independent experts and the regulator.
The GOC may not follow through in adopting the revised electricity law as agreed with the World Bank.	Moderate	The GOC has respected the World Bank's request not to promulgate the April 2011 electricity law and has engaged in a collaborative process for its revision. A

Risk	Risk Rating	Mitigation
		revised text has been agreed and a protocol between the GOC and the World Bank stipulating the submission of a revised law to parliament in November 2011 has been signed. The Bank will continue to closely monitor the situation.
Uncertainties relating to further sector development and current sector participants (including with respect to the unbundling of the transmission network/operation) in connection with the implementation of the revised electricity law as the implementing regulatory framework remains to be developed.	Substantial	The GOC has accepted to collaborate closely with the World Bank in developing implementing regulation. The ESDP will provide TA to the process.
The GOC may not follow through with sector and institutional reforms to further open the electricity sector to new operators.	Substantial	The existing electricity law in place and the proposed new law stipulate competitive bidding for the selection of electricity generation, transmission and distribution companies. The GOC to date has awarded the first two IPP structures to the AES Corporation to speed up project development in a situation of power shortages. The proposed new law foresees the creation of a transmission system operator to attract new operators and increase competition. The new law allows for the provision of the negotiated award of hydropower plants for industrial purposes, but requires that procurement of the equipment will be competitively tendered. The ESDP is providing capacity building for the completion of the legal and regulatory framework.
As a shareholder of Alucam, AES SONEL, and KPDC, the GOC may have a conflict of interest.	Moderate	The GOC is a minority shareholder in all entities and until 2010 has a track record of limited interference in management. Technical staff is provided by the private majority shareholder. GOC has been independently advised in negotiating arms' lengths contracts for the Project.
The limited size of Cameroon's power sector may not justify a full-scale development of its natural gas resources for thermal power generation	Moderate	The Project is justified by a thorough economic analysis of over eighty scenarios, including scenarios on the closure of Alucam. Some HFO power plants can be converted to gas. Adding additional thermal peak and reserve capacity is prudent in a mainly hydro power dominated system with high variability

Risk	Risk Rating	Mitigation
		in hydrology. Given strong demand growth, delays in LPHP preparations and the ongoing rehabilitation of existing hydro power assets, the Project will be necessary to contribute to base load supply from the dry season 2012/13 onwards.
The implementation of energy investment projects in Cameroon, including the Project and the LPHP, has encountered substantial delays.	Moderate	Despite ongoing delays, there is strong political will to move forward with the Kribi Project. Both KPDC and the GOC have paid in their equity contribution, totaling EUR 63 mm. Construction of the power plant and transmission line has started with equity financing. Financial close for KPDC is targeted by November 2011.
The sector regulator ARSEL today has limited capacity. Concession oversight has been weak, creating the risk of inadequate tariff monitoring.	Moderate	ARSEL conducted a gas price review for the Project in 2008. The World Bank is providing TA to ARSEL under the ongoing ESDP, including support for regulatory reviews of electricity tariffs.
Tariffs have historically been skewed in favor of Alucam and at the expense of other consumers.	Moderate	A new PPA between AES SONEL and Alucam became effective in January 2010, (i) eliminating historic cross subsidies between Alucam and LV and MV electricity consumers and (ii) increasing tariffs for Alucam above the cost of production and global average electricity tariff for aluminum producers. Any future subsidies to Alucam, should they occur, will be transparently integrated into GOC's budget. Based on a regulatory model developed by ARSEL, the Bank is engaged in a long term sector dialogue with the GOC, including the preparation of a tariff policy change for the AES SONEL concession from tariff control to an income control system as foreseen under the concession contract.
GOC may not honor its agreements on returning to regulatory tariff increases for LV and MV customers in 2012 (following 2011 elections)	Substantial	Until 2010, Cameroon was one of the few African countries, where the electricity tariffs were not subsidized from the government budget and where the utility AES SONEL is profitable as average tariffs cover the utility´s costs. A track record of tariff increases until 2010 exists. While the GOC did not approve tariff increases in 2010 and 2011 due to Presidential elections in October 2011, it has paid compensation to AES SONEL to ensure the financial sustainability of the company. The GOC has undertaken in agreements with

Risk	Risk Rating	Mitigation
		AES SONEL lenders to allow regulatory tariff increases from 2012 onwards to ensure the sustainable financial performance of the concession.
GOC capacity to conduct large scale investment projects in an environmentally and socially sustainable way is limited. Environmental and social risks of the Project, as a category 'A' project, may not be managed in line with national legislation and international standards.	Substantial	The Bank's ESDP and PRECESSE are providing ongoing TA to MINEE and GOC staff to increase their capacity to manage environmental and social impacts of infrastructure projects. For the Project, KPDC is in charge of the Environmental and Social Management Plan (ESMP) and Resettlement Action Plan (RAP) implementation for the power plant and the transmission line during construction; AES SONEL will take over responsibility for ESMP implementation for the transmission line during operations, and Perenco Cameroon/SNH are in charge of ESMP and RAP implementation of the associated infrastructures (gas field, marine and terrestrial gas pipelines, gas processing facility). Both have experience in large infrastructure projects. For the electricity and gas components, the Environmental Impact Assessment (EIA), ESMP, RAP, Community and Indigenous Peoples Plan (CIPP), and a Regional Environment Assessment (REA) have been completed in line with national legislation and international standards. An RPF for the 18-km onshore gas pipeline between the CPF and the Kribi power plant has been finalized. A RAP will be established after the final pipeline routing is determined and before construction of the pipeline can start.
Potential Project delays from elements on critical path, such as finalization of project documents, in particular the signature of the GSA 2 amendment, and financing arrangements.	Substantial	Both GSAs, the GSA 1 between Perenco Cameroon and SNH and the GSA 2 between SNH and KPDC, have been signed including their amendments. Signature of amendment no. 2 (agreement on revised gas supply date) of the GSA 2 is outstanding. The PPA between KPDC and AES SONEL and KPDC's licenses are being finalized. Financing documents are being drafted. The GOC and KPDC are committed to reaching financial close as soon as possible and the GOC is expected to instruct SNH to cooperate in a timely manner.
The delayed completion of the	Moderate	Transmission and substation construction is

Risk	Risk Rating	Mitigation
transmission line may delay electricity production from the power plant		ongoing. Substation sites have been prepared and structures are being built. The clearing of the transmission line routing and tower foundations have been completed. Final notice to proceed has been issued with a contractual completion date in July 2012.
Cost overrun – Lack of timely financing could increase the amount under the EPC contract for the power plant	Moderate	The EPC contracts for the Kribi power plant and transmission line and substation have been signed and represent fixed price turnkey contracts. KPDC is paying slow-down penalties due to delays in the development of the gas infrastructure. Contractors were selected after a competitive bidding process. All contractors have adequate experience with similar projects.
Local financial markets may not have the desired lending capacity.	Moderate	Several meetings with local banks have confirmed their interest in lending to the project. Indicative inancing intentions exceed the target size of the local currency tranche. The refinancing of the local bridge financing through the IDA-guaranteed long-term financing will allow existing lenders to KPDC to participate in the long-term loan.
Overall risk rating	**Substantial**	

E. Guarantee conditions and covenants

113. **Effectiveness conditions.** The Guarantee effectiveness conditions include:

- Execution, delivery, and effectiveness of all project and financing agreements, including but not limited to the Common Terms Agreement, the Local Loan Agreement and security agreements, the Local Loan Purchase Agreement, the GSA 2 amendment, the Indemnity Agreement, and the Project Agreement, each in form and substance satisfactory to IDA;

- Effectiveness of all required insurances (to include IDA as an additional insured on third party liability insurance)

- Provision of satisfactory legal opinions

- Payment in full of the first installment of the Guarantee Fee

114. **Guarantee Agreement**. The effectiveness of the Guarantee Agreement will be subject to usual and customary conditions for financing of this type. During the availability period, IDA may suspend coverage of future disbursements if there is a default under the Local Loan Agreement, a material breach of KPDC under the Project Agreement, a suspension by IDA of

credits to Cameroon, a breach by Cameroon of its obligations under the Indemnity Agreement, or a suspension or lapse of Cameroon from membership in IBRD, IDA, or the IMF. IDA can terminate the IDA Guarantee in the event that any changes are made without IDA's prior consent in certain key provisions of the project agreements, or if there is substantial evidence that KPDC, the sponsors, or Local Lenders have engaged or engage in sanctionable practices (coercion, collusion, corrupt, obstructive, or fraudulent practices) in connection with the Project. IDA will have subrogation rights if it makes any payment under the Guarantee Agreement and Cameroon does not reimburse it under the Indemnity Agreement.

115. **Project Agreement**. KPDC will covenant, among other things, that it will use the proceeds of the Local Loan for eligible expenses, provide IDA access to the Project site, keep adequate insurance in place, obtain IDA's consent before making material changes to certain key provisions of the project agreements and documentation, not engage in sanctionable practices (coercion, collusion, corrupt, obstructive, or fraudulent practices), not hire World Bank Group-debarred firms, and comply with applicable laws of Cameroon and World Bank safeguards policies (including the IDA-approved ESMPs).

116. **Indemnity Agreement**. Cameroon will indemnify IDA in the event it makes payments under the IDA Guarantee, and against any other expenses for liabilities incurred by IDA. Cameroon will covenant, among other things, that it will (i) cause state entities to implement and enforce the ESMPs and RAPs for the Project and for the associated infrastructure, and (ii) deliver or cause to be delivered annually a copy of their audited financial statements and semiannually during construction reports on implementation of the ESMPs and RAPs.

IV. APPRAISAL SUMMARY

117. The Project is being prepared by a joint team from IDA and IFC. IDA and IFC have taken major responsibility for all aspects of project appraisal. IFC has played a lead role on DFI and overall lender coordination and technical due diligence, while IDA has taken a lead role on the due diligence with regard to GOC coordination, power sector reform implications including future tariffs to Alucam, and coordination with local commercial lenders.

A. Economic and financial analyses

118. The economic benefits of the Project include increased availability and improved quality of power supply. The Project is expected to play an important role in the optimal development and operation of the power subsector. Under the 2007/08 economic feasibility study, 81 scenarios were analyzed to assess Cameroon's least-cost power generation expansion options. These scenarios cover such a wide array of assumptions for the project's main variables (investment cost, fuel cost, generation, etc.) that its conclusions are still relevant under today's market conditions. Three basic scenarios (low, median, high) were retained. Under the median scenario, Alucam is projected to continue its production at current levels (status quo) and public sector demand is forecast to increase on average by 5% annually. The supply options were drawn from existing and candidate power plants based on commercially available technologies and fuels for power generation in Cameroon. Thermal candidate power plants include the Dibamba

and Kribi power plants. Subsequently, candidate power plants are hydropower plants on the Sanaga, Ntem and Njock rivers. The least-cost analysis confirms that the best option for Cameroon is to develop its strong hydroelectric potential. No hydropower projects can be commissioned before 2015, following the expected completion of the Lom Pangar reservoir on the Sanaga River which will allow the commissioning of the Nachtigal Hydropower Project. Until then, the only options available in the short-term are investments in thermal power plants, with gas-fired power plants being the least-cost option.

119. The capital costs of the Project, together with incremental fuel, operation, and maintenance costs, are shown in Annex 5. The economic benefits of the Project are represented by incremental sales revenue and the savings from the displacement of more expensive generation, until such time that the demand absorbs the extra electricity generated by the Project. These benefits were evaluated using the willingness to pay of different categories of consumers. The average cost of electricity from the Project under the median scenario is 42 CFA/kWh (US$0.083/kWh equivalent). Under the median scenario, the Project had an economic rate of return (ERR) of 59% and the full range of ERRs varied from 29% to 78% depending on the scenario.

120. A simplified calculation of the project's economic returns was undertaken using the latest data from the project's financial model and conservative assumptions of project benefits to make sure that it is still robust. The assumptions and method used are described under Annex 9. The updated ERR is 26% and the net present value at a standard 10% is EUR 285 million (all assumptions and calculations being in 2010 real terms).

121. Sensitivity analysis to the main project parameters was conducted to test the robustness of its economic viability. This shows that project economics is quite robust to variations of its key parameters: investment cost or gas price would need to more than double, or plant output would need to drop significantly before the project becomes uneconomic.

122. Financial analysis of the Project shows that the Project will generate positive cash flow each year following the start of commercial operations. Projections of AES SONEL's financials show that AES SONEL generates sufficient revenue and cash flow to honor its payments under the PPA with KPDC over the life of the Project. A copy of the Project model, which contains commercially sensitive data, is in the project files.

B. Technical

123. **Kribi power plant:** The 216 (nameplate) MW gas-fired power plant will run on thirteen reciprocating gas engines of at least 16 MW unit capacity. The main components of the Kribi power plant include plant electrical and mechanical auxiliaries, natural gas receiving facilities, fuel tank for fuel back up, waste water collection and treatment facilities, and distributed control system. The Kribi power plant is a dual-fuel plant, running on natural gas and using LFO as backup fuel. The lump sum turnkey EPC Contract for the power plant was signed in December 2009 after an international competitive bidding process.

124. **Transmission line and substation:** The Kribi power plant will be connected to the Mangombe substation through a 100-km dual 225-kV transmission line. KPDC signed a fixed

price EPC Contract for the transmission line and substation after a competitive bidding process in January 2010. The scope of work includes (i) a 11/225-kV step-up substation at the plant site; (ii) a 100-km double-circuit 225-kV transmission line between the step-up substation and the Mangombe 225/90-kV substation at Edéa; and (iii) the connection of the transmission line at the Mangombe substation with the addition of two new 225-kV line bays and extension of existing busbar systems for the connection of the new line circuits.

125. **Associated infrastructure facilities** required for the proper functioning of the power plant include (i) the transmission line (including substations and transformers) which after construction completion will be transfered to the GOC and operated by AES SONEL or any successor transmission system operator; (ii) the development of the Sanaga South gas field by a joint venture between SNH and Perenco Cameroon under a production sharing agreement and financed by Perenco Cameroon; (iii) the construction of the CPF by Perenco Cameroon; (iv) the marine and terrestrial gas pipelines, including a 14-km offshore gas pipeline from the Sanaga South gas field to the CPF, a 14-km offshore glycol injection pipeline between the gas field and the CPF and a 21-km offshore condensate/process water pipeline from the CPF to the existing KB-4 well from where it will be connected to the existing Ebome storing platform for exports, all financed by Perenco Cameroon; and (v) an 18-km onshore gas pipeline from the CPF to the Kribi power plant at Mpolongwe, financed by SNH.

C. Fiduciary

126. The EPC Contracts were procured following EIB procurement guidelines. A competitive bidding process has ensured economy and efficiency in the selection of contractors. Annex 8 provides details on the procurement process.

127. KPDC will be responsible for financial management of the Project. Under the Assistance & Services Agreement with AES SONEL, KPDC will procure, *inter alia,* accounting services from AES SONEL, an operating utility company with ten years of experience in financial management. The AES Corporation is one of the largest investors in private power projects in developing countries and is experienced in financial management in many different operating environments. Financial management will be supervised by IDA, IFC and the other lenders. There are no IDA fiduciary issues as there will be no procurement or procurement-related disbursements under the proposed IDA Guarantee. Should the IDA Guarantee be called, IDA would disburse to the beneficiary and the GOC would then be obligated to repay IDA in accordance with the terms of the Indemnity Agreement signed between IDA and the Republic of Cameroon. The Anti-Corruption Guidelines for World Bank Guarantee and Carbon Finance Transactions will apply to this operation.

D. Social

128. To mitigate the social impacts identified, KPDC has prepared a RAP consistent with national and World Bank Group standards and is in the process of finalizing its implementation. The construction of the power plant and transmission line affects 682 people, of whom a majority of 647 people will be compensated for crops. Physical resettlement due to the construction of the power plant and transmission line will be required for 85 households. An independent valuation has been carried out and provided a database that has determined the

amount of compensation to be paid either in cash or in kind. The valuation was conducted based on the 'Fair Market Value' process for crop, property, land, and other properties such as houses. The compensation of economically affected people and the resettlement will be carried out before start of construction. The cost for compensation and resettlement of affected people is estimated at US$9 million and is included in the Project budget. Following World Bank Group policy, people have been encouraged to take replacement land (land for land) rather than compensation. For households who will have to move as a result of the Project, KPDC has offered to build a new house of better quality or larger size within the same community. People may also choose cash compensation at full replacement cost for the loss of their buildings. Out of 85 households to be physically resettled, only 22 accepted in-kind compensation, while the other 63 preferred compensation in cash. KPDC recruited a witness NGO for oversight of RAP execution who has confirmed the regularity of compensation payments. The relocation of the 22 households that have opted for physical resettlement is planned for October 2011. KPDC is facilitating access to new land for project-affected people. Where the transmission line passes through a densely populated area before entering the substation in Edéa, local residents expressed concerns about being able to find new land for crops and housing. KPDC is ensuring access to land in this area.

129. A Resettlement Policy Framework (RPF) for the 18-km onshore gas pipeline between the CPF at Bibaga and the power plant at Mpolongwe was prepared and disclosed in country and in the InfoShop on March 8, 2010. An inventory of project-affected people related to the construction of the 18-km onshore gas pipeline between the CPF and Kribi power plant is being finalized. Following the final identification of the onshore gas pipeline routing between the CPF and Kribi power plant, a RAP will be prepared, disclosed in-country and in the InfoShop. The RAP, which includes compensation and resettlement for project-affected people, will be carried out before construction of associated infrastructure can start.

130. In addition, a Community and Indigenous Peoples Plan (CIPP) has been developed to ensure that Indigenous Peoples are involved with the project (both in terms of consultations about and benefits from the project) and mitigate the Project's impact on the livelihood of indigenous peoples, in particular pygmies in the Bankola and Bantou communities. Given that (i) the Project will follow the road and thus affect the secondary forest next to the road; (ii) there are only 30 households of the Kola group in the Project area; and (iii) that only 78 hectares over a 65-km distance will be affected it is believed that this impact is not very significant and is well localized to ensure mitigation in line with World Bank safeguard policies and IFC performance standards. Further details on the social safeguards are provided in Annex 11.

E. Environment

131. The Project falls under environmental category 'A' per the World Bank's policy on Environmental Assessment (OP 4.01) and IFC's Policy on Social and Environmental Sustainability. The Environmental Impact Assessment (EIA) has been carried out, received the certificate of conformity of the Ministry of Environment and Protection of Nature and was disclosed in-country and in the World Bank's InfoShop on February 25, 2008. The documentation consists of the EIA for the Kribi power plant, transmission line, and substation, and associated infrastructure (Sanaga South gas field, CPF, marine and terrestrial gas pipelines,

glycol injection, and condensate/process water pipeline). The main identified impacts and mitigation measures are described below. Further details are provided in Annex 11.

132. At the Kribi power plant site, the frequent transport of material during the construction period may disturb the normal traffic and increase the noise for nearby residents. To address this issue, measures will be taken to ensure maximum utilization of the route during the evening and non-peak hours. Moreover, special precaution including safety campaigns will be taken during construction in order to prevent road accidents. The Kribi power plant during its operation will produce nitrogen oxides (NOx) and sulfur oxides (SOx) from the combustion of hydrocarbons. The plant design will ensure that emission levels are within international standards. The impact with regard to water quality is not considered to be significant. KPDC will ensure that the EPC Contractor adheres to the Environmental and Social Management Plan (ESMP) and, *inter alia*, disposes of any construction effluents in a responsible manner. The plant design aims to avoid oil and other substances from impacting water quality.

133. The Project EIA states that the plant site and the transmission line corridor are both situated within the disturbed habitats along the corridor of the Edéa / Kribi highway and the existing 90-kV transmission line. The EIA for the Sanaga South gas project, on the other hand, observes that protected species are present among the terrestrial fauna and flora of the project areas (*i.e.,* in the forest land allocated to develop the CPF), and also, that protected marine species (marine turtles, dolphins and whales) may be present in the project area. The additional Rapid Biodiversity Assessment by IFC showed four habitats (near shore pelagic waters, sandy shoreline, coastal humid forest, mangrove lagoon) of the Sanaga South gas field project area harbor IUCN-listed species which inhabit, migrate, and/or breed in these habitats. However, these natural habitats are not deemed to be critical to the widespread survival of these specifies because (i) all the recognized IUCN-listed species are of a relatively or very wide distribution and therefore the magnitude of the impacts within the project area is comparatively small and could not be said to be of global significance, and (ii) many of those species will probably continue to exist alongside the planned developments if appropriate mitigation measures are put in place. For example, careful forest management can reduce deforestation, and careful hydrocarbon leak mitigation and anti-poaching programs can minimize impacts on the marine ecosystem. Based on this analysis, the habitats are not considered as critical natural habitat under the World Bank Natural Habitat Policy OP 4.04 and IFC's PS6. Careful mitigation measures and environmental management, as proposed in the Sanaga South gas field project EIA and ESMP, are essential to limit biodiversity impacts, particularly risks concerning hydrocarbon leaks. Perenco has an existing Oil Spill Emergency Response Plan for the Ebomé platform which will be adapted to the rights-of-way for the offshore and terrestrial parts of the gas and condensate pipelines under the Kribi Project. Perenco's ESMP includes the obligation to prepare such an Emergency Response Plan before operations can start.

134. The Regional Environmental Assessment (REA) has been prepared to assess the magnitude of the cumulative environmental and social impacts of development initiatives on the region. The REA has been publicly discussed in the Kribi area on February 14, 2008, followed by the disclosure in-country and in the World Bank's InfoShop on February 25, 2008.

135. Archeological sites including a diverse human settlement exist in the surface area of the Mpolongwe site. An archeological study was conducted disclosed in-country and in the World

Bank's InfoShop on February 25, 2008. Archaeologists will be consulted during construction works and "chance finds procedures" have been included in both ESMPs and the EPC Contracts. Articrafts were identified and safely removed from the site by an archeological team.

136. The Cameroon Environmental and Social Capacity Building Project for the Energy Sector (PRECESSE) is being implemented in parallel with the Project with the objective to increase the capacity of all public sector stakeholders for compliance with international environmental and social standards in the realization of investment projects in the energy sector.

137. EIAs have been finalized and disclosed in-country and in the InfoShop for all associated facilities of the Project in accordance with OP 4.01. The EIAs have been undertaken in accordance with both Cameroonian legislation and internationally recognized guidance and standards adopted by the World Bank and IFC. In addition, the REA was conducted to gauge the cumulative impact of existing projects and projects under development in the Kribi region. The REA has been publicly discussed and disseminated in the Kribi area on February 14, 2008. The above-mentioned studies have received the certificate of conformity by the Ministry of Environment and Protection of Nature and have been disclosed in the World Bank InfoShop and in-country on February 25, 2008. The project EIA has been updated in-country and in the World Bank InfoShop on April 9, 2010, to consolidate the original EIA (2006), additional technical information and the final ESMP (2009) into one document. A supplementary EIA for the 18-km onshore gas pipeline between the CPF site and the power plant site has been finalized and an acceptable draft final report has been published in-country and in the World Bank InfoShop on March 8, 2010.

138. KPDC developed a detailed ESMP for the power plant and transmission line in February 2009 building on the various EIAs, studies as well as the subsequent environmental and social reporting. The ESMP includes all aspects of mitigation, environmental and social management, health and safety, monitoring, and institutional measures that will be undertaken by KPDC to ensure conformity with best practice international standards, World Bank Safeguard Policies and World Bank Group Environmental, Health and Safety Guidelines, and IFC's performance standards. The ESMP ensures guidance and advice on environmental and social policies, register of environmental and social impacts, environmental and social standard and quality objectives, risk mitigation, implementation, monitoring and evaluation, environmental management requirements, data handling, audits and reviews. The ESMP update was disclosed in-country and in the World Bank InfoShop on April 8, 2010.

Table 3: Disclosed safeguards documents

	Project and associated facility components	**Financed by whom**	**Responsibility for implementation of ESMPs, RAPs, and CIPP**	**Status**
Bank-financed facilities				
1.	Gas power plant: 216 MW (project component)	KPDC with loans from IFC and other DFIs and IDA Guarantee for local currency financing	KPDC	EIA disclosed in February 2007 and ESMP disclosed in 2009; updated final ESIA/ESMP disclosed in April 2010. RAP

	Project and associated facility components	Financed by whom	Responsibility for implementation of ESMPs, RAPs, and CIPP	Status
				disclosed in February 2008.
2.	Transmission line: 100 km (project component)	During construction: KPDC with loans from IFC and other DFIs and IDA Guarantee for local currency financing; During operation: Transferred to AES SONEL (associated facility)	KPDC (during construction) and AES SONEL (during operation)	EIA/ESMP disclosed in February 2007 RAP disclosed in February 2008. CIPP disclosed in February 2008.
Associated facilities				
3.	Sanaga Gas Field and marine pipelines: 14 km offshore gas pipeline; 14 km offshore glycol injection pipeline, and 21 km offshore condensate and process water pipeline	Perenco Cameroon	Perenco Cameroon	EIA/ESMP acceptable to Bank disclosed in February 2008. Includes biodiversity and archaeological studies.
4.	Central Gas Processing Facility (CPF)	Perenco Cameroon	Perenco Cameroon	EIA/ESMP acceptable to Bank disclosed in February 2008. No RAP needed.
5.	Gas pipeline from CPF to Kribi power plant : 18 km onshore gas pipeline	SNH	SNH	EIA/ESMP acceptable to Bank disclosed in March 2010. RPF acceptable to the Bank disclosed in March 2010.
6.	Regional Environmental Assessment (REA) addressing cumulative impacts	SNH	Government of Cameroon (GOC)	REA acceptable to the Bank disclosed in February 2008.
7.	Rapid Biodiversity Assessment	A Rapid Biodivesity Assessment was carried out for the area of the CPF		Disclosed on February 10, 2008.

F. Safeguard policies

Table 4: Safeguard policies triggered

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP 4.01)	[X]	
Natural Habitats (OP/BP 4.04)	[X]	

Safeguard Policies Triggered by the Project	Yes	No
Pest Management (OP 4.09)		[X]
Physical Cultural Resources (OP/BP 4.11)	[X]	
Involuntary Resettlement (OP/BP 4.12)	[X]	
Indigenous Peoples (OP/BP 4.10)	[X]	
Forests (OP/BP 4.36)		[X]
Safety of Dams (OP/BP 4.37)		[X]
Projects in Disputed Areas (OP/BP 7.60)		[X]
Projects on International Waterways (OP/BP 7.50)		[X]

139. The Project is consistent with IFC's Performance Standards. IFC has determined that the environmental risks involved in this Project should be addressed through adherence to Performance Standards 1 (social and environmental assessment and management systems), 3 (pollution prevention and abatement), 6 (biodiversity conservation and sustainable natural resource management), and 8 (cultural heritage).

G. Policy Exceptions and Readiness

140. No exceptions to World Bank safeguard policies or IFC Performance Standards are sought under this Project.

141. An exception to World Bank policies is sought for the non-standard IDA guarantee feature with respect to the Local Loan Purchase Agreement described in detail in paragraph 62 and Annex 10. The proposed IDA Guarantee is structured to cover five types of events (see paragraph 60). Four coverage events are all related to GOC actions or political events, and are standard Partial Risk Guarantee (PRG) coverage events with many precedents in PRG transactions. The fifth IDA Guarantee coverage event is for the Local Loan Purchase Agreement under which the Local Lenders would have the option to put the Local Loan to the GOC after 7 years. The proposed IDA Guarantee would cover defaults on the related payment by the GOC. Although contingent on market and regulatory conditions at the exercise date, this specific coverage could be viewed as covering government breach of a principal payment and as having elements of the risk coverage provided by the Bank's Partial Credit Guarantee (PCG) instrument. Management endorses the request to the Board for a waiver of applicable policy which will allow the proposed operation to include this PCG-like component in the guarantee structure, in the form of the guarantee for the Local Loan Purchase Agreement. Management has endorsed the request because of clear developmental benefits and limited risks arising out of this specific coverage. As noted in paragraph 56, the coverage is critical for mobilizing long-term (14-year) private and local currency financing for the proposed Project. While prospective Local Lenders have expressed interest in extending long-term financing for the Project, the Local Loan Purchase Agreement is necessitated by the regional banking regulator's prudential measures which limit exposures of commercial banks to a maximum maturity of about 7 years. Providing a PCG-like cover to the Local Loan Purchase Agreement of the Project therefore is critical to

ensure that long-term financing can be made available from the local financing institutions to the Project.

142. The IDA Guarantee documentation has been prepared and discussed with KPDC, the GOC and other project stakeholders. The Project is ready for final processing and implementation.

Annex 1: Country and Sector Background

CAMEROON: Kribi Gas Power Project

Country and sector background

Country issues

1. **Despite the country's rich endowment with natural resources, Cameroon's economic growth has been sluggish and poverty levels remain unchanged.** Cameroon's economic growth was 2.7% on average over 2005-2009, is estimated at 2.3% for 2010 and projected at 4% for 2011. Between 2001 and 2007, average real GDP growth of 3.4% fell short of the 7% growth required to achieve the MDGs by 2015. On its current trajectory, Cameroon is unlikely to meet any of the MDGs, with the exception of universal primary education and gender equality. While GDP per capita has increased from US$680 in 2000 to US$1,050 in 2007, average poverty has remained unchanged at 40% over the same period and increased in rural areas, with over 55% of rural households being poor.

2. **The 2009 economic crisis illustrated the economy's ongoing vulnerability to exogenous shocks.** Under a Poverty Reduction and Growth Facility (PRGF) with the IMF which was completed in 2009, Cameroon used windfall oil revenues to accelerate domestic debt payments, strengthen tax and customs revenue administrations, raise investment and normalize relations with creditors. Debt relief under the HIPC and MDRI Initiatives helped firm up debt sustainability and together with the rise in international oil prices allowed the authorities to accumulate some deposits at the regional central bank (BEAC). Weak global demand and commodity prices affected exports and fiscal revenues during the 2009 economic crisis, and tighter global financing conditions delayed investment projects. Real GDP growth decelerated from 2.9% in 2008 to 2% in 2009. Food and fuel price pressures eased in 2009, leading to a decline in headline inflation to the regional convergence criteria of 3%, down from 5.3% in 2008. Average annual inflation continued to decelerate in 2010 to 1.3%.

3. **The authorities responded to the 2009 crisis by protecting priority spending and supporting sectors in distress.** Despite lower revenues, original spending allocations to investment, health, and education were maintained. Targeted measures were taken to protect the sectors most affected. In particular, the authorities reduced taxes and royalties on timber; settled outstanding VAT credits to the cotton sector; and subsidized inputs and fertilizers for agriculture. The IMF approved in June 2009 a US$144.1 million disbursement under the Rapid-Access Component of the Exogenous Shocks Facility (RAC-ESF) to help the country weather the impact of the global crisis. The GOC issued its first government bond at the end of 2010 raising a total amount of CFA 200 billion (US$420 million equivalent or 1.8% of GDP). Against this background, the overall fiscal deficit on a cash basis, after accounting for the clearing of outstanding government obligations accumulated in previous years, increased to 2.3% of GDP in 2010 on the back of lower oil revenue and higher capital expenditure. Cameroon's contingent liabilities are limited and mainly relate to potential liabilities materializing in the banking sector following the financial crisis. The GOC has, however, accumulated unsettled payment obligations reaching 2.4% of GDP, as well as obligations to SONARA amounting to 1.2% of

GDP. The GOC's guarantees for the Kribi Project would add the equivalent of 2.1% of GDP to its contingent liabilities. The level of overall contingent liabilities remains manageable.

4. **Cameroon's risk of debt distress remains low.** The most recent joint IMF-World Bank low-income country debt sustainability analysis carried out (2011 DSA) indicates that all debt ratios remain below the policy-dependent thresholds in the baseline. However, ongoing and projected new domestic and external borrowings will push debt indicators to levels higher than in the 2010 DSA. Debt indicators rise under alternative scenarios and bound tests; and in the extreme case of an export shock, external debt indicators slightly breach the country-specific debt burden threshold during 2020–25. In all other cases, debt indicators remain at a comfortable level.

5. **The GOC has been strengthening its debt management capacity**. **Cameroon's debt situation has substantially improved in recent years.** The country's risk of debt distress remains low, providing space for some limited non-concessional borrowing. The authorities have formulated a medium-term debt management strategy for central government debt, which has been annexed to the 2010 Budget Law. They have also started producing their own debt sustainability analyses. As part of the 2011 Budget, the authorities have elaborated a national debt management strategy capping borrowing for 2011 and ensuring sustainability of public debt. A National Debt Committee has been instituted. Government guarantees, including for GOC obligations under PPPs, need to be included in the annex to the budget law to ensure a transparent management. As part of its overall dialogue on public financial management, financial and private sector development, the World Bank is assisting the GOC to strengthen its capacity in managing contingent liabilities and debt more generally.

6. **Cameroon's oil economy is declining.** Cameroon is a mature oil producer with currently about 25 million barrels per year of crude oil produced and declining. In 2010, production levels fell to 23.2 million barrels per year. Extractive industries account for about 7% of Cameroon's GDP. The contribution of the sector to GDP growth has been negative in recent years due to depleting reserves, aging equipment and postponement of development and investment projects following the financial crisis. Cameroon is a candidate country of the Extractive Industries Transparency Initiative (EITI) and has published two reports for the periods 2001-2004 and 2005 respectively, while not yet having achieved validation.

7. **Non-oil growth is significantly below expectations.** Cameroon's non-oil economy is relatively diversified with services accounting for 44% of 2009 GDP and agriculture and manufacturing accounting for 19% each. During the 2009 economic crisis, Cameroon suffered from reductions in its export commodities, including oil, timber, cotton, and aluminum. This trend was reversed in 2010 and stronger non-oil activity contributed to a recovery of GDP growth. Nevertheless, non-oil growth of 2.9% in 2009 and 4% in 2010 has not met the GOC's expectations of 10%.

8. **Governance challenges are a key impediment to economic growth.** Cameroon ranks 168 out of 183 in the Doing Business Index and governance challenges are an important deterrent for increased investment. Corruption is prevalent at all levels of society. The country usually ranks at the bottom of all major governance indexes. It ranks under the 25th percentile for all criteria of the Kaufmann-Kraay Governance indicators, significantly lagging its peers, and

ranks 146 out of 178 countries in Transparency International's 2010 Corruption Perception Index. Cameroon improved its Doing Business Ranking in 2011 by simplifying procedures for creating new enterprises. Improving governance is a focus area in the GOC's revised development policy and the World Bank supports this effort through its CAS 2009-2013 which features governance as a cross-cutting theme. The GOC adopted in December 2009 an overall public financial management (PFM) reform action plan following a review conducted through a Public Expenditure Financial Accountability (PEFA) report in 2008. Implementation of the action plan has started, with donors' support, including the World Bank through the Transparency and Accountability Capacity Building Project which aims at strengthening budget preparation, budget spending and procurement procedures, as well as controls and oversight institutions including the National Assembly and civil society organizations.

9. **In addition, insufficient quantity and quality of infrastructure, in particular electricity, has been slowing Cameroon's economic growth over the past 15 years.** Significant hydropower, gas, and mineral reserves (bauxite, iron, uranium, platinum, gold, etc.) remain unexploited, in part due to the lack of reliable electricity supply. Despite Cameroon's significant hydropower potential estimated to be the third largest in Sub-Saharan Africa, electricity, gas and water account for a mere 1% of non-oil GDP. While infrastructure development—essentially penetration of telecommunication services—explains over 1% of the per capita economic growth from 1990 to 2005, it is estimated that the negative impact of power deficiencies on Cameroon's economy is close to three times the negative effect that power deficiencies have represented for Africa as a whole during the same period.[27]

10. **Unreliable and costly electricity supply is cited among the top five constraints to doing business in Cameroon[28] and is estimated to cost 5% of lost enterprise revenue and 2% of lost GDP growth**. Average historic power costs are relatively high at US$0.09/kWh[29] which is striking when considering Cameroon's low-cost hydropower potential. The high costs can be attributed to high transmission and distribution costs as well as a share of costly diesel and heavy fuel oil power generation plants. Transmission and distribution networks are old and in need of rehabilitation, as total system losses of 25% illustrate.

11. **Unreliable electricity supply imposes additional costs on users of self-generation, limiting productivity and competitiveness of the industrial sector.** 67% of manufacturing firms cite limited access to and high cost of electricity among the top five constraints in their business, compared to 54% and 53% in the service and hotel sectors respectively.[30] While gains in reliability have been achieved over the past years, regular power outages persist. The lack of reliability in power supply forces the manufacturing sector and SMEs to revert to costly self-generation, accounting for 31% of Cameroon's total installed generation capacity of 1,337 MW.

12. **High electricity costs make power unaffordable for the majority of the population and have negative effects on household income overall.** Electricity access rates are estimated at 48% for the whole of Cameroon but only at 14% for rural areas with significant regional

[27] Calderon, Serven (2008)
[28] Cameroon Investment Climate Assessment, World Bank 2007
[29] Source: AES SONEL
[30] Cameroon Investment Climate Assessment, World Bank 2007

differences.[31] Suppressed demand is estimated between 50-100 MW. At existing average tariffs of US$0.18/kWh for LV customers, a monthly subsistence bill for 50 kWh per month costs about US$9, representing 8% of average household income, and as much as 12-18% of household income for the poorest 40% of the population. While important, this direct effect of high power costs on poverty and inequality is limited to households connected to the network. However, there are broader second-order effects of high power costs on poverty that cannot be ignored. As electricity becomes more expensive to various sectors of the economy household incomes tend to decrease. On the one hand, firms tend to cut costs in those inputs with higher elasticities such as labor costs, by lowering wages or cutting production and employment. On the other hand, higher power costs are passed through to the price of goods and services, reducing the purchasing power of households and thereby having an effective negative impact on household budgets.[32]

13. **In its revised development strategy, *Vision 2035,* the GOC aims to reduce poverty, spur growth and create jobs through increased industrialization, improved competitiveness and better governance.** In implementing *Vision 2035* the GOC aims to (i) achieve non-oil growth of 8% per year, (ii) reduce poverty to less than 10%, (iii) become a middle-income country, (iv) become an industrialized nation, and (v) improve governance. The associated *Strategy for Growth and Employment 2010-2019* aims to increase non-oil growth by investing in key infrastructure, improving productivity and the business climate and strengthening human development and regional integration. The World Bank's CAS 2010-2013 supports the GOC's growth and poverty reduction objectives through a portfolio of existing and planned projects in the agriculture, transport, water, urban, energy, health and education sectors as well as public financial management, decentralization and private sector development. Several gas and mining projects, including the expansion of the aluminum smelter Alucam and the exploration of Cameroon's bauxite, cobalt, nickel, iron, and other mining resources, are envisaged together with the private sector. They require significant investments in enabling infrastructure, including electricity, road, rail, and port developments.

Sector issues

14. **Since 1998, the GOC has initiated a series of policy and structural reforms to improve efficiency and governance in the power sector and increase private sector participation.** GOC adopted an Electricity Law in 1998, a complementary Electricity Decree in 2000 and established a sector regulator (ARSEL) and a rural electrification agency (AER) in 1999. The law stipulates that transmission, generation and distribution activities are the domain of private operators. The state-owned vertically integrated power utility SONEL was privatized through a twenty-year concession in 2001 and was granted exclusivity over transmission and distribution throughout its concession area in Cameroon and the right to own up to 1,000 MW of installed generation capacity. According to the electricity law, production capacity in excess of the concession limit of 1,000 MW should be bid out competitively, allowing for the entry of additional private operators in the sector. A Presidential Decree of November 29, 2006, created the Electricity Development Corporation (EDC) which, as GOC's asset holding company, is responsible for the management of public sector assets in the power sector, in particular hydro power assets, including the preparation of the LPHP. Furthermore, a presidential decree of

[31] Electricity access rates in the Eastern Region where the LPHP is located are estimated at 24%.
[32] Boccanfuso, Estache, and Savard 2008a, 2008b, 2008c

December 10, 2009 has created the Rural Energy Fund (REF) which will be executed by AER. The REF puts in place a private-sector based, transparent, and coordinated approach to rural energy projects. Following similar successful models in Mali and Senegal, the REF will pool budget and donor funds to provide investment subsidies to private rural energy operators. Through the ESDP, the World Bank is co-financing the REF with US$40 million and other donors have expressed interest in contributing to the REF in the future.

15. **Benefits of privatization of the electricity utility to date include significant private investment, growing connections and improved service quality for consumers.** Since its privatization in 2001, AES SONEL has connected over 180,000 customers, invested over US$460 million in generation capacity and rehabilitation of the network and committed an additional US$205 million for ongoing generation and network rehabilitation, including an IFC co-financed EUR 260 million loan financing for its five-year investment program mainly focused on rehabilitations of existing hydro power stations and transmission and distribution networks. Unserved energy decreased from 2% of total energy produced in 2003 to the contractually targeted level of 0.5% in 2008. AES SONEL has been paying dividends since 2002 and does not receive any budget transfers from the GOC's budget. As an integrated utility, AES SONEL today both generates power and distributes it to over 712,000 customers in Cameroon. Given the dilapidated state of the infrastructure when The AES Corporation (USA) took control of the utility, initial investments mainly focused on rehabilitating existing infrastructure and improving quality of service for existing customers. Ongoing and committed investments are focused on increasing generation capacity to increase access to electricity for new electricity customers.

16. **Additional progress is being made in targeted concession areas and in concession monitoring.** AES SONEL's total system losses have historically been relatively high at 25%, in part due to a high prevalence of theft. Through its ongoing investment program, AES SONEL is investing in transmission system rehabilitation and in improving distribution efficiency by reducing illegal connections, replacing malfunctioning meters, installing new prepaid meters starting with government buildings, upgrading billing software, and improving collection rates. Connection targets have been revised downwards during the 2005/2006 renegotiation of the concession contract. Progress is being made in meeting them. More than 52,000 new connections were established both in 2007 and in 2008, fulfilling the connection target in 2008. In 2009, AES SONEL connected over 58,000 consumers, slighltly exceeding revised connection targets. The implementation of certain other concession obligations, including the creation of a subsidiary for operating the transmission system and separating accounts by generation, transmission and distribution activities, was delayed. The creation of a subsidiary for transmission system operations is being prepared and AES SONEL submitted its separated accounts to the regulator in line with concession obligations for the first time for 2009. This will allow for detailed cost of service and tariff analyses in preparation of the upcoming tariff review (cf. paragraph 10).

17. **The electricity sector is currently in transition and preparing for a market based electricity system in the medium term.** Given the urgent need to fill short-term gaps in electricity supply, the first two power generation projects outside of the concession, the proposed Dibamba thermal power plant (88 MW) and the proposed Kribi Gas Power Project (216 MW) have been awarded to The AES Corporation under the electricity law's emergency procedure. At the same time, they are being implemented following the standard independent power producer (IPP) model. Two separate companies, Dibamba Power Development Company (DPDC) and

Kribi Power Development Company (KPDC) have been established. They have received or will receive electricity generation and sales licenses from the GOC, will sell their power to AES SONEL under transparent arms' length Power Purchase Agreements (PPAs) and sign service agreements with AES Engineering LLC and AES SONEL for technical and operational services, respectively. The PPAs are subject to regulatory review and approval. Separately, EDC is preparing the first hydropower project outside of the concession, the LPHP. As a regulating dam, it will be operated by a dedicated subsidiary of EDC. According to the decree establishing EDC, it is also foreseen that AES SONEL will transfer the three existing water reservoirs and their management to EDC. The creation of a separate entity for the management of the Sanaga river basin is foreseen. In the short-term, the REF is preparing the first rural energy concessions for competitive bidding, opening the sector to new private operators in rural areas.

18. **The reform of the sector framework is continuing.** In April 2011, the GOC submitted to Parliament a new Electricity Law, which was subsequently passed by Parliament but which has not yet been promulgated. The new law proposes a number of changes to existing institutional arrangements in the sector, including regarding the regulator ARSEL. It also seeks to establish new arrangements for transmission operations and for the treatment of "industrial producers" *(i.e.*, generators that wished to produce power both for their own industrial facilities and for sale to the public). The new law maintains the principle that generation, transmission and distribution operators will be selected by competitive bidding. Special arrangements are allowed for industrial producers which would, however, need to optimize the size of their plant in the event they store water and to competitively bid out works for their respective power plant or transmission grid under the supervision of the regulator if they are also providing electricity for sale to the public.

19. **The World Bank is working with the GOC to improve the reform package.** The World Bank Group has engaged with the GOC, in partnership with other key stakeholders including AES SONEL and Alucam,[33] with respect to certain aspects of the new Electricity Law. This engagement has led to the realization that the law passed in Parliament in April 2011 would require amendments. A revised version of the 2011 Electricity Law is expected to be submitted to Parliament for a second reading in November 2011. The revisions address three key main areas of concern:

(a) In regard to ARSEL, new provisions have been added to provide additional detail as to the functions of the regulator, so as to strengthen its mandate. However, the GOC has also added a provision stipulating that the regulator will be under the supervision of the Government. The latter provision will mean that the regulator will have somewhat less independence than that which exists in other jurisdictions. Through the Energy Sector Development Project (ESDP), the World Bank is providing technical assistance (TA) to ARSEL to strengthen its capacity in sector regulation, concession monitoring, and protection of consumer rights.

[33] The aluminum smelter Alucam is Cameroon's largest single electricity consumer. Alucam is owned 47% by Rio Tinto Alcan, 47% by the Government of Cameroon, 5% by the Agence Française de Développement (AFD), and 1% by its employees.

(b) In regard to transmission operations, the law will be amended to reflect the GOC's intention to create a new publicly owned national grid company. This is a further step towards the unbundling of the power sector to enable greater competition within the market. This will, however, be a complex undertaking, necessitating more elaborate contractual arrangements amongst the market participants and a greater degree of regulatory oversight of the monopolistic elements of the sector (*i.e.*, the transmission and distribution network businesses). Also, this initiative will require that the GOC negotiates with AES SONEL to make certain changes in the concession currently held by AES SONEL, under which the company has exclusive rights over transmission operations. Through the ESDP, the World Bank will work with ARSEL and the GOC to assess the impacts of the planned creation of the transmission system operator on the concession and manage the transition in an orderly manner.

(c) In regard to the arrangements for "industrial producers," the new law allows for auto-producer arrangements with provisions to ensure that an agreed quantity of power will be made available for public consumers from future generation plants built by such producers. There are also provisions stipulating that this agreed quantity of power will be priced on a cost of service basis, as approved by ARSEL, and stipulating that industrial producers must procure their power generation and related transmission facilities through a competitive tendering process. Further, all holders of hydro storage facility concessions, including industrial producers with such a concession, will need to optimize the related plants, so as to ensure that the full potential of Cameroon's hydropower resources is realized for the benefit of both industrial and public consumers.

20. **The World Bank is providing additional TA to further improve electricity sector governance.** Overlapping activities by all sector actors and limited capacity create coordination problems and governance challenges. Following privatization, MINEE took over the responsibility for sector planning, albeit with limited capacity. Concession monitoring by the sector regulator ARSEL requires further strengthening due to capacity constraints. Similarly, the launch of the REF has been slow given capacity constraints at AER. The GOC's capacity to manage environmental and social impacts in the energy sector requires strengthening. In addition to the assistance outlined above, under its ongoing ESDP, the World Bank is providing capacity building for all sector actors to better execute their mandate, including helping MINEE to update and finalize the least cost sector development plan, AER with the preparation of rural electrification projects and EDC with the preparations of the Lom Pangar Hydropower Project (LPHP) and water management issues. The parallel Environmental and Social Capacity Building Project for the Energy Sector (PRECESSE) works with the Ministry of Environment, Ministry of Energy and other line ministries to increase capacity in managing environmental and social impacts of energy projects.

21. **In particular, the World Bank is assisting the GOC in updating the sector framework to ensure the development of Cameroon's hydropower resources for the benefit of all Cameroonians.** Cameroon has sufficient low-cost hydropower capacity along the Sanaga River to satisfy demand from industrial and public sector clients and potentially export power to neighboring countries. To ensure that future hydropower sites along the Sanaga river following the realization of the Lom Pangar regulating dam are optimized to satisfy the demand of all

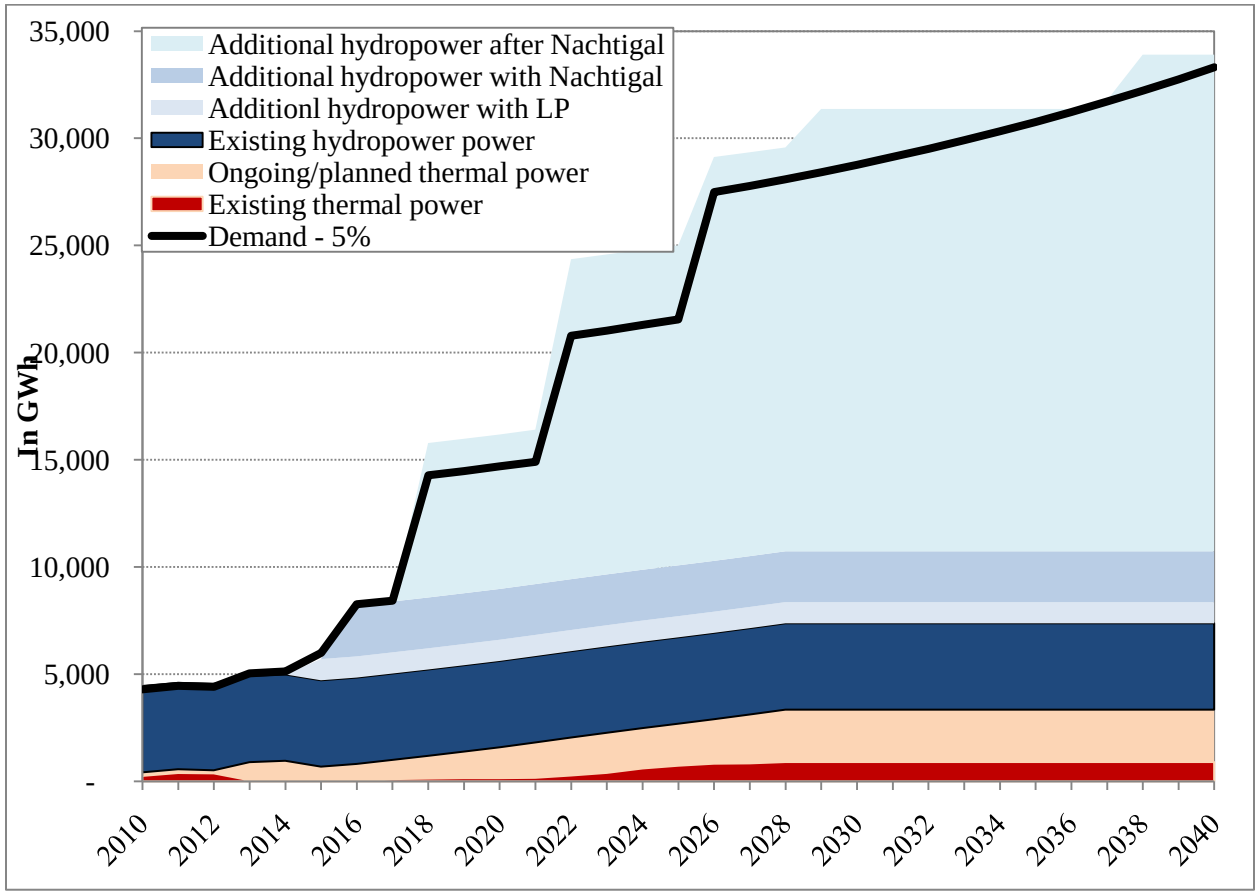
consumers, the revised electricity law lays out the principle of optimal and equitable development of Cameroon's hydropower resources. In addition, the World Bank has requested a policy letter for the equitable development of hydropower resources in the Sanaga River basin. In addition, starting with the LPHP, the GOC plans to introduce charges for the use of water for hydropower generation through water rights. An institution for the management of water flows on the Sanaga river basin will need to be created to coordinate water flows for all water users of the Sanaga basin. Through the ESDP, the World Bank is providing TA to EDC and the GOC concerning the drafting of the policy letter and the development of pricing and management structures for hydropower generation.

22. **While the GOC is a shareholder of several actors in the sector, it has a track record of limited interference in the daily management of these companies.** Since the GOC is a shareholder in Alucam, AES SONEL, DPDC, and KPDC, a potential risk of a conflict of interest can be perceived. However, this is mitigated by the fact that the GOC is a minority shareholder in all companies and until 2010 had a track record of non-interference in management. Technical staff is provided by the private majority shareholder. Refusal of tariff increases to AES SONEL in 2010/11 is motivated by election maneuvering and the GOC has undertaken to allow regulatory tariff increases again from 2012 onwards in conformity with AES SONEL's concession contract. In the negotiations of contractual arrangements for the Project, the GOC has been advised by experienced legal advisors, allowing for balanced risk sharing and the conclusion of contracts according to standard market practice for IPP structures. The GOC is a minority shareholder in all entities and GOC has been independently advised in negotiating arms' lengths contracts for the Project.

23. **Cameroon's current electricity demand exceeds supply, requiring investments in new generation capacity in the s hort and medium term to increase access.** AES SONEL's installed generation capacity of 933 MW[34] is insufficient to meet demand growth, and available capacity is significantly lower, as the two largest hydro power generation plants, Edéa and Song Loulou, are undergoing rehabilitation. Historical average growth rates of electricity supply of 3% between 2004-2008 are half the average demand growth from the public sector (LV and medium-voltage (MV) customers) of 5-6%. In addition, Cameroon's planned mining and industrial projects, including an expansion of Alucam's aluminum smelter, and additional iron, cobalt, bauxite, uranium, and gold mining projects under negotiation, will require additional generation capacity. Against this background, the GOC's *Strategy for Growth and Employment 2010-2019* targets a total installed generation capacity of 3,000 MW by 2020. In 2010, electricity delivered and sold by AES SONEL amounted to 3,580 gigawatt-hours (GWh), 65% of which (2,286 GWh) was supplied to the general public and the remaining 35% (1,230 GWh) to industrial high-voltage (HV) customers, mainly Alucam (1,215 GWh). In addition, demand by the general public almost doubles during daily peak hours from about 230 MW to 430 MW. Electricity demand in the general public is projected to grow at 5% per annum on average to 3,558 GWh by 2015, 4,468 GWh by 2020 and 5,677 GWh by 2025. In addition, industrial demand is expected to grow considerably over the same period.

[34] 721 MW are from the Song Loulou (384 MW), Edéa (265 MW), and Lagdo (72 MW) hydropower stations, 188 MW grid-connected thermal capacity, and 24 MW isolated thermal capacity.

Figure 3: Demand trend projections 2010-2040 (base case)



24. **Cameroon's large hydropower resources will add significant least cost power supply to the system over the medium term but take time to develop.** Cameroon's hydropower potential is estimated at over 12,000 MW of which less than 1,000 MW are currently developed through the existing Edéa (265 MW), Song Loulou (384 MW), and Lagdo (72 MW) hydropower plants. Cameroon's main river basin, the Sanaga River, has an estimated hydropower potential of 6,000 MW alone. Unlocking this potential requires the construction of the Lom Pangar regulating dam under preparation which will not be completed before 2014/15. Subsequent hydropower plants on the Sanaga River will take several additional years to construct. Emergency and least cost thermal power solutions are therefore required to bridge the supply gap before additional hydropower will become available. In addition, as shown through sector least cost plans, there are complementarities between hydropower and gas-fired generation in Cameroon, as gas-fired generation offers an insurance against low hydrology risk at an affordable cost.

25. **In 2009, emergency thermal power capacity was added to the system through the Dibamba HFO project to address power outages.** Given the urgent need to fill short-term gaps in electricity supply, the first power producer outside of the AES SONEL concession, the Dibamba thermal power plant (88 MW) was awarded to The AES Corporation under the electricity law's emergency procedure for a heavy fuel oil plant with 88 MW installed capacity. DPDC was established to operate according to an IPP model, received electricity generation and

sales licenses from the GOC and sells its power to AES SONEL under an arms' length tolling agreement and signed service agreements with AES SONEL and another affiliate of The AES Corporation for technical and operational services. The tolling agreement is subject to regulatory review and approval and the GOC has been advised by experienced legal advisors in the negotiation of project documents. The AES Corporation is investing US$127 million in the project. 44 MW of the Dibamba plant started producing in August 2009 with another 44 MW having come online in November 2009. In addition, in the 2011 election year, the GOC is adding emergency generation capacity of 40 MW through three diesel-fired thermal power plants to be installed in Bamenda, Ebolowa, and Mbalmayo and operated by EDC and has also signed a contract with Aggreko to rent 60 MW of generation capacity in the Yaounde area for one year.

26. **The next-least-cost development is the Kribi gas to power project with an installed capacity of up to 216 MW, which is expected to start producing power in the latter part of the dry season 2012/2013.** Comprehensive economic analysis confirms the least-cost generation investments in Cameroon's electricity sector as follows: the Kribi Gas Power Project with an optimal capacity of up to 330 MW,[35] followed by the LPHP with a planned partial filling of its reservoir in 2014 and full operations starting in 2015. The Kribi power plant and transmission line have been awarded to KPDC also based on the electricity law's emergency provisions. The Sanaga South gas field and the gas processing facility are being developed by Perenco Cameroon and the on-shore gas pipeline will be built by SNH.

27. **The key to unlocking Cameroon's hydropower potential is the LPHP which will regulate water levels in the Sanaga River and thus increase the potential to generate reliable all-season hydropower downstream from 2015 onwards**. Cameroon's three existing water reservoirs do not have sufficient storage capacity to maintain reliable power supply during the dry season. Constructing the Lom Pangar regulating dam will establish a reservoir that allows for the optimal seasonal management of the water flow of the Sanaga River thereby increasing the guaranteed average water flow on the Sanaga River. In the short term, the LPHP will increase the available guaranteed power generation capacity at the two existing hydropower plants Edéa and Song Loulou in the dry season by at least 120 MW. The LPHP also includes the construction of a 30 MW power house at the foot of the dam and a 120-km long 90-kV transmission line to inject a reliable low-cost hydropower into Cameroon's power system for rural electrification of the Eastern Province. In the medium term, the realization of the LPHP unlocks access to the hydrological potential of the Sanaga River of up to 6,000 MW through additional investments in downstream hydropower plants. Following the LPHP, a cascade of low-cost hydropower projects can be built along the Sanaga River, starting with the Nachtigal hydropower plant, the next least cost investment after the LPHP. Adding additional hydropower supply to the system will reduce the average cost of electricity over time and provide reliable, low-cost power supply for all consumers. The LPHP is being prepared by EDC with TA from the World Bank's ESDP.

28. **Access to electricity in rural areas is facilitated by the Rural Energy Fund.** The Rural Energy Fund (REF) executed by AER puts in place a transparent and coordinated approach to rural energy projects with a view to rapidly improving access to modern energy by rural communities. Improving access to electricity remains a top priority in Cameroon with only about

[35] The plant's capacity of 216 MW was designed to meet system needs in 2011, but its construction was delayed. In coming years, it is therefore expected that additional gas-fired capacity will be needed.

14% of rural households currently having access. Following similar successful models in Mali and Senegal with respect to off grid rural electrification, the REF pools budget and donor funds to provide partial investment subsidies to private rural energy operators. The ongoing ESDP is currently being re-structured to facilitate a fast track implementation of grid based rural electrification utilizing AER to manage planning and construction of infrastructure and AES SONEL to manage operations, maintenance and commercial management. Participation in construction by rural communities after suitable training is a significant aspect of the revised approach and will assist in enabling rural economic empowerment in the newly electrified areas. As part of the financing, AES SONEL will be required to make a contribution to infrastructure cost based on the subsidies allowed by the REF. GOC and AES SONEL have agreed in principle to the revised approach to grid based rural electrification. Through the ESDP, the World Bank has facilitated the creation of the REF and is co-financing the REF with US$40 million. This funding will enable approximately 105,000 households to have access to electricity. Other donors have expressed interest in contributing to the REF in the future.

b. Tariffs

29. **In Cameroon's electricity market, low (LV) and medium (MV) voltage tariffs are regulated, while high voltage (HV) tariffs are freely negotiable.** Under the concession contract, LV and MV tariffs are regulated according to a tariff formula and under the supervision of ARSEL, while HV tariffs are subject to commercial negotiations. Since privatization, LV and MV tariffs were increased four times between 2001 and 2004. These increases were justified as no tariff increase had previously occurred for fifteen years and price adjustments were necessary to cover overdue investments and to ensure that AES SONEL was profitable without subsidies from the Government budget. In mid-2010, ARSEL rejected the tariff increase proposed by AES SONEL ahead of upcoming 2011 presidential elections. The GOC and AES SONEL has signed a compensation agreement in which the GOC commits to pay compensation to AES SONEL for 2010 and 2011 to ensure the utility's financial viability. The compensation agreement includes the GOC commitment to return to regulatory tariff increases as stipulated in the concession agreement from 2012 onwards to ensure that AES SONEL is able to meet profitability targets without Government subsidies. For 2010, a transparent budget transfer was affected from the GOC to AES SONEL in the amount of CFA 10 billion (US$22 million equivalent). The compensation amount for 2011 has indicatively been budgeted at CFA 11 billion (US$25 million equivalent) and included in the GOC's 2011 budget law, but is in the process of being audited by the regulator before payment. These are the only payments expected to be made from the GOC's budget to the electricity sector and they are temporary in nature. The Bank will follow up to ensure that regulatory tariff increases will be applied from 2012 onwards.

30. **LV and MV tariffs are higher than HV tariffs due to several factors.** In 2010, the average tariff for the public sector was CFA 72.9/kWh (US$0.16/kWh equivalent), while the average tariff for Alucam was CFA 13.01/kWh (US$0.028/kWH equivalent). Cameroon's electricity network consists of three isolated networks, including the Southern Interconnected Grid (SIG) and the Northern and Eastern grids. As hydropower accounts for the majority of generation capacity in the SIG, its average production costs are lower than those of the Nothern grid and especially the Eastern Grid, a network of expensive diesel-fuelled power plants. All HV clients, including the aluminum smelter Alucam, are connected to the SIG and therefore benefit from its relatively lower production costs. In comparison, the higher tariffs for LV and MV

consumers cover (i) the higher share of expensive thermal generation in other networks, (ii) a significant share of high-cost thermal peaking power, (iii) significant distribution losses of close to 30% and, until 2009, (iv) a historic cross-subsidy to Alucam.

31. **Historic cross-subsidies from LV and MV consumers to Alucam are being phased out.** For the construction of Cameroon's first hydropower plant at Edéa on the Sanaga River in 1953, Alucam's demand represented 96% of total power demand at the time, of base load, which has decreased to about 30% of total power demand by 2009. Until end-2009, Alucam benefited from a 30-year historic PPA with AES SONEL for up to 165 MW during the wet season and 145 MW during the dry season at very beneficial tariffs which were cross-subsidized by higher tariffs for LV and MV consumers. Under a new long-term PPA with AES SONEL in effect since January 2010, Alucam's average electricity tariff for up to a maximum of 250 MW of power during the wet season once the Kribi Project is online was increased to CFA 12.94 per kWh (US$0.028/kWh equivalent) before indexation, an increase of over 80% from historic levels and above the average global electricity tariff to aluminum companies of US$0.025/kWh.[36] In line with international market practice, the new PPA includes an indexation of the electricity tariff to inflation, exchange rate movements, electrical equipment prices, the price of aluminum and the gas price of the Kribi Gas to Power Project. This indexation has been applied since 2010. As the aluminum smelter is directly connected to the Edéa hydropower plant, the cost of service to Alucam includes dedicated generation costs, transmission and transmission system management costs and minimal commercial costs, but no distribution costs. An independent review by a consultant of ARSEL of the separated accounts submitted by AES SONEL confirms that the new indexed tariff for Alucam covers AES SONEL's average cost of production for Alucam, including the capacity charge for generation and transport for electricity supplied by the Kribi Project and a pass-through mechanism for the cost of gas of the Kribi Project. With TA financed by the World Bank, ARSEL has conducted an independent review of the gas price negotiated between SNH and KPDC to ensure that it covers all investment costs and does not contain hidden subsidies. As a result of the regulatory review, the gas price has been increased. Under the revised tariff structure, Alucam does not receive any fiscal subsidy from the GOC's budget.

32. **Going forward, the difference in LV and MV tariffs compared to HV tariffs is expected to decrease further due to an increasing share of low-cost hydropower available to LV and MV consumers after the construction of the Lom Pangar hydropower project**, a higher tariff for Alucam effective since 2010, expected results from ongoing investments to reduce distribution losses and a change in tariff system from price control to revenue control, allowing for improved tariff regulation. Beyond the 250 MW of electricity supply from AES SONEL to Alucam under the new PPA and if Alucam's plans for expanded operations in Cameroon materialize, a new cost of service based concession contract is expected to be concluded for any additional power sales to Alucam.

33. **LV and MV tariffs under the AES SONEL concession have historically operated under a price cap formula which, as provided for under the concession agreements, is scheduled to change to a revenue cap mechanism.** In the first ten years of the concession contracts, the applicable tariff formula was based on a price control mechanism for LV and MV customers. Starting from 2011, the tariff regime was scheduled to change to a revenue control

[10] 2008 / CRU data 2006.

mechanism to be applied based on types of activities (LV/MV sales, distribution, transmission, transmission system operation, generation) and which is expected to continue to include adjustments for improvements in efficiency. In preparation of the new tariff regime and in line with its obligations under the concession contract, albeit with some delay, AES SONEL has submitted its separated accounts by activities for 2009 to ARSEL. ARSEL is conducting an audit of these separated accounts with TA from the World Bank's ESDP and has built a regulatory model with TA financed by PPIAF. This provides ARSEL for the first time with detailed data required to adequately regulate tariffs and allows implementing the change in tariff regime for LV and MV consumers from a price cap to a revenue cap mechanism as foreseen in the concession contract.

34. **In light of Cameroon's significant investment needs, future investments in the electricity sector will need to draw on a smart combination of public and private finance.** The historic level of spending on electricity in Cameroon is significantly below investment needs. Cameroon's total spending on electricity averaged 1.94% of GDP between 2005 and 2008.[37] This contrasts strongly with the estimated average investment needs in the power sector of 6.4% of GDP for all of Sub-Saharan Africa.[38] The privatized utility AES SONEL accounted for 97% of total spending on electricity between 2005 and 2008, the balance having been spent by the GOC for small scale rural electrification projects. The significant levels of investment required in Cameroon's electricity sector going forward cannot be achieved by relying on either the public or private sector alone. Public sector finance will be required for (i) large scale strategic investments outside of AES SONEL's concession obligations, in particular hydropower investments such as the LPHP, and (ii) investments which are not fully commercially viable, including rural energy projects. At the same time, private finance needs to be attracted to build additional power generation capacity through IPPs and to co-finance and manage rural energy projects.

[37] *Cameroon, Fiscal Policy for Growth and* Development, World Bank, May 2009.
[38] *Africa Infrastructure Country Diagnostic*, World Bank, 2010.

Table 5: AES SONEL's operating performance

AES SONEL	2007	2008	2009	2010
Technical performance				
Energy sales (GWh)	3,360	3,512	3,361	3,580
Alucam	1,344	1,389	1,196	1,215
HV	64	63	90	91
MV	745	763	790	857
LV	1,171	1,251	1,270	1,394
Distribution losses	25.76%	26.17%	29.47%	29.13%
Transmission losses	6.10%	6.60%	6.77%	7.60%
Total system losses	21.08%	21.65%	24.42%	24.86%
Unserved energy	0.55%	0.68%	0.80%	0.85%
Average tariffs (US cents/kWh)	9.50	10.48	10.51	10.99
Alucam/1	1.64	1.69	1.80	2.86
MV/LV	15.19	16.78	15.55	15.68
Number of subscribers (MV&LV)	-	571,000	661,055	712,377
New connections	51,747	52,975	58,389	59,001
% of target	109%	78%	82.65%	72.12%
Collection Rates	91.10%	93.74%	100%	96.34%
Number of employees	3,174	3,260	3,443	3,545
# of customers/employee	-	175	183	201

The Kribi Gas Power Project

35. **As the next-least-cost generation investment in Cameroon's electricity sector, the Kribi Gas Power Project will add up to 216 MW in power generation capacity and trigger the development of Cameroon's gas reserves that have so far not been exploited.** KPDC was created in 2008 as according to the model of an IPP to develop the Kribi gas power project. The proposed project consists of (i) the development, construction and operation of a new 216 MW (nameplate) natural gas-fired power plant located near the Mpolongwe village, 9 km north of the coastal city of Kribi in South Province of Cameroon, and (ii) the development and construction of a new 100-km 225-kV double-circuit transmission line between the Kribi power plant and the existing Mangombe 225/90-kV substation at Edéa in Littoral Province, including substations and transformers. The project is structured as build, own, operate, and transfer (BOOT) and KPDC will receive twenty-year electricity generation and sales licenses from the Ministry of Energy based on the recommendation from the electricity regulator ARSEL. The Kribi power plant will operate on natural gas supplied from the Sanaga South gas field, Cameroon's first gas field to be developed by Perenco Cameroun. A Gas Sales Agreement (GSA 1) has been signed between SNH and Perenco Cameroon, and SNH will sell the gas to KPDC under the Gas Sales Agreement 2 (GSA 2). AES SONEL will be the sole off-taker of electricity produced by KPDC under a twenty-year arms' length PPA under finalization. Electricity generated under the Kribi

Gas Power Project will be transmitted into Cameroon's Southern Interconnected Grid. (See Annexes 4 and 6.)

36. **The Project provides a low-cost diversification of generation resources and increases the availability and reliability of electricity supply.** Comprehensive economic analysis confirms the least-cost generation investments in Cameroon's electricity sector as follows: the Kribi Gas Power Project with an expected commercial operation date in November 2012, followed by the LPHP with a planned partial filling of its reservoir in 2014 and full operations starting in 2015. The Project will provide mainly peaking capacity and add much needed spinning reserve in the system which will add to the stability and reliability of Cameroon's mainly hydropower based electricity system. In addition, with a levelized tariff of US$0.128/kWh, the Project is a low-cost thermal addition to Cameroon's power system before additional hydropower generation capacity becomes available. The Project will provide the anchor investment to develop the gas reserves in the Sanaga South gas field, which are larger than the gas needs of the Project.[39]

37. **The electricity generated by the Kribi power plant will allow AES SONEL to relieve suppressed demand in the SIG for the equivalent of about 163,000 households.** It is estimated that Kribi will enable AES SONEL to serve 129 GWh of suppressed demand due to insufficient power generation. Based on current 25% total system losses and estimated average household consumption of 600 kWh per year (disregarding any consumption by businesses), this would be equivalent to the consumption of about 163,000 households (*i.e.*, about 815,000 people (assuming an average household size of 5)).

38. **Supplying 50 MW of capacity to Alucam provides a stable base load for the Project with positive benefits for the economy.** Under the new PPA between AES SONEL and Alucam in effect since January 2010, Alucam's guaranteed electricity supply from AES SONEL increases to 190 MW in 2013 and 2014 and a maximum of 250 MW from 2015 onwards. 50 MW will be supplied to Alucam from the Kribi Gas Power Project through AES SONEL, thereby ensuring a stable base load demand for the Project. The power supplied to Alucam under the PPA with AES SONEL will provide more reliable electricity to Alucam's existing smelting operations which are currently producing below capacity. Direct benefits of Alucam's operations include the incremental value-added from its production operations, employment and contribution to the state budget. Alucam's activities at the current production level (including taxes and customs fees paid) yield positive economic benefits of about 0.57% of GDP on average for 2010-2012. The power generated by the Kribi power plant will allow Alucam to operate at full capacity, so production will increase from 79,000 tons per year to 95,000 tons. Value-added is sensitive to the price of aluminum and Alucam's cost structure, in particular alumina and electricity inputs. Based on cost structure prevailing in 2007 with the current electricity price charged to ALUCAM of US$ 2.8 cents per kWh, the price of aluminum forecasted by the World Bank (around US$2,540 per ton in 2010 prices for the period 2013-2015) and standard multipliers for the industry, in particular the experience of Mozal smelter in Mozambique, the

[39] SNH has estimated the recoverable gas resources of the total Sanaga South gas field at 1,154 billion cubic feet (BCF) (equivalent to 32.66 billion cubic meters (bcm)). This figure corresponds to the best estimate, between the low estimate of 428 BCF and the high estimate of 1,605 BCF. (SNH technical and economic study, 2005). The annual contract quantity for the Kribi power plant is estimated at about 10 BCF (equivalent to 0.283 bcm or 10,550 terajoules (TJ)) (Amendment No.1 to GSA, March 2009).

incremental direct and indirect value-added and contribution to state budget from the additional power made available to Alucam by the Kribi project estimated at 0.11% of GDP. Access to power from the Kribi power plant will allow Alucam to contribute about 0.65% of GDP between 2013-2015. The incremental direct and indirect employment is estimated at 195 employees. This represents an 18% increase over current level of employment generated by Alucam.

39. **The proposed IDA Guarantee for the Project will trigger access to long-term private finance for the development of Cameroon's electricity sector.** Historic investments in Cameroon's electricity sector by the concessionaire AES SONEL have been financed by equity and loans from Development Finance Institutions (DFIs) on a corporate finance basis. Local and international banks have only provided short-term corporate finance to AES SONEL and have not participated in any long-term project finance. The proposed IDA Guarantee will open up access to private project financing from local and international banks for projects in the electricity sector. As the reliability of the GOC, the state-owned gas supplier SNH, and the electricity regulator ARSEL to honor their contractual obligations under the project documents in an IPP type transaction have not yet been tested, the IDA Guarantee can help overcome perceived uncertainty and risks related to government performance from the perspective of a private lender by backstopping political and regulatory risks under the Government Commitment Agreement.

40. **Access to local currency finance will reduce foreign exchange risk for KPDC and AES SONEL and reduce interest rates with a positive impact on consumer tariffs**. Foreign exchange rate risk and unexpected currency movements have led to failures of some PPPs and concession contracts globally. Access to local currency financing can therefore increase the sustainability of PPPs and reduce the cost of borrowing. Cameroon's financial market benefits from strong liquidity, but suffers from structural and regulatory limitations which limit the intermediation of this liquidity to long-term productive investments. Banks have primarily short-term deposits limiting their ability to lend at maturities required for long-term infrastructure investments. Current loan maturities without credit enhancement cannot exceed seven years. To minimize the impact on the bulk supply tariff, KPDC is looking to raise financing with a fourteen-year maturity. To bridge these differences in maturities and allow local banks to participate in the financing of the Project, a financing structure has been developed which allows local banks to extend their loan after an initial seven-year maturity. In case KPDC is unable to extend or refinance the local currency tranche for the Project, the GOC has agreed to step into the position of the commercial lenders until KPDC can arrange for replacement commercial lenders to take over the loan. This GOC commitment will be supported by the proposed IDA Guarantee.

41. **As the first private project finance in Cameroon, the local currency financing for the Project will contribute to the development of Cameroon's financial markets.** By creating a precedent in project finance by local commercial banks, the IDA Guarantee will contribute to capacity building in local markets in project finance type transactions and long-term lending. Cameroon's financial sector suffers from a lack of functioning capital markets and the absence of a long-term pricing benchmark in the absence of long-term government bonds.[40] In this environment, the local currency tranche of the Project will establish a reference transaction for

[40] The only sovereign bond issued by the GOC to date has a maturity of 5 years.

future project finance transactions, thereby contributing to the development of term finance in Cameroon's financial system and allowing for further intermediation of available liquidity to productive uses, in particular infrastructure.

42. **IFC is coordinating a Euro-denominated loan by DFIs.** IFC, African Development Bank (AfDB), European Investment Bank (EIB), Netherlands Development Finance Company (FMO), the French Promotion and Investment Company for Economic Cooperation (PROPARCO), and the Central African Development Bank (BDEAC) are expected to provide about 61% of project debt through Euro-denominated parallel loans, with BDEAC providing a CFA-loan, in the aggregate amount of EUR 135 million (US$181.7 million equivalent), complementing the CFA 40 billion (US$82 million equivalent) local currency loan from commercial banks benefiting from the IDA Guarantee. Given the limited financing capacity of the commercial financial markets, DFI financing is required to realize the Project. The Project is therefore an example of a successful PPP between a private developer, the GOC, and private and public lenders. See Annex 5 for the financing plan of the Project.

43. **The successful realization of the Kribi Project with the participation of private lenders will send a positive signal for Cameroon's business climate.** Cameroon is ranking almost at the bottom of the Doing Business indicators (168 out of 181) and potential investors cite the country's poor investment climate as a major impediment to increased private investment. At the same time, the large financing needs required for the realization of the GOC's *Growth and Employment Creation Strategy 2010-2019* cannot be met by the GOC alone and require access to large scale private sector investment. The successful financing and implementation of the Project will send a strong signal that (i) PPPs are possible in Cameroon, thereby setting an attractive precedent for future private investments in the power and infrastructure sectors, and (ii) that the GOC is committed to developing large scale infrastructure projects in a sustainable way.

44. **GOC developed a comprehensive Gas Masterplan in 2003, including the development of the Project and scenarios for the planning of future gas developments projects.**[41] The Kribi gas power project is the trigger for the development of Cameroon's considerable offshore gas reserves. The Sanaga South gas field is being developed at a scale which is dedicated to the needs of the Kribi power plant, but can be scaled up in the future. Further development of Cameroon's gas reserves would provide the opportunity to transform some of the existing HFO-fired power stations to lower cost gas-fired solutions in the future, such as the 85 MW HFO plant at Limbe if the Logbaba gas field is developed. GOC is envisioning to add value to the country's gas resources in at least the following areas: (i) reduction of flaring (approximately 3 million cubic feet per day in Rio del Rey); (ii) supply of the local market (new Kribi and converted Limbé thermal generation plants, SONARA, and possibly some industrial consumers in Douala); (iii) extraction of condensates and liquefied petroleum gas (LPG) (the LPG consumption is 60,000 tons per year, at present half produced by SONARA and half imported in small cargoes at a high price); and (vi) export of the dry gas to Equatorial Guinea for liquefaction and liquefied natural gas (LNG) exports. Under the ESDP, the World Bank is assisting the GOC to further determine the role of gas in electricity production as part of the update of the least-cost electricity sector development plan.

[41] *Cameroon Gas Masterplan*, SNH/Shell, 2003.

Annex 2: Major Related Projects Financed by the Bank and/or other Agencies

CAMEROON: Kribi Gas Power Project

Ongoing World Bank projects

Cameroon: Energy Sector Development Project (ESDP), US$65 million, P104456, Cr. 4484-CM, IP/DO rating: Moderately Satisfactory/Moderately Unsatisfactory

1. The overall objective of the ESDP is to increase access to modern energy in targeted rural areas and improve the planning and management of sector resources by all energy sector institutions. Through its intervention, the ESDP is expected to contribute to improved reliability of electricity supply in Cameroon. There are three components to the ESDP. The first component helps set up and implement the Rural Energy Fund (REF) as foreseen under the National Energy Plan for Poverty Reduction (PANERP) and the decree establishing the AER. The second component of the ESDP is capacity building, which provides TA to (i) MINEE to improve the planning of least-cost investments; finalize the legal and institutional framework of the energy sector; communication; complementary studies and provide necessary training; (ii) AER to promote rural energy and renewable energy projects and implement the REF; (iii) ARSEL to improve concession monitoring and consumer protection; and (iv) EDC to improve capacity for hydropower planning and optimization. The third component of the ESDP provides for project preparation including LPHP preparation. This component assists EDC with the preparation of the LPHP and AER with the preparation of rural energy projects. The project is currently under restructuring.

Cameroon: Lom Pangar Hydropower Project (LPHP), US$75-100 million, P114077, under preparation

2. The LPHP is the anchor project to unlock Cameroon's hydropower potential and a priority project in the GOC's development strategy. The Lom Pangar regulating dam will allow improved regulation of the water flow of the Sanaga River, by storing water of the river Lom during wet periods and releasing it during dry periods. In the short term, the LPHP will increase the available guaranteed power generation capacity at the two existing hydropower plants Edéa and Song Loulou in the dry season by at least 120 MW. The LPHP also includes the construction of a 30 MW power house at the foot of the dam and a 120-km long 90 kV transmission line to inject a reliable low-cost hydropower into Cameroon's power system for rural electrification of the Eastern Province. In the medium term, the realization of the LPHP unlocks access to the hydrological potential of the Sanaga of up to 6,000 MW through additional investments in downstream hydropower plants. Following the LPHP, a cascade of low-cost hydropower projects can be built along the Sanaga, starting with the Nachtigal hydropower plant, the next least cost investment after the LPHP. The primary project development objectives for the LPHP are to (i) improve the reliability, availability, and affordability of electricity supply to increase access for households and businesses; (ii) address effectively the environmental, social, and distributional risks of the LPHP; and (iii) maximize growth and poverty reduction opportunities while keeping

Cameroon's carbon dioxide (CO_2) emissions low by unlocking Cameroon's significant hydropower potential. The LPHP will co-finance the construction of the Lom Pangar regulating dam, the environmental and social management plan, and will provide TA to project construction and supervision. IDA will provide a total of US$75-100 million in co-financing, together with AFD, EIB and AfDB. LPHP costs are estimated at US$430 million.

Cameroon: Environment and Social Capacity Building Project for the Energy Sector (PRECESSE), US$20 million, P109588, Cr. 4477-CM, IP/DO rating: Satisfactory

3. The development objective of the PRECESSE is to improve the management of and the accountability for environmental and social issues related to large infrastructure investments, with an initial focus on the energy sector. The PRECESSE initially focuses capacity building efforts towards the energy sector, in support of the ESDP. The expected long-term benefits of the PRECESSE are to: (i) reduce the negative externalities of large infrastructure projects; (ii) develop a transparent, stable, and fair framework for managing environmental and social risks that can improve the enabling environment for large infrastructure investments; and (iii) institutionalizes information flows between the populations affected by large infrastructure projects and other stakeholders, and political decision-makers. The PRECESSE includes the following three components: (i) strengthening the ministry in charge of the environment to fulfill its mandate to define, monitor, and control environmental and social obligations of large infrastructure projects, in compliance with the environmental law of 1996 and its implementation decrees; (ii) establishing frameworks to manage social externalities of large infrastructure projects, in compliance with international best practices; and (iii) supporting the environment unit in MINEE to ensure that the environmental and social issues arising from large energy sector infrastructure projects are addressed in compliance with international best practices.

Projects with financing by other donors

4. Other lenders/donors such as EIB, AFD, and AfDB support the development of the power sector in Cameroon as outlined in Table 6 below.

Table 6: Energy sector projects financed by other donors

Agency	Project	Target Issue (s)
AFD	LPHP: financing of environmental studies and of the independent panel of experts; co-financing of LPHP	Financing of initial EIA/ESMP for the LPHP Technical assistance to management of Deng Deng national park Preparation of the LPHP and subsequent investment lending
AfDB	Rural Electrification Projet Regional Interconnection Study Financing of Lom Pangar power house, transmission line and distribution network	Increase supply of electricity Increase transfer capacity and enhance security of supply Rural Electrification Master Plan (2000) Roadmap for regional interconnection in the Central African Power Pool Investment finance for Lom Pangar power house

Agency	Project	Target Issue (s)
EIB	LPHP: co-financing of investment loan	Co-financing of the LPHP regulation dam and ESMP
GTZ, SNV	Biomass strategy	Increase the share of renewable energy in the energy mix and reduce greenhouse gas emissions
EU, Spanish cooperation, Islamic Development Bank	Small scale rural electrification projects in selected rural areas	Improve access in selected regions
PPIAF	Grant to ARSEL for economic-financial sector regulation model	Improved sector regulation

Annex 3: Results Framework and Monitoring

CAMEROON: Kribi Gas Power Project

Table 7: Results framework

Project Development Objective (PDO)	Project Outcome Indicators	Use of Project Outcome Information
The project development objective is to (i) Increase the capacity of electricity generation from the Kribi Gas Power Project and (ii) Improve access to private finance for the development of the Kribi Gas Power Project, including local currency financing.	P1: Quantity of electricity generated from Kribi gas power plant (GWh/year) P2: Amount of private finance raised under the project (amount)	Indicator P1 will measure increased power generation Indicator P2 is a measurement for unlocking local private finance for the development of infrastructure projects in Cameroon
Intermediate Outcomes	**Intermediate Outcome Indicators**	**Use of Intermediate Outcome Monitoring**
The Project is commissioned on time and meets expected performance targets.	C1: Generation capacity of conventional generation constructed under the Project (MW) C2: Commissioning of the Project completed on schedule (Yes/No) C3: Trial run results of the Project meet owner's performance targets (Yes/No) C4: Indirect Project beneficiaries (number, of which female %)	These indicators C1-C3 will provide information whether the Project is efficiently and effectively operating, as planned. Indicator C4 will provide an estimate of indirect Project beneficiaries as part of the harmonization of IDA CORE indicators.

Arrangements for results monitoring

1. KPDC will be responsible for coordination and monitoring of the complete Project progress and prepare reports. KPDC will also facilitate coordination between sector actors as much as possible and also be a focal point for the World Bank supervision of the Project.

2. Specific data for gathering and reporting, including responsibility thereof, have been identified and agreed on with KPDC and the GOC. Indicators will be monitored mainly on the basis of quarterly reports to be made available by KPDC.

Table 8: IDA arrangements for results monitoring

Project Development Objective (PDO): ***The project development objective is to (i) increase the capacity of electricity generation from the Kribi Gas Power Project and (ii) improve access to private finance for the development of the Kribi Gas Power Project, including local currency financing.***												
PDO Level Results Indicators	**Core**	**UOM**	**Baseline Oct.1, 2011**	**Cumulative Target Values**					**Frequency**	**Data Source/ Methodology**	**Responsibility for Data Collection**	**Comments**
				YR1 2012	**YR2 2013**	**YR3 2014**	**YR4 2015**	**YR5 2016**				
P1: Quantity of electricity generated from Kribi gas power plant (GWh/year)	☐	*GWh/year*	0	0	862	1,051	1,127	1,127	Annually	KPDC statistics	KPDC	Measure increased power generation
P2: Amount of private finance raised under the project (amount)	☐	CFA, US$	0	CFA 40 bn (US$ 82 mm)	0	0	0	0	Annually	KPDC project progress reports	KPDC	Measurement for unlocking local private finance for development of infrastructure projects in Cameroon
Intermediate Results and Indicators												
Component 1, Intermediate Result 1: ***The Project is commissioned on time and meets expected performance targets.***												
C1: Generation capacity of conventional generation constructed under the Project	☐	MW	0	0	0	216	216	216	Annually	KPDC project progress reports	KPDC	These indicators C1-C3 will provide information whether the Project is efficiently and effectively operating, as planned.
C2: Commissioning of the Project completed on schedule	☐	Yes/ No	No	No	No	Yes	Yes	Yes	Annually	KPDC project progress reports	KPDC	
C3: Trial run results of the Project meet owner's performance targets	☐	Yes/ No	No	No	No	Yes	Yes	Yes	Annually	KPDC project progress reports	KPDC	
C4: Indirect Project beneficiaries (number, of which female %)	☐	Number %	0	0	815,000 50%	815,000 50%	815,000 50%	815,000 50%	Annually	KPDC statistics, AES SONEL statistics	KPDC	Indicator C4 will provide an estimate of indirect Project beneficiaries as part of the harmonization of IDA CORE indicators.

Table 9: IFC results framework and arrangements for results monitoring (DOTS)

	Detailed Impact Description	Impact Indicators	Final Target & Year (not to exceed 5 years)	To be tracked in the DOTs
Financial Performance	Project completion on time and budget	Project cost and completion date	Project to be completed within +/-10% of original budget by 2013	Yes
	Returns to all capital providers	Return on invested capital (ROIC)	Annual ROIC > Annual WACC over the life of the project	Yes
Economic Performance	Returns to society	Economic return on invested capital (EROIC)	Annual EROIC > Annual WACC over the life of the project	Yes
	Increased firm electricity supply to Cameroon	Electricity generated by the plant	1,127 GWh per annum by 2015	Yes
	Increased firm electricity supply per customers	Number of customers equivalents	699,000 customers equivalent by 2015	Yes
	Employment generation	Permanent jobs	59 jobs by 2015	Yes
	Transfers to GOC	Taxes and other payments	Euro 700 million over the life of the project	Yes
Environmental & Social Performance	The Project will produce a lower CO_2 emissions /kWh compared to existing thermal plants in Cameroon	CO_2 emissions avoided per annum	Annual average of 362,000 tons of CO_2 equivalent by 2015	Yes

Note: WACC = Weighted Average Cost of Capital
ROIC = Return on Invested Capital
ESRR = Environmental and Social Risk Rating

Annex 4: Detailed Project Description

CAMEROON: Kribi Gas Power Project

1. **The Kribi Gas Power Project is Cameroon's first gas to power IPP and will be operated by KPDC.** The Project is structured as a build, own, operate and transfer (BOOT) model. The project was awarded to KPDC under the electricity law's emergency procedure. KPDC has the same shareholder structure as AES SONEL (56% AES Corporation, 44% GOC) as stipulated in the shareholder agreement between the GOC and AES. To date, AES has contributed EUR 36 million in equity (14% of total project costs), with the GOC contributing EUR 28 million (11% of total project cost), for a total of 25% of equity. KPDC will receive twenty-year electricity generation and sales licenses from the Minister of Energy upon recommendation by the electricity regulator ARSEL. The construction of the power plant and the transmission line and substation are being carried out under two separate, competitively bid EPC contracts. Construction of the Project by KPDC has begun in June 2010 and the commercial operations date is expected in November 2012.

2. **The main project component is the development, construction and operation of a 216 MW (nameplate) natural gas-fired power plant (including auxiliary equipment) located near the Mpolongwe village,** nine km north of the coastal city of Kribi in South Province of Cameroon, and a new 100-km 225-kV double-circuit transmission line between the Kribi power plant and the existing Mangombe 225/90-kV substation at Edéa in Littoral Province. The plant is being constructed under a EUR 119.7 million EPC Contract with Wärtsilä and consists of 13 gas reciprocating engines of 16.6 MW (nameplate) capacity each and auxiliary equipment. To date, all ground and civil works for the power plant have been completed. The 13 engines have been manufactured and tested on the procurement site. The closing of the long-term financing will allow providing the notice to proceed to installing the engines on the power plant site. The plant will run on natural gas using LFO as ignition and backup fuel. Natural gas will be supplied from the offshore Sanaga South gas field in Cameroon developed by Perenco Cameroon under a Production Sharing Agreement (PSA) with SNH. Electricity generated under the Project will be transmitted into Cameroon's Southern Interconnected Grid. KPDC will be responsible for the operation and maintenance of the power plant and will sign technical services agreements with AES Engineering LLC. The power plant's expected commercial operation date is mid-March 2013, assuming first natural gas availability at the site is mid-November 2012.

3. **The Project includes the development and construction of a new 100-km, 225-kV transmission line to connect the power plant at Mpolongwe to the existing Mangombe substation at Edéa in Littoral Province.** Construction works for the transmission line are scheduled for a period of eighteen months. The extension of the existing 225/90-kV substation at Mangombe will be realized by providing two additional 225-kV overhead line feeders. A step-up substation will be constructed at the Kribi power plant site. The scope of the EUR 23.5 million (US$35 million equivalent) EPC substation contract with Siemens/KEC includes as main components (i) five 225-kV/11-kV, 60-MVA generator transformers, (ii) five 225-kV generator transformer feeders, (iii) 225-kV double bus bar arrangements, (iv) one 225/30-kV, 36-MVA

power transformer and transformer feeder, (v) switchyard including all civil works, control room and transformer yards, and (vi) tariff metering. The scope of the EUR 16.5 million (US$24 million equivalent) transmission line EPC contract with Siemens/KEC comprises the construction of a 100-km 225-kV double-circuit transmission line between the Kribi power plant and the existing Mangombe substation at Edéa in Littoral Province. KPDC is responsible for the development and construction of the transmission line and substation. On the commercial operations date, the transmission line and substation will be transferred to the GOC and operated by AES SONEL or any successor transmission company, who will be responsible for operations and maintenance. The notice to proceed for the transmission line has been issued in June 2011 and scheduled completion of the transmission line is July 2012.

4. **To date, KPDC and the GOC jointly have invested CFA 42 billion (US$92 million equivalent) in equity in the Project which has financed construction of the power plant and transmission line to date.** To ensure ongoing preparation following a several project delays, KPDC has entered into a short-term CFA 60 million (US$132 million equivalent) bridge loan financing from local banks to cover ongoing construction costs. This has allowed issuing the notice to proceed for the transmission line and a payment to Wärtsilä to fund equipment procurement and ongoing construction works for the power plant. The bridge loan will be taken out by the long-term local financing under preparation, including the local currency financing with the proposed IDA Guarantee, which will allow providing the notice to proceed for the power plant.

5. **AES SONEL will be the sole off-taker of electricity produced by KPDC under a twenty-year PPA.** KPDC will sign a 20-year take-or-pay PPA with AES SONEL. The PPA will cover (i) a capacity charge, covering investment amortization (for both the plant and the transmission line), debt service, fixed O&M costs, equity return, and take-or-pay amount of gas; and (ii) an energy charge to cover the variable costs and the cost of excess gas as applicable.

6. **Under its PPA with AES SONEL, the aluminum smelter Alucam will ensure a stable base load for the Project by taking up to 50 MW.** As AES SONEL is the sole off-taker of the Kribi Project, Alucam will pay for the electricity supplied from the Project under its PPA with AES SONEL. Under its historic thirty-year PPA which expired at the end of 2009, Alucam has historically benefited a guaranteed electricity supply of 145 MW in the dry season and 165 MW in the rainy season. Under the new PPA in effect since January 2010, Alucam's guaranteed electricity supply from AES SONEL increases to 185 MW in 2012 and 250 MW in 2015 as a result of its expansion plans. 50 MW will be supplied from the Kribi Project, thereby ensuring a stable base load demand for the Project.

7. **The electricity generated by the Kribi power plant will allow AES SONEL to relieve suppressed demand in the SIG for the equivalent of about 163,000 households.** It is estimated that Kribi will enable AES SONEL to serve 129 GWh of suppressed demand due to insufficient power generation. Based on current 25% total system losses and estimated average household consumption of 600 kWh per year (disregarding any consumption by businesses), this would be equivalent to the consumption of about 163,000 households (*i.e.*, about 815,000 people (assuming an average household size of 5)).

8. **Associated infrastructure includes the development of the Sanaga South gas field by Perenco Cameroon under a production sharing agreement.** Perenco Cameroon, a joint venture between Perenco and SNH, is developing the Sanaga South gas field under a production sharing agreement. With the help of experienced industry consultants, SNH has estimated the recoverable gas resources of the total Sanaga South gas field at 1,154 billion cubic feet (BCF) (equivalent to 32.66 billion cubic meters (bcm)). This figure corresponds to the best estimate, between the low estimate of 428 BCF and the high estimate of 1,605 BCF (Gaffney Kline, 2005). The annual contract quantity for the Kribi power plant is estimated at about 10 BCF (equivalent to 0.283 bcm or 10,550 terajoules (TJ)). The gas reserves are therefore more than sufficient to cover the gas demand from the Kribi Project. Perenco will drill two wells and a third well may become necessary during the life of the project. Drilling is planned to start after the GSA 2 amendment between KPDC and SNH has been signed and will confirm the gas specifications from previous tests.[42]

9. **Perenco Cameroon will also develop the associated marine pipelines and the CPF.** Perenco will finance and develop the associated marine gas pipelines, including a 14-km offshore gas pipeline from the Sanaga South gas field to the CPF; a 14-km offshore glycol injection pipeline between the gas field and the CPF; and a 21-km offshore condensate/process water pipeline from the CPF to the existing KB-4 well from where it will be connected to the existing Ebome storing platform for exports. Perenco is a private independent oil and gas company with operations in 16 countries worldwide, including Gabon and Cameroon. Perenco has a track record of timely project completion in the region as evidenced by its oil and gas operations in Gabon and its oil operations in Cameroon. In Gabon, the company supplied gas from the Diga gas field to power plants in Libreville and Port Gentil in about 18 months.

10. **SNH is developing an 18-km onshore gas pipeline between the gas processing facility and the power plant.** SNH is planning to create a gas hub for future gas operations on a site in the village of Bipaga. Perenco's CPF is co-located on this site and will be connected to the Kribi power plant through an 18-km onshore gas pipeline developed and financed by SNH. To date, the CPF site has been leveled by SNH for handing over to Perenco and the routing of the gas pipeline is in the process of being finalized.

11. **With TA financed by the World Bank, ARSEL has conducted an independent review of the gas price** negotiated between SNH and KPDC to ensure that it covers all investment costs and does not contain hidden subsidies. As a result of the regulatory review, the gas price has been increased.

12. **In terms of contractual arrangements**, Perenco Cameroon and SNH have signed GSA 1 and its amendment for SNH to purchase the gas and supply it to KPDC under GSA 2 and its amendment. KPDC will sell the electricity produced to AES SONEL under a twenty-year PPA and in conformity with its twenty-year power generation and sales licenses to be obtained by the GOC. See Annex 6 for detailed implementation arrangements.

[42] The Sanaga South gas field was discovered by drilling by Mobil in 1979. Two further wells were drilled in 1981. Available gas specifications date from these drillings.

13. **Other gas developments projects** are planned by the GOC according to a Gas Masterplan developed by SNH. The Liquified Natural Gas (LNG) project is being developed by SNH and GDP Suez. Further development of Cameroon's gas reserves would provide the opportunity to transform some of the existing HFO-fired power stations to lower cost gas-fired solutions in the future, such as the 85 MW HFO plant at Limbe. An exploitation licences for the Logbaba gas field has been granted in April 2011.

Annex 5: Project Costs and Financing Plan

CAMEROON: Kribi Gas Power Project

The total financing cost for the Project is estimated at EUR 259 million (US$ 350 million equivalent). These costs are based on lump sum turnkey EPC contracts for the power plant and substation and transmission line and include development and financing costs, resettlement compensation costs, and other costs and contingencies. Project costs and financing plan are illustrated below.

Table 10: Financing plan (US$ million equivalent)

Source	Local	Foreign	Total
Equity			
The AES Corporation (equity/shareholder loan)	0	48	48
Government of Cameroon (equity/shareholder loan)	0	38	38
Debt			
IFC	0	86	86
Other DFI debt	0	95	95
IDA-guaranteed Lenders	82	0	82
Total debt and equity	**82**	**268**	**350**

Table 11: Project costs

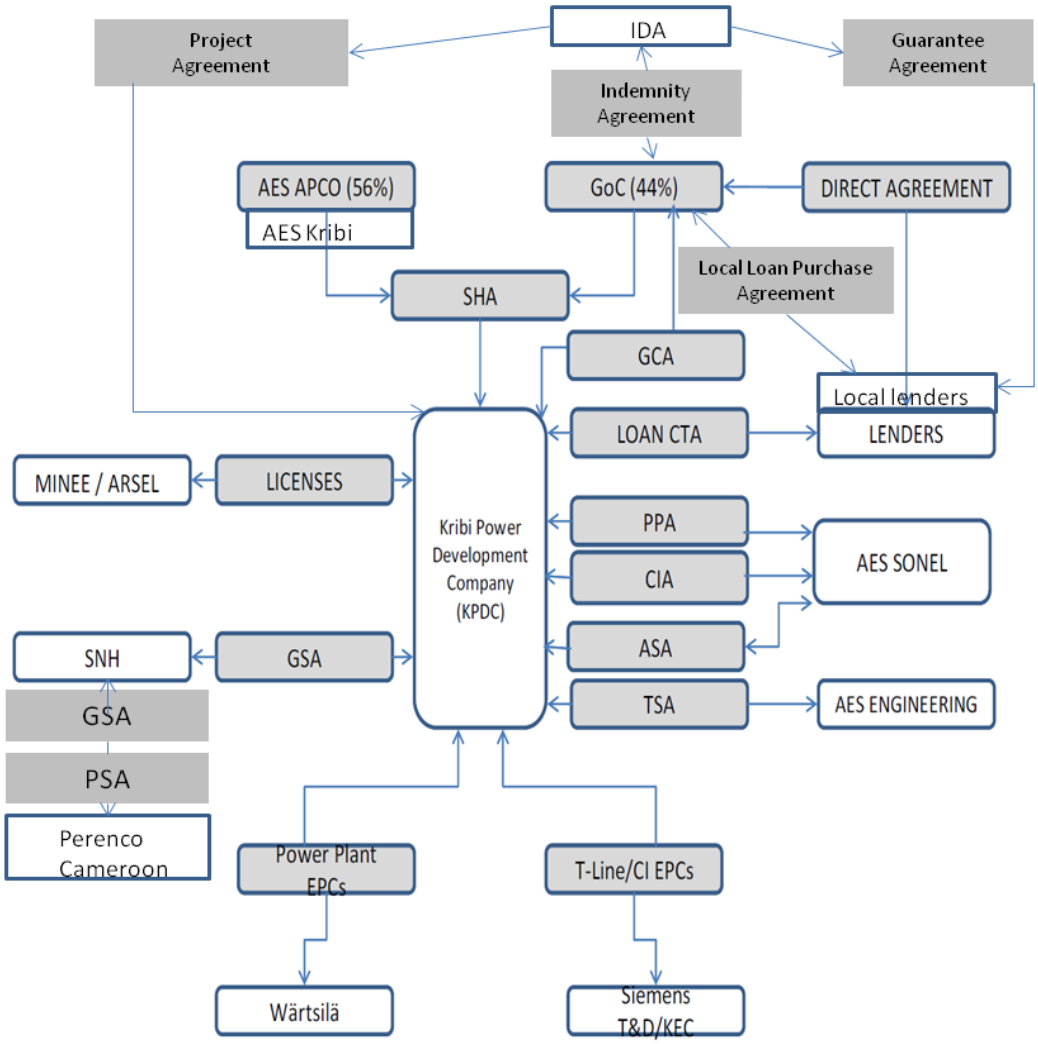
Costs	EUR million	US$ million	%
Power plant (EPC)	120	162	46%
Substation (EPC)	23	31	9%
Transmission line (EPC)	18	24	7%
Resettlement and compensation cost (RAP)	6	8	2%
Financing costs	39	53	15%
Ramp-up costs and other soft costs	38	51	15%
Contingencies	9	13	4%
Letter of Credit for GSA	6	8	2%
Total costs	**259**	**350**	**100%**

Annex 6: Implementation Arrangements

CAMEROON: Kribi Gas Power Project

1. The Kribi Gas Power Project is a PPP between the majority private-owned project company Kribi Power Development Company (KPDC), the GOC, multilateral and bilateral Development Finance Institutions (DFIs) which have expressed interest in providing a syndicated loan in foreign currency to the Project (IFC, AfDB, EIB, BDEAC, PROPARCO, and FMO), as well as local commercial banks which have expressed interest in providing a syndicated loan in local currency to the Project with the proposed IDA Guarantee. The key implementing agencies and contracts for the Project are shown in Figure 4 chart below and described in the following paragraphs.

Figure 4 : Implementation Arrangements



a. Implementing agencies

2. **Ministry of Energy and Water (MINEE):** MINEE is responsible for developing the policy for the electricity sector, including opening up the sector to competition through IPPs in coordination with the sector regulator ARSEL, for planning the next least-cost investments in Cameroon's energy sector and for monitoring their implementation. For this purpose, MINEE has created a committee to follow the implementation of the Project. KPDC will receive twenty-year electricity generation and sales licenses from MINEE following a recommendation by ARSEL.

3. **Electricity Sector Regulatory Agency (ARSEL):** ARSEL is the electricity sector regulator responsible for setting tariffs, monitoring concession performance, protecting consumer interests and regulating IPPs. ARSEL will review the generation and sales licenses and issue a recommendation to MINEE for their award. ARSEL will also review the financial model and the PPA with AES SONEL. In addition, ARSEL has conducted a review of the gas price in the GSA 2 between KPDC and SNH following which the gas price has been reviewed upwards.

4. **Perenco Cameroon:** Perenco Cameroon will develop the offshore Sanaga South gas field under a production sharing agreement with SNH. Perenco Cameroon will construct the gas facilities (offshore gas field, marine pipelines and gas processing facility) financed by its own resources. Perenco Cameroon will sell the gas to SNH under the Gas Supply Agreement (GSA) 1 and its amendments. Perenco Cameroon is a subsidiary of Group Perenco S.A., an independent private oil and gas company with operations in 16 countries worldwide, including Gabon and Cameroon. Perenco has a track record of timely project completion in the region as evidenced by its oil and gas operations in Gabon and its oil operations in Cameroon. In Gabon, the company supplied gas from the Diga gas field to power plants in Libreville and Port Gentil in about 18 months.

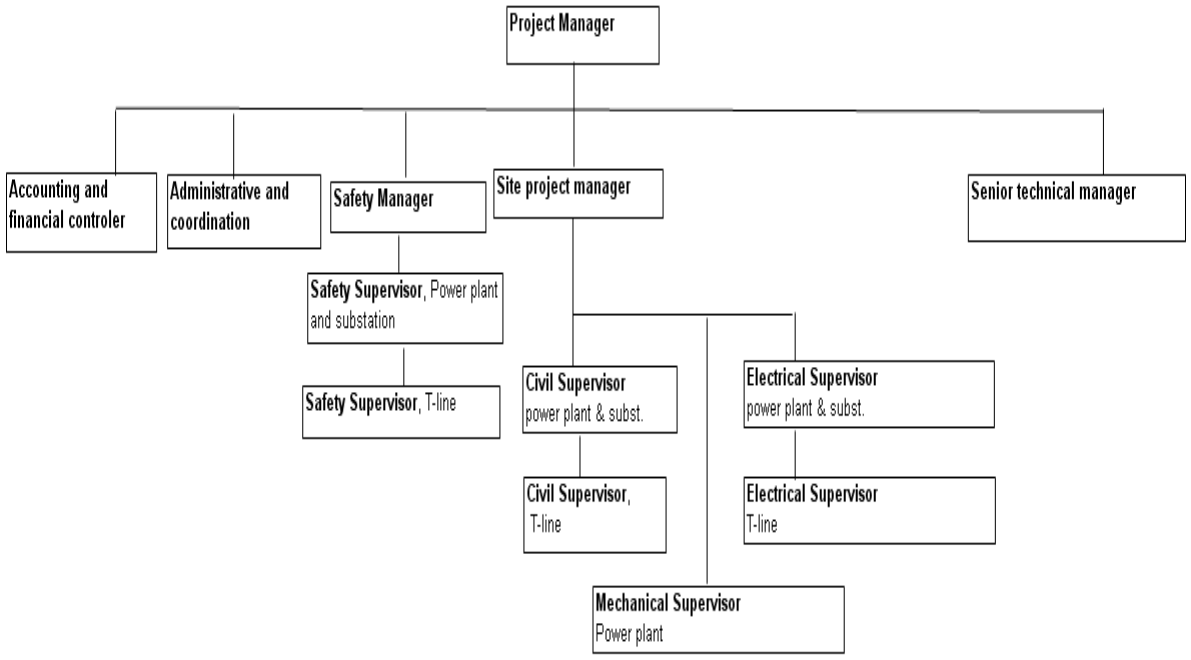
5. **National Hydrocarbons Company (SNH):** SNH is the state-owned national oil and gas company. SNH is responsible for financing and developing the 18-km gas pipeline between the CPF and the Kribi power plant. SNH will sell the gas to KPDC under a take-or-pay arrangement stipulated in the GSA 2. In Cameroon's gas sector, SNH is also active in developing an LNG project together with GDF Suez.

6. **Kribi Power Development Company (KPDC):** KPDC is owned 56% by The AES Corporation of the US through a number of investment vehicles, including African Power Company (APCO) and AES Kribi Holdings B.V. in the Netherlands, and 44% by the GOC under a shareholder agreement. KPDC will be responsible for developing, constructing, operating, and maintaining the Kribi power plant and for development and constructing the transmission line. KPDC appointed a management team and will sign a Technical Services Agreement (TSA) with AES Engineering LLC and an Assistance & Services Agreement (ASA) and Connection Installations Agreement (CIA) with AES SONEL. KPDC signed a fixed price turn with key EPC contracts for the Kribi power plant with Wärtsilä Finland Oy (December 2009), and another for the transmission line and substation with Siemens Transmission & Distribution/KEC International Limited (January 2010). The EPC contractors for the power plant and the transmission line to the Southern Interconnected Grid were selected through a competitive

bidding process. An adequate insurance program will be developed upon finalization of both EPC contracts in line with requirements by GOC, lenders, and IDA. KPDC appointed a management team, presented in the chart below. About fifteen core staff with significant experience in the development of power plants, including international AES SONEL and trained local employees, will ensure sound construction management and Project implementation. The Technical Services Agreement will allow KPDC to benefit from AES's global, extensive experience in power plant operations. In addition, the Assistance & Services Agreement will allow KPDC to benefit from AES SONEL's services, such as human resources and information technology. KPDC will also require EPC Contractors to provide plant and specific training courses as part of their contracts.

7. **AES SONEL:** AES SONEL is the concessionaire operating Cameroon's vertically integrated utility since 2001 under a 20-year concession contract. AES SONEL is owned 56% by The AES Corporation of the US and 44% by the GOC. AES SONEL was granted a twenty-year concession in 2001 including exclusivity over transmission and distribution throughout its concession area in Cameroon and the right to own up to 1,000 MW of installed generation capacity. AES SONEL will be the sole off-taker of power produced by KPDC under an arms' length PPA. KPDC will prepare regular Project progress reports for monitoring and evaluation of the Project.

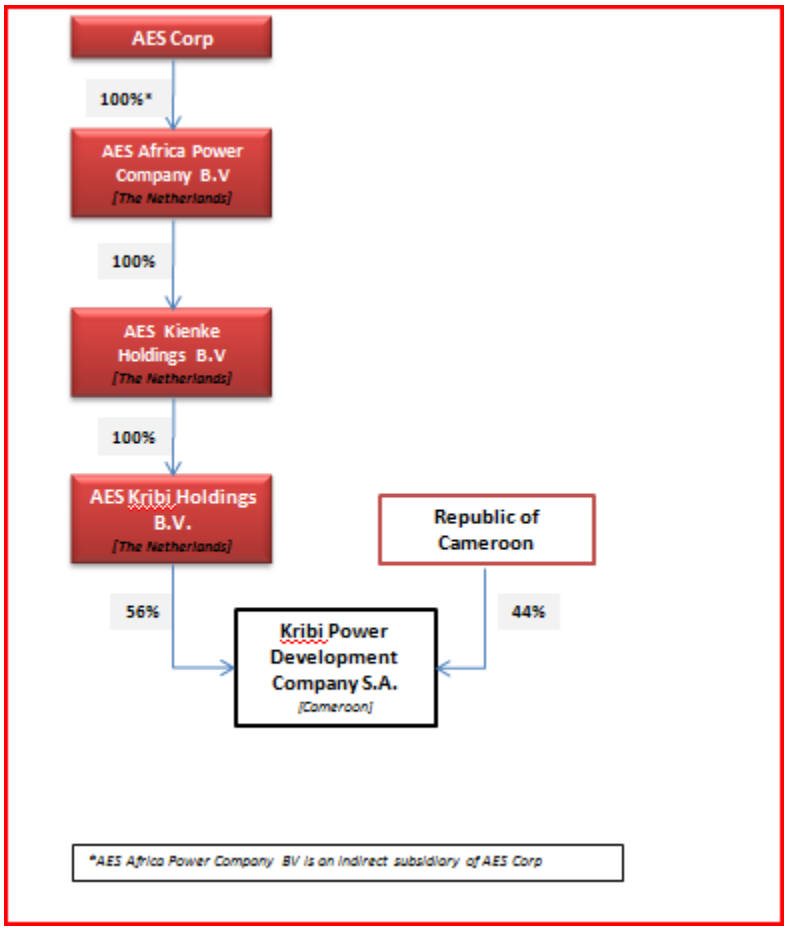
Figure 5: KPDC management structure



8. **The AES Corporation.** The AES Corporation, parent company and majority shareholder of KPDC, is one of the world's largest global power companies. AES was established in 1981, and as of today has 132 generation plants with over 40,000 MW of installed capacity in 29 countries. As of December 2010, the Company has US$16.6 billion in annual revenue and US$9 million in net income. AES is incorporated in Delaware, United States of America, and listed on the New York Stock Exchange.

9. As of December 31, 2010, IFC had eight investments with subsidiaries of AES with a total outstanding (disbursed) exposure of US$465 million, corresponding to an economic capital exposure of $105 million. A commitment of $92.8 million (Eur 64 million) in Kribi will result in an increase of $14 million in economic capital. IFC's total invested capital in Cameroon was $163.4 million as of February 2011, out of which 80% are two power projects with AES, AES Sonel and Dibamba.

10. **Investment Structure.** The AES Corporation ("AES"), (a Delaware corporation the shares of which are publicly traded on the NYSE) indirectly owns a 56% shareholding in KPDC, while the Republic of Cameroon holds 44%. AES holds its investment in KPDC as well as in other African assets through a series of wholly owned Delaware and Dutch holding companies as shown below:



11. All intermediate holding companies between AES and AES Africa Power Company B.V. not shown in the chart above are incorporated either in the United States or in The Netherlands.

12. This Dutch holding structure has been chosen as it results in tax efficiencies (availability of income tax exemptions for dividend income at the Dutch holding level as well as the existence of a tax treaty between The Netherlands and the United States). KPDC will pay income tax in Cameroon according to applicable tax legislation and distributions made by KPDC to the Dutch holding companies will be subject to withholding tax. Cash distributed from the Project and realized at a US entity will be subject to tax in the United States. As part of its due diligence, IFC has also reviewed the various technical assistance arrangements between AES subsidiaries and KPDC and has found the fee arrangements to be in line with market practice.

13. In this proposed investment, IFC performed its standard enhanced due diligence, with emphasis on the business and tax planning rationale for the structure. Based upon the information available to IFC and the analysis conducted, IFC is satisfied that, from a transactional stand point, the structure was put in place for legitimate reasons and not for tax evasion, tax abuse or other illegitimate purposes.

14. In addition, IFC notes as one element (but not the only element) of its comprehensive due diligence review that The Netherlands has met all benchmarks for international tax transparency of the Peer Review Process of the Global Forum for Transparency and Exchange of Information for Tax Purposes. Specifically, The Netherlands recently underwent a combined Phase 1-Phase 2 review by the Global Forum and of all the elements assessed, none were found to be "not in place." IFC notes also, that the Netherlands has a tax treaty that meets international standards in place with the United States, which is an additional factor giving IFC comfort with the tax transparency of the transaction structure.

15. IFC has been satisfied with its integrity due diligence on all relevant persons involved in the transaction in line with IFC's IDD guidelines.

b. Key project contracts

16. The contractual structure of the Project is consistent with industry practice for limited recourse project finance transactions. A summary of key project contracts is provided in the table below.

Table 12: Key Project Contracts

Contract (and contracting parties)	**Short Summary Description**
Production sharing agreement (PSA) **(Perenco, SNH)**	• Effective since March 7, 2006 • 75% Perenco, 25% SNH • Initial development and exploitation phase: 25 years and 10 years extension

Contract (and contracting parties)	Short Summary Description
Gas sales agreement (GSA) 1 and its amendments **(SNH, Perenco)**	• Signed February 22, 2008 • 20-year take-or-pay contract for 28 million standard cubic feet (MMscf) per day for a total contract quantity of 205 BCF and a daily contract quantity of 11 and 40 MMscf per day
Gas sales agreement (GSA) 2 and its amendments **(KPDC, SNH)**	• Signed on January 29, 2008, not yet effective • 20-year take-or-pay contract for 28 MMscf per day for a total contract quantity of 205 BCF and a daily contract quantity of between 11 and 40 MMscf per day • Amendment no. 1 was signed on March 16, 2009 to improve the bankability of the GSA 2, among others to account for the cost of SNH's onshore gas pipeline • Amendment no. 2 (agreement on November 15, 2012 as new gas delivery date) is awaiting signature
Generation license **(MINEE following recommendation by ARSEL, KPDC)**	• Awaiting non-objection by ARSEL • 20-year electricity generation license • KPDC has the right to construct, to own and operate the 216 MW power plant with 13 engines and associated transformers and to construct the transmission line and associated connection installations • Right to operate plant on gas and diesel • Right to remain connected to transmission network • Right to set tariffs to off-taker in line with large account provisions under the electricity law, subject to review by ARSEL
Sales license **(MINEE following recommendation by ARSEL, KPDC)**	• Awaiting non-objection by ARSEL • 20-year electricity sales license • Right to sell the generated power on Cameroonian territory • Right to set tariffs to off-taker in line with large account provisions under the electricity law, and including minimum and maximum guaranteed return on equity, subject to review by ARSEL
Government Commitment Agreement (GCA) **(GOC, AES Kribi, KPDC)**	Undertakings by the GOC to • Ensure an acceptable off-taker if AES SONEL's concession is not extended after expiry in 2022 • Perform its obligations under the licenses • Purchase the shares in KPDC held by AES Kribi Holdings BV under certain trigger events/breaches under the GCA, GSA 2, licenses, and certain other project agreements
Power Purchase Agreement (PPA) **(KPDC, AES SONEL)**	• 20-year commitment for KPDC to sell all its output to AES SONEL • Awaiting regulatory approval

Contract (and contracting parties)	Short Summary Description
Shareholder agreement (AES Kribi, GOC)	• Signed in July 2008 • Minister of Energy is chairman of board • In case of change of control at AES Kribi, GOC can acquire shares of KPDC at market price
Power plant EPC contract and its amendments (Wärtsilä, KPDC)	• Engineering, procurement, civil works, construction, commissioning, performance tests and provision of guarantees for a 216 MW (nameplate) power plant consisting of 13 gas engines which can run on LFO as back-up fuel • Fixed-price time-bound EPC contract, including standard payment guarantees, performance bonds and liquidated damages
Transmission line EPC contract (Siemens/KEC, KPDC)	• Fixed-price time-bound EPC contract for the construction of a 100-km 225-kV transmission line • Standard payment and performance guarantees • Completion and commissioning of the transmission line by July 2012
Connection Installations Agreement (CIA) (KPDC, AES SONEL)	• 20-year agreement • Transfer of responsibility to operate and maintain the connection installations, including the transmission line, to AES SONEL after commissioning • AES SONEL compensates KPDC for the construction of the connection installations (transmission line) through a monthly fixed charge under the PPA
Technical Service Agreement (TSA) (KPDC, AES Engineering)	• General assistance/services by AES Engineering to KPDC in various areas (technical/insurance/management/financial/ legal/administrative etc.) for the testing, operation and maintenance of the power plant • KPDC will pay an up-front and annual fee
Assistance & Services Agreement (ASA) (KPDC, AES SONEL)	• AES SONEL will provide services to assist KPDC in certain areas of operation and maintenance of the power plant (e.g. HR/supply chain/IT/legal advice/insurance/customs) • KPDC will pay a monthly service charge
Loan and financing agreements (KPDC, DFI and Local Lenders)	• Common Terms Agreement • Loan agreements • Share retention agreements • Security documents • Direct agreements • Multi-Party Arbitration Agreement
Local Loan Purchase Agreement (GOC, Local Lenders)	• Undertaking by the GOC to purchase the Local Lenders' loan participations in case Local Lenders do not extend after the initial seven-year period • Incentives to encourage loan extension, including a "put fee"

Contract (and contracting parties)	Short Summary Description
Project Agreement (KPDC, IDA)	• Undertakings by KPDC related to use of proceeds of the Local Loan, provisions related to fraud and corruption, compliance with World Bank safeguard policies, fees, etc.
Guarantee Agreement (IDA, Local Lenders)	• Terms and conditions of the proposed IDA Guarantee to backstop certain GOC obligations under the GCA and the Local Loan Purchase Agreement
Indemnity Agreement (GOC, IDA)	• GOC undertaking to reimburse and indemnify IDA in the event that the IDA Guarantee is called

17. In line with applicable industry practice, the two GSAs reflect back-to-back obligations in order to be bankable with commercial and DFI lenders. Amendments to both GSA 1 and GSA 2 have been signed to bring the contracts in line with international standards on bankability and project finance. The gas price under the GSA 2 has been reviewed upwards following an independent regulatory review by ARSEL.

18. Definitions of force majeure events vary slightly under the various project agreements. The GCA covers all definitions of force majeure under all project agreements.

19. For the IDA Guarantee, the legal agreements to be entered into are (i) a Guarantee Agreement to be signed between the IDA-guaranteed Lenders, IDA, and AES Kribi (in order to contain certain undertakings of AES Kribi to the IDA-guaranteed lenders), (ii) a Project Agreement between KPDC, IDA and AES Kribi (in order to contain certain undertakings of AES Kribi relating to KPDC), and (iii) an Indemnity Agreement between the Republic of Cameroon and IDA. The GOC will enter into direct agreements with lenders to the Project. Annex 10 provides a detailed description of the IDA guarantee documents. The GOC is assisting the financing of the Project through the Government Commitment Agreement. Under the financing documentation, KPDC will be required to provide all reasonable information that the lenders and IDA may require regarding the financing, construction, and operation of the Project, including unaudited and audited financial statements for KPDC.

c. Project supervision

20. **IDA and IFC.** IDA and IFC will supervise the Project through field-based staff in Cameroon and through at least two supervision missions per year through the construction and start-up period. Supervision teams will include environmental and social safeguard specialists and technical and financial experts. For the life of the IDA Guarantee and IFC loan, KPDC is required to provide IDA and IFC with an Annual Monitoring Report (AMR) outlining environmental and social performance data. As this is a category ‘A’ project, the data in this AMR will be verified by an independent consultant.

Annex 7: Financial Management and Disbursement Arrangements
CAMEROON: Kribi Gas Power Project

NOT APPLICABLE

Annex 8: Procurement Arrangements

CAMEROON: Kribi Gas Power Project

Background

1. The Kribi Gas Power Project, which benefits from financing facilitated by the proposed IDA Guarantee and the proposed IFC loan, consists of the development, construction and operation of a new 216 MW (nameplate) natural gas-fired power plant located near the Mpolongwe village, 9 km north of the coastal city of Kribi in South Province of Cameroon, and the development and construction of a new 100-km 225-kV double-circuit transmission line between the Kribi power plant and the existing Mangombe 225/90-kV substation at Edéa in Littoral Province, including substations and transformers. Electricity generated under the Project will be transmitted into Cameroon's Southern Interconnected Grid. The Kribi power plant will run on natural gas using LFO as backup fuel. Natural gas will be supplied from the offshore Sanaga South gas field in Cameroon. Following construction by KPDC, the transmission line will be transferred to the GOC and operated by AES SONEL or any successor transmission company.

2. Associated infrastructure facilities required for the proper functioning of the power plant include (i) the development of the Sanaga South gas field by a joint venture between SNH and Perenco Cameroon under a production sharing agreement and financed by Perenco Cameroon; (ii) the construction of the CPF by Perenco Cameroon; (iii) the marine and terrestrial gas pipelines, including a 14-km offshore gas pipeline from the Sanaga South gas field to the CPF, a 14-km offshore glycol injection pipeline between the gas field and the CPF, and a 21-km offshore condensate/process water pipeline from the CPF to the existing KB-4 well from where it will be connected to the existing Ebome storing platform for exports, all financed by Perenco Cameroon; and (iv) an 18-km onshore gas pipeline from the CPF to the Kribi power plant at Mpolongwe, financed by SNH.

3. The Project is a PPP between the private project sponsor (KPDC), the GOC, and multilateral and bilateral development finance institutions which have expressed interest in providing a syndicated loan in foreign currency to the Project (IFC, AfDB, EIB, BDEAC, PROPARCO, and FMO), as well as local commercial banks which have expressed interest in providing a syndicated loan in local currency to the Project as beneficiaries of the proposed IDA Guarantee. As guarantor of the GOC's performance, IDA backstops defined public sector risks. Commercial risks will be borne by the lenders to KPDC. The IDA Guarantee will facilitate access to local currency debt finance from domestic commercial banks which would not be able to lend to the Project without the IDA Guarantee.

4. IDA and IFC have taken major responsibility for all aspects of Project appraisal. IFC has played a lead role on DFI and overall lender coordination and technical due diligence, while IDA has taken a lead role on the due diligence with regard to GOC coordination, power sector reform implications including future tariffs to Alucam, and coordination with local commercial lenders. EIB has played a lead role in the coordination of the procurement process and the review of procurement documents.

5. The Bank's Procurement Guidelines for IDA Guarantees require that goods, works, and services must be procured with due regard to economy and efficiency (paragraphs 1.5 and 3.16 of the Guidelines). KPDC, as the Project implementing agency, has conducted an international competitive bidding process, with the help of international consultants acting as their owner's engineer.[43] The joint IDA/IFC team has reviewed the procurement process followed by KPDC and the respective evaluation reports. The selection complied with paragraphs 1.5 and 3.16 of the Guidelines and the procedures used paid due attention to economy and efficiency. The procurement should fulfill KPDC's obligations to cause the Project to be carried out diligently and efficiently, and should result in facilities (including works and goods) that: (a) are of satisfactory quality and are compatible with the Project; (b) are completed in timely fashion; and (c) are priced so as not to affect adversely the economic and financial viability of the Project.

Procurement process followed for the power plant EPC contract

6. The procurement process for the power plant EPC contract included: prequalification, request for proposal (RFP), competitive bidding, and contract award. Main procurement documents were posted on the Power Advocate web based platform to ensure open international advertisement and transparency (www.poweradvocate.com). The evaluation reports prepared by KPDC and KPDC's owner's engineer are part of the Project files.

Prequalification

7. On September 8, 2006 the international invitation for interest manifestation was publically issued in the EU office Journal, Cameroon Tribune, and on the Modern Power Systems website (www.modernpowersystems.com). Main prequalification criteria for interested companies were publically disclosed and included:

- Experience of successful completion of turnkey construction of not less than five power plants, each of a capacity greater than 100 MW, within the past ten years,
- Proven experience in design, manufacture, erection, commissioning and testing of not less than three natural gas fired power plants,
- Accreditation to ISO 9001 or equivalent,
- Construction and completion of not less than three projects in Africa, and
- Annual turnover for the last three years of a minimum of EUR 400 million.

8. Interested companies were invited to register and submit their prequalification documents through the Power Advocate web based platform. In response to an open international advertisement, twenty-four companies registered on the bidding platform and eleven companies submitted prequalification documents on October 12, 2006. A post-bid notice was issued to all companies through the Power Advocate website on December 21, 2006, to ask for additional information and to provide the possibility to constitute joint ventures.

9. Using the prequalification criteria publically disclosed, KPDC evaluated the prequalification documents submitted by the interested parties and determined that the following five companies and joint ventures prequalified on January 7, 2007:

- SNC Lavalin, Canada

[43] Sinclair Knight Merz Europe Ltd (SKM), United Kingdom.

- Wartsila, Finland
- Siemens, Belgium
- Joint venture GE/Metka, Middle East/Greece
- China Machinery Equipment Company (CMEC), China

10. The Prequalification Final Report has been published in the EU office Journal, Cameroon Tribune, and on the Modern Power systems website in January 2007 and is part of the Project files.

Request for proposals (RFP)

11. On January 15, 2007 the RFP package for the power plant was posted to the Power Advocate Platform, comprising instructions to bidders, conditions of contract, and design specifications. Only prequalified bidders were invited to submit bidding documents. The RFP requested the construction, commissioning, and testing of a nominal 150-MW gas-fired power station with backup fuel supplies of diesel oil to be constructed near Kribi, Cameroon, on a turnkey, lump sum basis. The power plant was expected to operate at a base load of 45-50 MW, with daily peaks of up to 150 MW. In addition to their main bid tenderers were invited to also submit an optional offer for a 225-MW plant using combined cycle technology for tenders offering a gas turbine plant or additional engines for tenders offering gas engines.

12. KPDC has used a two-stage evaluation process to determine the successful bidder. As specified in the RFP, a preliminary evaluation comprised review the of completeness and material compliance of each submittal, followed by an analysis of technical, financial, and commercial criteria.

13. The tender closing date was set on April 2, 2007. An extension of time was given to all bidders until July 2, 2007. In response to various clarifications from a number of the bidders, seven clarification communications were issued. Four out of the five pre-qualified bidders submitted their bids for the EPC construction of the 150 MW power plant upon the due date:

- Wartsila, Finland
- GE/Group 5 consortium, Middle East/Greece
- Siemens, Belgium
- CMEC, China

Bidding

14. Tenders were opened in Douala on July 3, 2007. The initial assessment of the bids was followed by a subsequent exchange of written technical and clarification questions to the bidders to gain a full understanding of offers. The preliminary evaluation concluded that all four bids received were in accordance with the RFP documents. The only bidder to give a binding optional offer for a larger plant size of up to 225 MW was Wartsila.

15. The technical evaluation comprised an assessment of the bidder’s experience, reliability and design of gas engines or turbine technology, quality and main features of mechanical

systems, electrical systems, control and instrumentation, civil works, environmental compliance, and spare parts availability. In addition, a schedule analysis was carried out to evaluate the proposed schedule of each bidder in comparison with the required twenty-two months construction schedule. The technical and evaluation of bidding documents included a comparison of alternative gas technologies, gas engines versus gas turbines in combined cycle mode, respectively. Wartsila proposed to install nine dual-fuel reciprocating gas engines with a unit capacity of 16.6 MW and offered a binding offer for expansion to 225 MW using a further four engines. The GE/Group 5, Siemens and CMEC proposed all to install a 150-MW plant with four open cycle gas turbines allowing for a future expansion of the plant to combined cycle. No detailed binding offers for a larger plant size of up to 225 MW were prepared by GE/Group 5, Siemens and CMEC. In addition a schedule analysis was carried out to evaluate the proposed schedule of each bidder in comparison with the required twenty-two months construction schedule. Minor price and scope adjustments were made during tender clarification meetings held from March 10-15, 2008.

16. Commercial tender evaluation criteria included completeness and RFP compliance of the bid. The financial tender evaluation process analyzed of the discounted cost of generation per kWh produced by the plant over twenty-five years of lifecycle, taking into account the EPC price payment, plant load profile, yearly generated electricity, fuel consumption, maintenance costs and a 12% discount rate. The resulting discounted prices of generated electricity as calculated by KPDC's owner's engineer are shown below:

- Wartsila, 150 MW: 4.6 EURcents/kWh
- Wartsila, 225 MW: 3.8 EURcents/kWh
- GE/Group 5, 150 MW: 5.4 EURcents/kWh
- Siemens, 150 MW: 4.8 EURcents/kWh
- CMEC, 150 MW: 5.6 EURcents/kWh

17. The results of the commercial, technical and financial evaluation showed the following ranking:

- Wartsila, 150 MW: 81.9% 2nd
- Wartsila, 225 MW: 92.9% 1st
- GE/Group 5, 150 MW: 66.4% 3rd
- Siemens, 150 MW: 63.6% 4th
- CMEC, 150 MW: 54.7% 5th

18. A Tender Adjudication Report was prepared by KPDC's owner's engineer and provides additional details on the evaluation process, including the methodology to calculate discounted cost of electricity generation. The evaluation report is part of the Project files. It was concluded that Wartsila was the preferred bidder for the power plant EPC contract due to them being the most compliant bidder with the lowest cost of generated electricity, both for the 150 MW and 225 MW plant size.

Contract award

19. As contract award did not occur within the original target date of December 29, 2007, all power plant bidders were asked to extend bid validity. The award announcement to the preferred bidder Wartsila was publically disclosed in September 2008. KPDC signed a EUR 117.5 million

(US$174 million equivalent) lump sum turnkey EPC contract with Wartsila for a 216-MW power plant, after the finalization of the GSAs and the negotiation process, in December 2009.

Procurement process followed for the transmission line and substation EPC contract

20. The procurement process for the transmission line and substation EPC contract included: prequalification, RFP, bidding, and contract award. Main procurement documents were posted on the Power Advocate web based platform to ensure open international advertisement and transparency (www.poweradvocate.com). The evaluation reports prepared by KPDC and KPDC's owner's engineer are part of the Project files.

Prequalification

21. On September 8, 2006 the international invitation for interest manifestation was issued in the EU office Journal, Cameroon Tribune, and on the Modern Power Systems website. Only prequalified bidders were invited to submit bidding documents. Interested companies were invited to register and submit their prequalification documents in response to an open international advertisement for the transmission line/substation through the Power Advocate web based platform. Main prequalification criteria for interested companies were publically disclosed and included:

- Experience of successful engineering design, procurement and erection of not less than five transmission lines and five high voltage substations, each of at least 90 kV, in foreign countries within the past ten years,
- Proven experience in the manufacture and testing of electrical equipment,
- Accreditation to ISO 9001 or equivalent,
- Construction and completion of not less than three projects in Africa, and
- Annual turnover for the last three years of a minimum of EUR 200 million.

22. Upon October 12, 2006, twenty-nine companies registered on the bidding platform and fourteen companies submitted a bid. A post bid notice was issued to all bidders through the Power Advocate website on December 21, 2006, to ask for additional information and to provide the possibility to constitute joint ventures.

23. Using the prequalification criteria publically disclosed, KPDC evaluated the prequalification documents submitted by the interested parties and determined that the following six companies and joint ventures prequalified on January 7, 2007:

- Joint venture between ABB, Germany, and Forclum, France
- Cobra Puroil, Spain
- Consorzia Italia, Italy
- Ineo Energie Export, France
- Joint venture between Jyoti, India, and Apar Industries, India
- Joint venture between Siemens, France, and KEC International, India

24. The Prequalification Final Report has been published in the EU office Journal, Cameroon Tribune and on the Modern Power systems website in January 2007 and is part of the Project files.

Request for proposals

25. On January 15, 2007 the RFP packages for the transmission line/substation EPC contract was posted to the Power Advocate Platform, comprising instructions to bidders, conditions of contract, design specifications and procurement and construction drawings. The RFP requested the engineering, procurement, construction, commissioning and testing of the transmission line and substation including the following facilities:

- a 11/225-kV step-up substation at the Kribi power plant site;
- a 100-km 225-kV double circuit transmission line from the step-up substation to the existing 225/90-kV substation in Mangombe (Edéa); and
- provision of two new 225-kV incoming bays and extension of the existing 225-kV busbar system at the Mangombe substation (Edéa) for connection to the grid system.

26. KPDC has used a two-stage evaluation process to determine the successful bidder. As specified in the RFP, a preliminary evaluation comprised review the of completeness and material compliance of each submittal, followed by an analysis of technical, financial, and commercial criteria.

27. The tender closing date was set on April 2, 2007. An extension of time was given to all tenders to April 16, 2007, and subsequently to April 30, 2007. In response to various clarifications from a number of the bidders, ten clarification communications were issued. Four out of the six pre-qualified bidders submitted their bids by April 30, 2007:

- ABB with Forclum
- Cobra Puroil
- Consorzia Italia
- Siemens with KEC

28. During a tender adjudication period the tenders were asked to clarify various technical, financial and commercial aspects of their bids. In October 2007, AES SONEL/KPDC requested revised offers from the bidders which would allow the export of up to 300 MW from the Kribi power plant as opposed to the initial bids for 150 MW. The implementation time for the additional revised offers was increased from fifteen to eighteen months of contract award. The additional offers were provided by all four bidders in December 2007 and evaluated solely by KPDC against the same specifications (same scope and equipment with increased ratings where necessary) as the initial offers.

Bidding

29. The preliminary evaluation concluded that all four tenders complied with the technical specifications in accordance with the RFP and offered reliable and modern materials and equipment for the transmission line and substation. All tenders offered to complete the works within eighteen months of contract award for the revised offers.

30. The results of the technical, financial, and commercial bid evaluations for the revised offer focused on the tenderer’s specific experience, experience of project key staff, methodology and strategy of implementation, quality of the proposed works, and implementation schedule. The following final scores and rankings were obtained for the revised offer:

- ABB with Forclum: 86.4% 2nd
- Cobra Puroil: 84.5% 3rd
- Consorzia Italia: 80.1% 4th
- Siemens with KEC: 94.2 % 1st

31. A tender adjudication report was prepared for transmission line/substation by KPDC's owner's engineer and is part of the Project files. It was concluded that the consortium of Siemens, France, and KEC International, India, was the preferred bidder for the transmission line and substation EPC contract, as their bid scored the highest points using the bid evaluation formula in the RFP.

Contract award

32. The award announcement to the preferred bidder Siemens with KEC was published in September 2008. After a successful negotiation process KPDC signed a fixed price EUR 40 million (US$60 million equivalent) EPC contract with the consortium of Siemens and KEC in January 2010. Siemens's scope of work includes all required facilities, equipment, and auxiliaries for (i) the extension of the existing 225/90-kV substation at Mangombe by providing two additional 225-kV overhead line feeders and (ii) the construction of a step-up substation at the Kribi power plant site. KEC is responsible for the engineering, procurement, construction, commissioning, and testing of the 100-km, 225-kV transmission line.

33. Siemens AG and the World Bank Group entered into a Settlement Agreement restricting Siemens participation in World Bank Group projects, which Settlement Agreement expired as of December 31, 2010. (A Russian subsidiary of Siemens, OOO Siemens, remains ineligible to be awarded a World Bank-financed contract for the period from November 25, 2009 to November 25, 2013, but has no role in the Kribi Gas Power Project.) Moreover, in line with the Settlement Agreement, Siemens can supply the transmission line and substation as Siemens is not a direct beneficiary under the IDA Guarantee and is not a Project sponsor under the IFC Loan and therefore can act as an EPC contractor under IDA Guarantees and IFC-supported projects if Siemens provides certain representations and covenants regarding its integrity compliance in the Kribi Gas Power Project. The required representations and warranties were obtained from Siemens for the Kribi Gas Power Project.

Conclusion

34. The Bank's Procurement Guidelines for IDA Guarantees require that goods, works, and services must be procured with due regard to economy and efficiency (paragraphs 1.5 and 3.16 of the Guidelines). KPDC, as the Project implementing agency, has conducted an international competitive bidding process. The joint IDA IFC team has reviewed the procurement process and found that the process was transparent and fair to all bidders. The selection of both EPC contractors complied with paragraphs 1.5 and 3.16 of the Guidelines and the procedures used paid due attention to economy and efficiency. The procurement should fulfill KPDC's obligations to cause the Project to be carried out diligently and efficiently, and should result in facilities (including works and goods) that: (a) are of satisfactory quality and are compatible with

the Project; (b) are completed in timely fashion; and (c) are priced so as not to affect adversely the economic and financial viability of the Project.

Annex 9: Economic and Financial Analysis

CAMEROON: Kribi Gas Power Project

ECONOMIC ANALYSIS

1. This section presents the economic analysis of the Project. The section first shows that the Project forms part of the economically least-cost power sector expansion plan for Cameroon. The section also shows that the expected economic return to the Project is positive and that this conclusion is robust to uncertainty about the projected values of main evaluation variables, confirming that the Project is economically justified.

Least-cost justification

2. The least cost status and economic feasibility of the project was established in an economic study carried out by external consultants Sogreah in 2007-08.[44] The Project forms an integral part of the least-cost expansion plan for the development of the Southern Interconnected Grid (SIG). This program covers bulk power supply from generation and transmission capacity from 2009 to 2025. Over eighty scenarios were discussed to assess Cameroon's least-cost power generation expansion options under various demand and supply options, including different oil and gas price projections and levels of so-called public sector demand (LV and MV customers) including and excluding the main industrial (HV) customers Alucam and its sheet metal affiliate, Aluminum Fabrication Company of Cameroon (SOCATRAL) (closure, status quo, expansion). This section summarizes the results of this analysis.

3. Main economic assumptions underlying the least-cost expansion scenarios are the following:

- Electricity demand: Historical analysis over the past thirty years, showing a good linear correlation between Cameroon's GDP and total LV and MV demand. Consequently, the growth factor chosen for studying changes in electricity demand was based on the average GDP growth forecasts of 5.1% (IMF, World Economic Outlook Database April 2008).
- Demographic data: Population and health surveys in Cameroon (1991, 1998, and 2004) and National Institute of Statistics INS
- Baseline market based fuel costs: crude oil US$75/barrel, gas 9.50 US$ per million British thermal units (mmBTU) (PCS)
- Discount rate: 10%
- Outage costs: 700 CFA/kWh after calculations based on alternative small scale generation facilities and oil lamps
- Investment baseline price +5% and -5%
- Average exchange rates:
    - 1 EUR corresponds to CFA 655.957
    - 1 EUR corresponds to US$ 1.30
    - 1 US$ corresponds to CFA 504.58

[44] *Etude Economique du Projet de Centrale Thermique au Gaz de Kribi*, Sogreah Consultants, June 2007; Updated in July 2008.

4. The demand side of the analysis is based on load forecasts that build on predictions of electricity demand for low and medium voltage (LV and MV) customers, so called public sector customers, and the aluminum industry as a major industrial high voltage (HV) customer. Public sector electricity consumption grew regularly up to 1987, with 12% LV and 10 % MV average annual growth, followed by a short stagnation in the middle of the 1990s and is then increasing again with 6% LV and 8% MV average annual growth rate, respectively. HV electricity demand scenarios are based on the following assumptions for the future development of the aluminum smelter Alucam and the aluminum factory SOCATRAL:

- closure of production (closure);
- continuation of production with an industrial power demand of 195 MW (Alucam) and 1.5 MW (SOCATRAL) (status quo); and
- doubling of production with an industrial power demand of 510 MW (Alucam) and 3 MW (SOCATRAL) (expansion).

5. In total, 81 scenarios were discussed to assess Cameroon's least-cost power generation expansion options. Three basic scenarios (low, median, high) out of the 81 discussed options are summarized below, the median and high case scenarios are today expected to be more realistic than the basic low case scenario as Alucam is indeed investing in increasing its aluminum production. Further scenarios were developed to test the sensitivity of the findings of basic scenarios, including the expansion of the SIG without the Project.

- Low case demand scenario: high LV and MV demand, an average annual demand growth rate of 4.2%, closure of Alucam and SOCATRAL, baseline fuel costs, baseline generation and transmission investments
- Median demand scenario: median LV and MV demand, an average annual demand growth rate of 5.3% and continuation of Alucam and SOCATRAL (status quo), baseline fuel costs, baseline generation and transmission investments
- High case demand scenario: median LV and MV demand, an average annual demand growth rate of 6.3% and expansion of Alucam and SOCATRAL, baseline fuel costs, baseline generation and transmission investments

6. Under the basic median scenario, Alucam and SOCATRAL are expected to continue their production at a current level (status quo) and public sector power demand is forecasted to increase at an average annual rate of 5.3%. This results in increased MV, LV and HV power demand from 678 MW in 2009 to 1,420 MW in 2025. Under the basic high case scenario power demand increases from 678 MW in 2009 to 1,777 MW in 2025 and is projected to increase to 2,094 MW in 2030. The high case demand scenario for the period from 2007-2025 is summarized in the table below.

Table 13: LV, MV, and HV power demand for basic high case scenario

	Consumption [MWh]	Production [MWh]	Installed Capacity [MW]
2007	3 143	4 052	668
2008	3 349	4 152	676
2009	3 457	4 186	678
2010	3 943	4 567	724
2011	4 096	4 636	737
2012	4 256	4 834	773
2013	4 425	5 041	812
2014	4 603	5 259	852
2015	7 549	8 269	1 212
2016	7 745	8 510	1 257
2017	7 952	8 763	1 304
2018	8 168	9 029	1 353
2019	8 396	9 309	1 405
2020	8 635	9 603	1 460
2021	8 887	9 912	1 517
2022	9 151	10 237	1 577
2023	9 429	10 578	1 641
2024	9 721	10 937	1 707
2025	10 028	11 314	1 777

7. The supply options were drawn from existing and candidate power plants based on commercially available technologies and fuels for power generation in Cameroon. All simulations were performed with the Hillmix software, a program for carrying out operations research to determine the optimum development plan for hydro and thermal power production facilities until 2030. With regard to existing grid connected power plants, 467 MW available hydropower capacity of Edéa and Song Loulou and 242 MW available thermal capacity of the following diesel (LFO) and heavy fuel oil (HFO) power plants was taken into account for 2009: Oyomabang 1+2, Bassa 2+3, Logbaba 1+2, Bafoussam, Dibamba and Limbe. Candidate hydropower plants, evaluated based on available feasibility studies and site characteristics, include Lom Pangar, Nachtigal (considered with and without Lom Pangar), Memvé Elé, Song Ndong, Nyamzom, Noun 1+2 and Njock (see table below). Candidate thermal power plants considered are a new HFO power plant (corresponding to the Dibamba HFO power plant) and the Kribi power plant under options to use gas engines and gas turbines in simple and combined cycle.

Table 14: Characteristics of candidate hydropower plants

Cameroon Selected projects										Ratio	
River		Project	Capacity MW	Generation TWh	CF (%)	Type	Regulation	Connection to network	Construction cost (GFCFA)	kFcfa/kW	Fcfa/kW/year
Ntem	a	a Memvé	220	1.18	61	Pointe	18 hm3	With	215	977	182
Lom Pangar Sanaga Sup	a	Lom Pangar	330	2.4	83	Run of the river	Lom Pangar and Mabakaou LP, Mabak, Bam, Mapé	With	270	818	113
	b	Nachtigal upstream (APS)									
		Nachtigal downstream	200	1.6	91	Run of the river		With	260	1300	163
Sanaga Inf		Song Ndong	315	2.25	82	Run of the river	Bam, Mapé, Bankim	Without	385	1222	171
Mbam	a	Nyanzom (reduced)	225	1.95	99	Run of the river		Without	375	1667	192
Noun		Noun 1 and 2	141	0.846	68	Run of the river		With	201	1426	238
Nyong	a	Njock 1rst step	115	0.8	81	Monthly	150 hm3	With	105	913	128

8. The development of the transmission and distribution network was studied using specialized software. Proposed transmission system investments include equipment needed for the Southern Interconnected Grid (SIG) to operate correctly and transmission investments planned under AES SONEL's ongoing investment program. The development of the distribution network was assumed to be proportional to the development of demand.

9. With regard to fuel costs in Cameroon, various high case, median case and low case scenarios for HFO, LFO and gas prices were included in the analysis, taking into account processing and transport costs. HFO costs for a barrel at US$75 were assumed at 197,200 FCFA/ton at Limbé and at 240,550 CFA/ton at all other sites. LFO costs for a barrel at US$75 were assumed at 432,870 CFA/ton. Baseline gas costs for the Project are based on the gas price as per the initial GSA 2 between KPDC and SNH at 2.09 US$/mmBTU (PCS).

10. The least-cost analysis covered a range of possible long-term plans for the development of Cameroon's bulk power supply system, that was treated as an integrated generation and transmission system. The outcome of this analysis was the identification of the long-term integrated power expansion plan that would be the least-cost means of meeting the forecast power demand under the planning assumptions used. The resulting least-cost investments in power projects from 2009 to 2025 under the basic high case demand scenario are presented in the table below.

Table 15: Least-cost power project development for basic high case scenario

			Average Year		Dry Year		
		Capacity	Factor	Q gaz	Factor	Q gaz	Cumulative Q gaz
	Projects	MW	%	kpc/j	%	kpc/j	Mpc
2009	Dibamba HFO 1	44					
	HFO	8					
2010	Dibamba HFO 2	44					
2011	Kribi MaG	249	31%	13 629	34%	15 178	4 975
2012			38%	16 730	42%	18 291	11 081
2013	Kribi MaG	83	35%	20 453	38%	22 082	18 547
2014			40%	23 758	43%	25 385	27 218
2015	Nachtigal	330	41%	24 195	41%	24 318	36 050
2016	Kribi MaG	83	40%	29 695	41%	29 834	46 888
2017			47%	34 673	47%	34 801	59 544
2018	Ndjock	115	33%	24 204	34%	24 823	68 379
2019			40%	29 028	40%	29 653	78 974
2020			46%	33 719	47%	34 327	91 281
2021	Memwe Ele	220	32%	23 619	35%	25 876	99 902
2022	HFO	8	40%	29 461	43%	31 787	110 656
2023	HFO	16	48%	35 307	51%	37 685	123 543
2024	HFO	16	56%	41 013	59%	43 287	138 512
2025	HFO	16	63%	46 362	66%	48 367	155 435

11. The least-cost analysis confirms that in the context of the high price of hydrocarbons the best option for Cameroon is to develop its strong hydroelectric potential. As there are no hydroelectric projects which can be commissioned before 2014, the only least-cost option available in the short term are investments in thermal power plants. An additional thermal capacity of about 500 MW is estimated to be necessary until the startup of the first hydroelectric project, the Nachtigal Hydropower Project assumed to be commissioned in 2015 together with the development of the Lom Pangar reservoir. Under the assumptions of no gas being available, equivalent 500 MW investments in HFO plants and new transmission lines are required, resulting in a more expensive electricity sector development plan.

12. Under all median and high case demand scenarios that assume the availability of natural gas in Cameroon, the least-cost power generation expansion plan included a gas-fired thermal power plant, whether gas engines or gas turbines, with a capacity of up to 420 MW to be commissioned as early as possible, preferably in 2011. The Project matches the required thermal investment under basic demand scenarios, and hence the analysis confirms the Project as part of the least-cost long-term power expansion plan for Cameroon.

13. Since the last update of the economic study, key hydropower investment projects and Kribi itself are behind schedule. This makes investment in the project all the more urgent and, as shown in Table 15 above, its optimal size would be larger than is currently being implemented.

Original project economic return

14. In the 2007 Sogreah study, the economic rate of return (ERR) for the Project was computed based on 81 demand scenarios discussed to develop the least-cost power expansion plan. Economic benefits of the incremental electricity supply of the Project are calculated using the capacities to pay of different categories of consumers. These benefits comprise the sale of electricity to consumers valued at their willingness to pay and the savings permitted by having part of the electricity generated at Kribi replace existing more expensive generation (i.e fuel-oil or gas-oil fired units). This will last until the increase in demand absorbs the entire electricity generated at Kribi. Benefits were aggregated into a stream of net annual benefits that extends over the economic life of this investment, which is taken to be twenty years. All economic costs and benefits were expressed in constant 2008 price terms and excluded local direct duties and taxes on capital and operating costs.

15. Incremental capital costs of the Project were based on the EPC contracts for the power plant and transmission line and substation after an international competitive bidding process arranged by KPDC. As bidding documents based on gas engines presented a lower investment cost than bidding documents including gas turbines in simple and combined cycle, gas engine technology was chosen to develop the 216-MW Kribi power plant. The performance of the gas engine technology is assumed as 7,366 Btu/kWh. Fixed incremental operation and maintenance costs have been estimated at 2 CFA/kWh. A range of gas prices was used to calculate fuel cost with the base case being US$3.2/MMBtu (€2.3/MMBtu).

16. Economic analysis showed further that the optimum ultimate capacity of the Kribi power plant is about 420 MW, which is above the maximum capacity of 330 MW authorized by the capacity of the transmission line. The optimum least-cost scenario foresaw a commissioning in 3 stages, up to 249 MW in 2011 and an additional 83 MW in 2013 and 2016. The Kribi power plant is used to satisfy shoulder and peak demand; with load factor varying from 31% at commissioning to 63% maximum. The quantity of gas used in 2025, at the end of fifteen years, is estimated at 155 BCF.[45]

17. The Kribi power plant had an excellent ERR that resists variations in the main inputs, mainly the price of gas, the price per barrel of crude oil and the investment costs. From the 81 scenarios studied, the average ERR of the Kribi power plant was 50%, out of a full range between 29% and 78%.

Updated project economic returns

[45] SNH has estimated the recoverable gas resources of the total Sanaga South gas field at 1,154 BCF. This figure corresponds to the best estimate, between the low estimate of 428 BCF and the high estimate of 1,605 BCF. (SNH technical and economic study, 2005). The annual contract quantity for the Kribi power plant is estimated at about 10 BCF (Amendment No.1 to GSA, March 2009).

18. A simplified calculation of the project's economic returns was undertaken using the latest data from the project's financial model to ensure that it is still robust. The main assumptions are as follows: the plant has a nameplate capacity of 216 MW, which is equivalent to a net effective capacity of 189 MW. Total economic investment cost is €214 million excluding any financing cost. The cost of gas is €2.23 per thousand standard cubic feet (Mscf) as per the contract with the gas supplier, and other contractual arrangements are reflected in the model. All fixed and variable operating and maintenance costs are as specified in the financial model. Energy generated by the plant is based on dispatch projections of AES SONEL, resulting in an average effective load factor of 80% of the net effective capacity, equivalent to 70% of the nameplate capacity. The marginal cost of transmission and distribution reinforcements and maintenance associated with the project is estimated at €0.013/kWh as per the Sogreah study.

19. Benefits are calculated on the basis of end user sales net of total system losses, estimated at 25%. Three categories of end-users are identified: Alucam, sales to MV and LV customers, and suppressed MV/LV demand in 2012 (unserved energy). Alucam consumes the equivalent of 50 MW of the plant's net capacity and it is valued at a price of €0.032/kWh, as per the contract between AES SONEL and Alucam. MV/LV sales are valued at the average end-user tariff of €0.137/kWh. Suppressed MV/LV demand in 2012, which is accommodated by Kribi in 2013, is valued at €0.33/kWh, which is the estimated cost of auto-generation. On this basis, the project's economic rate of return (ERR) is 26% and its net present value (NPV) at 10% discount factor is €285 million (all assumptions and calculations are in 2010 real terms).

20. Sensitivity analysis to the main project parameters was conducted to test the robustness of its economic viability. The table below shows the switching values for these main parameters at which the NPV becomes zero. This shows that project economics is quite robust to variations of its key parameters: investment cost or gas price would need to more than double, or plant output would need to drop significantly before the project becomes uneconomic.

Table 16: Switching values

Variable	Switching value
Economic investment cost	+165%
Gas price	+168%
Plant output	-82%

FINANCIAL ANALYSIS

KPDC

21. The KPDC financial model reflects the proposed terms of the Project agreements.

22. In terms of technical characteristics, the Project is expected to have an initial net capacity of 188.9 MW after plant electricity consumption and transformer losses. The projected average expected capacity factor is 79% with a higher expected capacity factor during the dry season

when additional thermal capacity is required compared to the rainy season when a larger share of hydropower can be dispatched.

23. Under the GSA 2 between SNH and KPDC, KPDC has signed a take-or-pay contract for gas with an average daily take-or-pay obligation of 28 MMscf. According to the GSA 2, actual delivery of gas can vary between a minimum daily contract quantity of 11 MMscf per day up to a maximum daily contract quantity of 40 MMscf per day. In the event that KPDC gas consumption exceeds or falls short of 10.22 Bscf in a contract year then KPDC may carry forward the excess or shortfall differential during the following six contract years. The gas price has been set at EUR 2.231 per Mscf for a heating value of 1,000 Btu/scf and with partial indexation with inflation.

24. Under the PPA to be signed between KPDC and AES SONEL, AES SONEL will reimburse KPDC for its costs (fixed O&M, variable O&M, gas expenses, and regulator charge). Regulatory fees are projected at 1% of annual turnover. Auxiliary consumption charges are passed through at actual cost. In addition, AES SONEL will pay a capacity charge covering KPDC's debt service and a target return on equity for shareholders. Starting in year 2, the capacity charge includes performance incentives for availability (reduction of capacity payment in the case of excess planned and forced outages and availability bonus for each percentage point below a set threshold of forced outages in the dry season) and guaranteed heat rate adjustments. In addition, KPDC having built and financed the transmission line and substation connecting the Project to the grid will receive repayment of the cost thereof in installments in the form of a connection installations charge as the transmission line and substation will be transferred to AES SONEL's concession after construction.

25. KPDC will sign a Technical Services Agreement with AES Engineering LLC to benefit from AES's experience in power plant operations and an Assistance & Services Agreement with AES SONEL for the use of IT and other services.

26. Total Project costs are projected at EUR 259 million, 25% of which will be financed by equity and 75% (EUR 195.8 million) in debt, of which about US$82 million equivalent are expected to be financed by the IDA-guaranteed Loan from local lenders benefiting from the proposed IDA Guarantee.

27. The plant's commercial operation date is expected to occur in March 2013.

28. Various sensitivity analyses were performed on the base case forecasts to assess the Project's ability to service its obligations in downside scenarios, inlcuding: increase in operations and maintenance costs, increase in effective heat rate, decrease in plant availability, decrease in net plant capacity. Under each scenario, debt service should remain adequately covered in moderate changes to these indicators.

29. A summary of KPDC's financial projections is provided in Table 17.

Table 17: Summary of KPDC financial projections (in EUR thousands)

KPDC Financials	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Income Statement													
TOTAL Revenues	**166,675**	**171,014**	**162,350**	**169,575**	**168,391**	**173,321**	**178,376**	**183,438**	**169,973**	**171,980**	**175,442**	**179,776**	**184,188**
Variable Operating Expenses	(56,063)	(60,018)	(51,375)	(58,093)	(56,674)	(61,167)	(65,774)	(70,380)	(57,132)	(58,702)	(61,717)	(65,590)	(69,530)
Fixed Operations Expenses	(11,472)	(11,725)	(11,993)	(12,266)	(12,547)	(12,834)	(13,127)	(13,428)	(13,735)	(14,050)	(14,372)	(14,702)	(15,040)
TOTAL Expenses	**(67,535)**	**(71,743)**	**(63,367)**	**(70,360)**	**(69,221)**	**(74,001)**	**(78,901)**	**(83,808)**	**(70,868)**	**(72,752)**	**(76,090)**	**(80,292)**	**(84,569)**
EBITDA	**99,140**	**99,270**	**98,983**	**99,215**	**99,171**	**99,320**	**99,474**	**99,629**	**99,106**	**99,227**	**99,352**	**99,484**	**99,618**
Depreciation Expenses	(14,736)	(14,736)	(14,762)	(14,801)	(15,271)	(15,299)	(16,163)	(16,163)	(16,750)	(17,109)	(17,154)	(19,723)	(19,723)
EBIT	**84,404**	**84,534**	**84,221**	**84,414**	**83,900**	**84,022**	**83,311**	**83,466**	**82,356**	**82,118**	**82,198**	**79,760**	**79,895**
Financial expenses	(23,080)	(21,075)	(19,193)	(17,357)	(15,466)	(14,941)	(11,721)	(9,837)	(7,954)	(6,133)	(4,260)	(2,382)	(614)
Pre-Tax Income	**61,324**	**63,460**	**65,028**	**67,057**	**68,434**	**69,081**	**71,591**	**73,629**	**74,402**	**75,985**	**77,938**	**77,378**	**79,282**
Net Income	**37,714**	**39,028**	**39,992**	**41,240**	**42,087**	**42,485**	**44,028**	**45,282**	**45,757**	**46,731**	**47,932**	**47,588**	**48,758**
Balance Sheet													
Assets													
Total Current Assets	**75,373**	**82,986**	**87,132**	**86,557**	**92,776**	**83,764**	**92,069**	**88,636**	**85,204**	**91,852**	**61,843**	**56,369**	**51,373**
Total Long-Term Assets	**315,968**	**301,749**	**287,762**	**282,376**	**267,651**	**269,640**	**253,477**	**249,053**	**239,484**	**223,271**	**257,502**	**237,779**	**218,701**
Total Assets	**391,342**	**384,734**	**374,894**	**368,933**	**360,427**	**353,403**	**345,546**	**337,689**	**324,688**	**315,123**	**319,345**	**294,147**	**270,074**
Liabilities													
Current Liabilities	8,696	9,238	8,160	9,060	8,913	9,529	10,160	10,792	9,125	9,368	9,798	10,339	10,890
Permanent Debt Outstanding	258,822	236,315	213,809	191,303	168,797	146,291	123,784	101,278	78,772	56,266	33,759	11,253	(0)
Total Liabilities	**267,518**	**245,554**	**221,969**	**200,363**	**177,710**	**155,819**	**133,944**	**112,070**	**87,897**	**65,634**	**43,557**	**21,592**	**10,890**
Total Equity	**123,824**	**139,181**	**152,925**	**168,569**	**182,717**	**197,584**	**211,601**	**225,620**	**236,791**	**249,489**	**275,787**	**272,555**	**259,184**
Total Liabilities & Equity	**391,342**	**384,734**	**374,894**	**368,933**	**360,427**	**353,403**	**345,546**	**337,689**	**324,688**	**315,123**	**319,345**	**294,147**	**270,074**
KEY RATIOS													
EBITDA Margin	59.5%	58.0%	61.0%	58.5%	58.9%	57.3%	55.8%	54.3%	58.3%	57.7%	56.6%	55.3%	54.1%
Long-term Debt / Equity	2.09x	1.70x	1.40x	1.13x	.92x	.74x	.58x	.45x	.33x	.23x	.12x	.04x	.00x
Historical DSCR	1.48x	1.53x	1.58x	1.64x	1.70x	1.69x	1.86x	1.95x	2.04x	2.15x	1.78x	2.77x	5.62x
Prospective DSCR	1.54x	1.60x	1.65x	1.72x	1.73x	1.84x	1.97x	2.06x	2.17x	2.30x	1.91x	5.73x	

AES SONEL

30. AES SONEL's historic financials show that AES SONEL generates sufficient revenue and cash flow to honor its payments under the PPA with KPDC over the life of the Project as well as its debt service coverage and other covenant obligations with senior lenders under its capital investment program.

Table 18: AES SONEL's historical financial performance

AES SONEL Financial Performance (US$ '000)	2007	2008	2009	2010
Total Assets	977,973	1,039,981	1,250,640	1,400,670
Fixed Assets	739,883	786,382	862,018	891,899
Total Liabilities	656,504	708,470	877,672	989,911
Total Long-Term Debt	321,064	348,399	462,217	481,997
Shareholders Equity	321,469	331,511	372,968	410,759
Exchange rate (ye)	452	457.6	455.6	490.1
Revenues	321,801	482,247	380,557	407,559
EBITDA	71,515	125,291	117,794	102,656
Net Profit	12,783	14,635	46,528	31,912
Exchange rate (avg)	479.9	445.7	448.8	495.3
Net Cash Flow	54,685	97,186	99,959	80,230
Key Ratios				
EBITDA Margin (%)	22%	26%	31%	25%
Net Profit Margin(%)	4%	3%	12%	8%
LT Debt/EBITDA	4.49	2.78	3.92	4.70
Return on Assets (%)	1.31	1.41	3.72	2.28
Return on Equity (%)	3.98	4.41	12.48	7.77

31. IFC is monitoring AES SONEL's concession performance as part of the ongoing supervision of their capital expenditure loan to AES SONEL.

32. Financial projections show that at all times, AES SONEL generates sufficient revenue and cash flow to pay for the power purchases from the Dibamba and Kribi plants, execute its investment program and honor its performance ratios under the existing investment loan.

Annex 10: IDA Guarantee

CAMEROON: Kribi Gas Power Project

1. The GOC has requested IDA to consider providing the proposed IDA Guarantee in support of the Project. It is envisaged that the IDA Guarantee would support commercial lenders to KPDC (Borrower) by protecting them against debt service default resulting from the GOC's failure to fulfill covered payment obligations under the Project documentation as further defined below. The final structure of the IDA Guarantee would depend, among other things, on the financing plan and discussions with the sponsors and commercial lenders.

2. The core agreements to be entered into by IDA in connection with the IDA Guarantee are listed below. They consist of the Guarantee Agreement, the Project Agreement, and the Indemnity Agreement.

General

3. IDA provides credit enhancement in the form of loan guarantees. The IDA guarantee can cover principal up to a "Maximum IDA-guaranteed Principal Amount," and scheduled accrued interest thereon (which will be determined as financing commitments from non-World-Bank-Guaranteed sources). The "Maximum IDA Liability" would diminish as the debt is amortized.

4. The guarantee can be used for any senior debt instrument provided by private investors, including bank loans or bonds, and the borrower would be free to structure its indebtedness in any manner it chooses. The guarantee beneficiaries (*e.g.*, lenders or other debt holders) can be any private institution; provided that the financial instrument has the characteristics of commercial debt and that the instrument and the lenders are acceptable to IDA. For this purpose, private institutions include any publicly owned autonomous institutions that are established and operate under commercial law for the purpose of pursuing profit. IDA does not provide guarantees or insurance for the benefit of other multilateral or bilateral institutions. The IDA-guaranteed debt could be in local currency (subject to certain financial/legal clearances) subject to a hard currency-denominated cap, or any freely convertible currency and sourced in any market of the borrower's choosing; provided that the terms and other arrangements are acceptable to IDA. The IDA guarantee could cover debt for its full maturity.

Guarantee trigger and risk coverage

5. It is proposed that the IDA Guarantee would only be triggered to the extent that nonpayment of debt service is the result of the failure by the GOC to pay an amount due under the Government Commitment Agreement (GCA) in connection with a specified event, confirmed as necessary pursuant to dispute resolution procedures included under the terms of the relevant project agreement, or the Local Loan Purchase Agreement.

6. IDA reserves the right to modify or withdraw its consideration of the proposed IDA Guarantee to the extent there are material changes from the forms of agreements reviewed or if the Local Loan Purchase Agreement or Local Loan Agreement is not satisfactory to IDA.

Approval process and required documentation

7. The World Bank's procedures require approval of the IDA Guarantee by management and IDA's Board of Executive Directors. Before Board approval can be sought, the Project must be determined to meet World Bank technical, environmental, social, economic, financial, and information disclosure policies and requirements. IDA will also review the ownership and management structure of the Borrower. In addition, Project documentation and agreements relating to the IDA Guarantee, including the Local Loan Agreement, Local Loan Purchase Agreement, the financing agreements, any direct agreements, the Guarantee Agreement, the Project Agreement, and the Indemnity Agreement, must be finalized in forms acceptable to IDA. The Project structure and the details of the proposed transaction will be presented to IDA's Board of Executive Directors for approval of the IDA Guarantee; this approval will be given in the sole discretion of the Executive Directors.

8. Required documentation (to be drafted by IDA) includes the following:

(a) Guarantee Agreement: The terms and conditions of the IDA Guarantee will be embodied in the Guarantee Agreement between the Beneficiary (or an agent acting on its/their behalf) and IDA.

(b) Project Agreement: The Borrower will execute the Project Agreement with IDA in order to create a direct contractual relationship with IDA. It will contain undertakings to IDA with respect to matters of particular concern, such as relevant matters relating to the terms of the purchase/sale of the IDA-guaranteed Loans, the use of proceeds of the IDA-guaranteed Loan, provisions relating to fraud and corruption, compliance with World Bank safeguards policies, and good governance.

(c) Indemnity Agreement: the Republic of Cameroon will enter into an agreement with IDA specifying, among other things, Cameroon's undertaking to IDA to reimburse and indemnify IDA in the event that the IDA Guarantee is called, and against any other expenses or liabilities incurred by IDA.

9. An indicative term sheet for the proposed IDA Guarantee is attached and should be read in conjunction with the statements contained herein. IDA reserves the right to modify or withdraw its consideration of the proposed IDA Guarantee at any time, upon written notice, for any reason. IDA reserves the right in any event to determine the final terms and conditions of the IDA Guarantee. IDA is not under any obligation to issue an IDA Guarantee and shall have no liability to any party in the event it does not do so for whatever reason.

SUMMARY OF INDICATIVE TERMS AND CONDITIONS OF THE PROPOSED IDA GUARANTEE

This term sheet contains a summary of indicative terms and conditions of the proposed IDA Guarantee for discussion purposes only and does not constitute an offer to provide an IDA Guarantee. The provision of the IDA Guarantee is subject, inter alia, to satisfactory appraisal of the Project by IDA, compliance with all applicable policies of the World Bank, including those related to environmental and social safeguards, review and acceptance of the ownership, management, financing structure, and transaction documentation by IDA, and the approval of the management and Executive Directors of the IDA in their sole discretion.

Local Loan Agreement and Guarantee Agreement	
Guarantor:	International Development Association (IDA).
Borrower:	Kribi Power Development Company (KPDC).
Beneficiaries:	Local Lenders, or the Local Loan Facility Agent on their behalf, under the Local Loan Agreement and Common Terms Agreement.[46] The Local Lenders will be a consortium of local Cameroonian banks led by Standard Chartered Bank. For the purposes of this indicative term sheet, "Local Lenders" shall include any subsequent eligible commercial lenders (but exclude the sponsor, Borrower, the GOC, or a non-commercial lender should they happen to hold loan participations, under the Local Loan Agreement).
Amount:	Up to CFA 40 billion (US$82 million equivalent).
Special loan features:	A seven-year loan with a fourteen-year amortization profile, resulting in a balloon payment at year seven corresponding to about 65% of the original amount. The Local Loan Agreement will contain a pre-negotiated extension option at year seven, for Local Lenders to extend their loan for another seven years. In case a Local Lender does not opt to extend its loan, such Local Lender can put its loan participations to the GOC under the Local Loan Purchase Agreement, to be held until the Borrower or the GOC has found replacement commercial lenders for the

[46] The Local Loan Agreement is to be entered into between the Local Lenders/the Local Loan Facility Agent and the Borrower (i.e., the Project Company).

Local Loan amounts held by the GOC, as described below.

During the period between twelve and six months prior to the expiry of the seven-year term, each Local Lender will agree in the Local Loan Agreement to investigate in good faith the extension of its participation in the Local Loan; such good faith undertaking will include discussion with the Borrower; due consideration of the extension request; if considered appropriate, presentation of the extension option to such Local Lender's credit committee; and written communication with the Borrower accepting or declining the extension.

Local Loan Purchase Agreement:

Subject to at least [six] months prior notice, at the expiry of the initial seven-year term, each Local Lender may either (i) opt to extend the existing Local Loan per the pre-negotiated extension option in the Local Loan Agreement by another seven-year term or (ii) opt to leave the Local Loan Facility by receiving a balloon payment (outstanding principal and interest, less a "put fee" (see below)); provided that neither the Local Lenders or International Lenders have already initiated acceleration proceedings or the Borrower has already entered voluntary or involuntary bankruptcy proceedings. In the case of (ii), during a special cure period (*i.e.*, prior to an event of default), such Local Lender may put its loan to the GOC according to the Local Loan Purchase Agreement.

Where a Local Lender opts to leave the Local Loan Facility, the Borrower agrees during the [six] month period prior to the expiry of the initial 7-year term of such Local Loan Facility, to take reasonable steps to find a person that is eligible for cover under the IDA Guarantee that is willing to purchase all or part of such Local Loan. The GOC would be required to purchase any remaining loan participations under the Local Loan Purchase Agreement, and hold them for repurchase by new local lenders.

The purchase price to be paid to Local Lenders by any new eligible person identified by the Borrower under the Local Loan Agreement, and/or by the GOC under the Local Loan Purchase Agreement would be be as follows:

(i) if neither the Local Lenders or International Lenders have declared any material default that remains uncured and there is no event which with the passing of time will become a material default, par value of the balloon payment plus accrued interest; or

(ii) if, at the date six months prior to the balloon date, the Local Lenders or International Lenders have declared any material default that remains uncured or there is an event which with

the passing of time will become a material default, the lower of fair market value or par of the balloon payment amount plus accrued interest. Fair market value would be determined by an independent third party (accounting firm or investment bank to be selected in agreement by both parties) using a pre-agreed methodology, such determination process starting six months prior to the balloon date. Provisions for bearing the cost of the appraisal process will be included.

In any event, in the absence of a documented regulatory prohibition on extension of such Local Lender's loan participation, the purchase price paid by the GOC would be reduced by a "put fee" of [50-100] basis points of principal.

It is envisaged that the Local Loan would be assigned from any outgoing Local Lenders to the incoming commercial lender(s) and that the benefit of the proposed IDA Guarantee would also be correspondingly assigned. In case the GOC needs to step in as a lender under the Local Loan Purchase Agreement, the Local Loan Agreement will be structured to encourage the Borrower and the GOC to actively seek eligible replacement commercial lenders by, *inter alia*, restricting voting rights on those loan participations. The Local Loan Agreement will require the GOC to sell any loan participation it holds to a commercial bank buyer or buyers arranged by the Borrower, provided that the GOC has approved the terms of such sale. In any period during which the GOC is the lender according to the Local Loan Purchase Agreement, the IDA Guarantee would not benefit the Borrower or the GOC (or any other ineligible holder) as lender.

Currency: Central African Franc (CFA)[47] subject to a Euro cap.

Interest margins: TBD.

Use of proceeds: Proceeds to be used [to pay project costs (to be defined in the Common Terms Agreement), which will include the][48] [only for] design, engineering, procurement, construction, and financing costs of the Project. Proceeds may not be used for developer fees, taxes, duties or luxury items or other ineligible cost. Adequate control mechanisms may be required by IDA.

Guarantee: IDA would guarantee to the Local Loan Facility Agent (on behalf of the Local Lenders) the scheduled principal and accrued interest not paid by the Borrower under the Local Loan Agreement as a result of the GOC's failure to pay (after any

[47] A CFA franc IDA Guarantee is proposed. In the event of a call of the IDA Guarantee, and the unlikely event the CFA francs cannot be obtained, IDA would retain the option to pay the equivalent amount in any other freely traded currency such as US$ or Euro.

[48] Subject to review of Common Terms Agreement once drafted.

applicable grace or cure period) those covered amounts due under the Government Commitment Agreement or the Local Loan Purchase Agreement, as follows:

Based on a preliminary review of the English versions of the draft Government Commitment Agreement of the Republic of Cameroon in favor of AES SONEL, the Borrower and AES Kribi (the "Commitment Agreement"), the Kribi Power Plant Electricity Sales Licence Agreement (the "Sales Licence"), the draft Kribi Power Plant Independent Electricity Generation Licence Agreement (the "Generation Licence") (drafts dated June 17, 2011) and the Consolidated Gas Sales Agreement including Amendment No. 1 (the "GSA") (version dated October 2009), and subject to any amendments made to such documents, further overall IDA consideration and review and to the disclaimers above, IDA would consider, in principle, a guarantee of the following:

(a) debt service default by the Borrower on the Local Loan caused by the failure of the GOC to make a required payment to AES Kribi under Articles 13.1(A)(a) and 13.2(A)(a) of the Commitment Agreement following the occurrence of any of the Trigger Events mentioned in Articles 13.1(A) and 13.2(A) of the Commitment Agreement, subject to the following:

(i) where any Trigger Event results from an event of Political Force Majeure, the IDA Guarantee shall only apply if such event of Political Force Majeure arose under the GSA, Sales Licence, Generation Licence, or Power Purchase Agreement (PPA), and not under another Project Agreement (as defined in the Commitment Agreement);

(ii) with respect to a Trigger Event described in Article 12.1 (b), the IDA Guarantee shall only apply in events other than the formation of a separate transmission system operator;

(iii) with respect to a Trigger Event described in Article 12.1(d), the IDA Guarantee shall only apply if such events arose under the Sales Licence, Generation Licence, or Article 4 of the Commitment Agreement; and

(iv) the IDA Guarantee shall not apply in respect of a Trigger Event under Article 12.1(l) where the GOC has exercised its call right under the second paragraph of Article 12.2 of the Commitment Agreement; and

(b) the failure by the GOC for any reason to make a required payment of principal and/or accrued interest under the Local Loan Purchase Agreement on the [Local Loan Purchase Date].

The proposed IDA Guarantee coverage does not include

payments by AES SONEL under the PPA. However, as noted above, if the PPA were terminated by the Borrower due to an event of political force majeure, leading to a buyout of the shares of AES Kribi Holdings BV, the private investor in the Borrower, the GOC obligation to make certain payments in respect of that buyout would be a covered event under the proposed IDA Guarantee.

The Guarantor reserves the right to modify or withdraw its consideration of the proposed IDA Guarantee to the extent that there are material changes in the agreements reviewed or in other agreements or if the Local Loan Purchase Agreement or the Local Loan Agreement is not on terms satisfactory to IDA.

The IDA Guarantee will not be accelerable. It will cover only payment of principal and accrued interest payable in accordance with the original payment schedule applicable under the Local Loan Agreement. The IDA Guarantee will not cover equity.

Maximum IDA Guaranteed Principal Amount:

The aggregate of the principal amount of the Local Loan committed or, at the end of the Availability Period, disbursed, under the Facility not to exceed US$ [60-100] million, less any amount(s) for which IDA suspends coverage (see below) or in respect of which a demand may not be made.

Maximum IDA Guaranteed Interest:

Interest due and payable on any advances made pursuant to the Local Loan Agreement. IDA does not cover penalty interest, default interest or charges of a similar nature.

Maximum IDA Liability:

An amount equal to the Maximum IDA-Guaranteed Principal Amount and the Maximum Guaranteed Interest.

Guarantee Fees:[49]

75 basis points per annum on the IDA-Guaranteed Principal Amount outstanding. Guarantee Fees are the obligation of the Beneficiaries and/or Borrower and must be paid in advance in a lump sum or on regular payment dates.

IDA may also charge a Standby Fee (similar to a commitment fee). The current rate for Standby Fees is zero, but is subject to review and change by IDA.

Any loan participations under the Local Loan Agreement held at

[49] The basis points appearing here in respect of Guarantee fees and standby fees are applicable for IDA's fiscal year 2012, but are subject to review and change by IDA's Board of Executive Directors each year. See http://siteresources.worldbank.org/IDA/Resources/IDATermsFY12.pdf.

any time by the Borrower, the GOC, or any non-commercial lender would be ineligible for cover under the IDA Guarantee, and would accrue fees at the Standby Fee rate (currently zero). Any loan participations subsequently sold to eligible commercial lenders would be covered by the IDA Guarantee, provided that the Guarantee Fee is paid at the regular rate (currently 75 basis points per annum). Non-payment of Guarantee or Standby Fees, in whole or in part, as required in the Guarantee Agreement, will result in termination of the IDA Guarantee, in whole or in part as the case may be. The IDA Guarantee will automatically terminate in respect of any loan participations held by the GOC for 24 months.

Up-front Fees: See *Project Agreement* below.

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

(a) funding or firm and creditworthy commitments for sufficient funding to complete construction and startup of the Project, including satisfactory contribution of equity from the Sponsor;

(b) approval of the Executive Directors of IDA in their sole discretion

(c) execution and delivery of all project and financing agreements, satisfactory to IDA, including execution and delivery of the *Guarantee Agreement*, *Indemnity Agreement*, and the *Project Agreement*;

(d) Project compliance with the environmental and social safeguards policies of the World Bank;

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

(f) satisfaction of all conditions precedent under the Financing Documents;

(g) provision of satisfactory legal opinions; and

(h) payment in full of the first installment of the Guarantee Fee (if the Guarantee Fee is not paid up front).

Suspension of coverage: If any of the following types of events, *inter alia*, occurs and is continuing prior to the end of Availability Period, IDA may, by written notice to Local Lenders/Local Loan Facility Agent, deny Guarantee coverage to any subsequent drawdowns:

(a) any event (potential event of default) which, with the passing of time or giving of notice or both, may lead to a claim on the *IDA Guarantee*;

(b) material breach by the Borrower under the *Project Agreement*;

(c) suspension by IDA or the International Bank for Reconstruction and Development (IBRD) of loans or credits to or guaranteed by Cameroon or breach by Cameroon of its obligations under the *Indemnity Agreement*;

(d) suspension or lapse of Cameroon from membership in IDA, the IBRD, or the International Monetary Fund; or

(e) a Sanctionable Practice (see below) is found to have been engaged in connection with the Project.

A mechanism would also be included in respect of the assignment of the IDA Guarantee and the suspension of the IDA Guarantee during any period commencing upon the GOC (or any otherwise ineligible party) purchasing loan participations pursuant to the Local Loan Purchase Agreement and ending upon further sale of such Local Loan to eligible incoming commercial lender(s). If new eligible commercial lenders purchase the loan participations, then the relevant coverage would resume and the IDA Guarantee would be callable by such incoming lenders. Any period of time during which the GOC has purchased the loan/becomes the lender of record counts towards the total fourteen-year term of the IDA Guarantee.

Exclusions: IDA is not liable for losses resulting from the following types of events or conditions, *inter alia*: (a) acts or omissions of the Borrower, the sponsor, the Borrower's subcontractors or the Beneficiaries generally, (b) compliance with Cameroonian laws in effect on, or events occurring before, the date of effectiveness of the Guarantee Agreement, or (c) Sanctionable Practices (coercion, collusion or corrupt, fraudulent or obstructive practices) in connection with the Project attributable to relevant parties as determined by IDA).

Termination by IDA: Except in respect of demand notices already delivered to IDA, IDA will automatically terminate the IDA Guarantee if the Beneficiaries default in payment of the Guarantee Fees. IDA may also terminate the IDA Guarantee if any of the following types of events occurs, *inter alia*:

(a) Any changes are made without IDA's consent in those provisions of the project and financing agreements in respect of which IDA's consent is required;

(b) It is determined that any of the Project agreements is invalid, illegal, or unenforceable (other than same resulting from a covered event);

(c) There is a material default by the Borrower under the Project Agreement of certain specified obligations which is continuing after the expiry of the relevant cure period, if any;

(d) There is substantial evidence that the Borrower or the Beneficiaries have engaged or engage in Sanctionable Practices;

(e) An untrue statement is made by the Local Loan Facility Agent/Beneficiary in connection with a demand made under the IDA Guarantee.

Subrogation: If and to the extent IDA makes any payment under the IDA Guarantee and Cameroon has failed to reimburse IDA for the amount so paid in accordance with the terms of the Indemnity Agreement and such failure has continued for at least sixty days after notice from IDA, IDA will be subrogated immediately to the lenders' rights (regardless of whether the Local Loan Facility Agent/Beneficiary has been fully repaid all amounts owed to them by the Borrower under the Local Loan Agreement), except that IDA shall not have any voting rights or any rights to seek enforcement of security prior to payment by IDA to the Local Lenders of the lesser of (i) the Maximum IDA Liability or (ii) the Local Loan and accrued interest. IDA may elect to waive its subrogation rights.

Claims and disputes: With respect to claims relating to events arising under the Commitment Agreement, claims by the Local Lenders/Local Loan Facility Agent must be made within ninety days of nonpayment, if not disputed by the GOC, or of dispute resolution or arbitral award in favor of the Borrower or AES Kribi Holdings BV, in case of dispute, with IDA paying within sixty days following acceptance of the claim. If there is a dispute between the GOC and the Borrower as to the GOC's obligation to pay or the amount of its liability, the IDA Guarantee would be callable only in respect of amounts that the GOC is obligated to pay, and fails to pay, in accordance with the dispute resolution procedures contained in the relevant agreement(s).

With respect to claims arising under the Local Loan Purchase Agreement, claims by the Local Loan Facility Agent must be made within [30] days of nonpayment.

Governing law: England.

Other Provisions: As part of its appraisal process, IDA would carry out a review of

	the financing and commercial structure of the concession and any related project and financing agreements, and the proposed risk coverage, as deemed relevant by IDA. The Borrower would be expected to comply with all applicable IDA policies and requirements, including those governing disclosure of information, and applicable environmental, social, fiduciary, and anti-corruption safeguards.
Indemnity Agreement	
Parties:	IDA and Cameroon.
Indemnity:	Cameroon will reimburse in US$ or a currency acceptable to IDA and indemnify IDA on demand, or as IDA may otherwise direct, for all payments under the IDA Guarantee and all losses, damages, costs, and expenses incurred by IDA relating to or arising from the IDA Guarantee.
Covenants:	Various Project-specific undertakings to be inserted into the Indemnity Agreement, including Cameroon's commitment towards the success of the Project, towards causing SNH to comply with the applicable environmental and social guidelines and policies (including with respect to the resettlement compensation paid by SNH) and relating to its performance under the Local Loan Purchase Agreement. Exact details will be determined in accordance with Project specifics.
Remedies:	If Cameroon breaches any of its obligations under the Indemnity Agreement, IDA may suspend or cancel, in whole or in part, the rights of Cameroon to make withdrawals under any other loan or credit agreement with IDA or IBRD, or any IBRD loan or IDA credit to a third party Guaranteed by Cameroon, and may declare the outstanding principal and interest of any such loan or credit to be due and payable immediately.
Governing law:	The Indemnity Agreement will follow the usual legal regime and include dispute settlement provisions customary for agreements between member countries and IDA.
Project Agreement	
Parties:	IDA, AES Kribi, and the Borrower.
Representations and warranties:	The Borrower will represent, among other standard and Project-specific provisions, as of the effective date, that (i) it is in compliance with applicable environmental laws and the

	applicable World Bank environmental and social guidelines and policies, and other applicable requirements, if any, and (ii) neither it, the sponsor, nor any of their affiliates has engaged in any Sanctionable Practice in connection with the Project.
Covenants:	The Borrower will covenant, among other things, that it will (i) use the proceeds of the loan disbursed under the Local Loan Agreement exclusively for the Project and in accordance with the terms and conditions of the Local Loan Agreement, (ii) comply with applicable laws, including environmental laws, and the applicable World Bank environmental and social guidelines and policies, (iii) provide annual audited financial statements and other reports, (iv) provide access to the Project, (v) not be a party to any corrupt or fraudulent practice in relation to the Project, and (vi) comply with World Bank sanctions procedures and guidelines regarding individuals or firms included in the World Bank Group list of firms debarred from World Bank Group-financed contracts. In addition, starting no less that [twelve months] before the first exercise date in the Local Loan Purchase Agreement, the Borrower will use all reasonable endeavors (including the payment of reasonable fees and margins) to cause Local Lenders to elect to extend their participation in the loan and not exercise their rights under the Local Loan Purchase Agreement to have the GOC buy out their loans. In the event the Local Lenders, whether some lenders or all lenders, exercise their rights to have their loans purchased by the GOC, the Borrower will use all reasonable endeavors, under the Local Loan Agreement, to find commercial lenders to purchase those loans. AES Kribi will covenant, among other things, that it will not engage in any Sanctionable Practice with respect to the Project.
Up-front Fees:[50]	IDA will charge the Borrower a one-time Initiation Fee of 0.15 percent of the Maximum IDA-Guaranteed Principal. Amount under the IDA Guarantee (but not less than USD 100,000) for internal Project preparation and development costs, payable upon receipt of invoice from IDA. IDA will also charge the Borrower a Processing Fee of up to 0.50 percent of the Maximum IDA-Guaranteed Principal. Amount under the IDA Guarantee to cover the cost of out-of-pocket expenses, payable upon receipt of invoice from IDA.
Costs and expenses:	The Borrower will indemnify and reimburse the World Bank for

[50] The basis points appearing here in respect of Up-front fees is applicable for IDA's financial year 2012, but all fee amounts are subject to review and change by IDA's Board of Executive Directors each year. See http://siteresources.worldbank.org/IDA/Resources/IDATermsFY12.pdf.

reasonable out-of-pocket expenses incurred in connection with the consideration of any requests for IDA's consent, any amendments to documentation, or the preparation for and actual enforcement or protection of rights under the IDA Guarantee and other documentation.

Governing law: England.

Annex 11: Safeguard Policy Issues

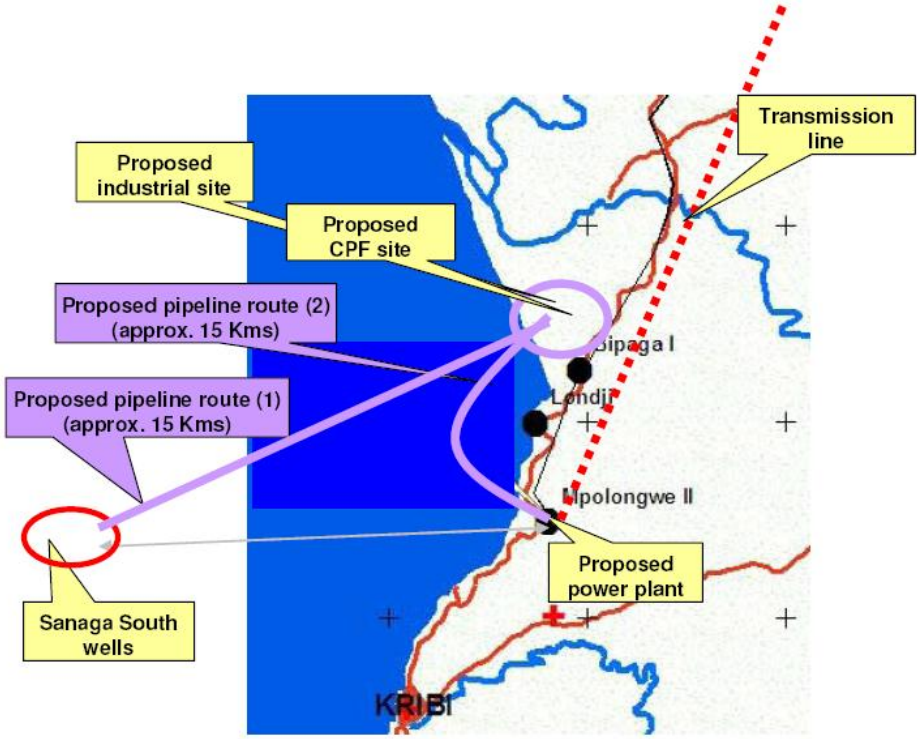
CAMEROON: Kribi Gas Power Project

Project location

1. **The Kribi Gas Power Project**, which benefits from financing facilitated by the proposed IDA Guarantee and the proposed IFC loan, consists of the development, construction, and operation of a new 216 MW (nameplate) natural gas-fired power plant located near the Mpolongwe village, 9 km north of the coastal city of Kribi in South Province of Cameroon, and the development and construction of a new 100-km 225-kV double-circuit transmission line between the Kribi power plant and the existing Mangombe 225/90-kV substation at Edéa in Littoral Province, including substations and transformers. Electricity generated under the Project will be transmitted into Cameroon's Southern Interconnected Grid. The Kribi power plant will run on natural gas using LFO as backup fuel. Natural gas will be supplied from the offshore Sanaga South gas field in Cameroon. Following construction by KPDC, the transmission line will be transferred to the GOC and operated by AES SONEL. See Annex 4 for a detailed description of the Project.

2. **Associated infrastructure facilities** include (i) the operation and maintenance of the transmission line and substation following transfer to AES SONEL for operations, (ii) the development of the Sanaga South gas field by a joint venture between SNH and Perenco Cameroon under a production sharing agreement and financed by Perenco Cameroon; (iii) the construction of the CPF by Perenco Cameroon; (iv) the marine and terrestrial gas pipelines, including a 14-km offshore gas pipeline from the Sanaga South gas field to the CPF, a 14-km offshore glycol injection pipeline between the gas field and the CPF, and a 21-km offshore condensate/process water pipeline from the CPF to the existing KB-4 well from where it will be connected to the existing Ebome storing platform for exports, all financed by Perenco Cameroon; and (v) an 18-km onshore gas pipeline from the CPF to the Kribi power plant at Mpolongwe, financed by SNH.

Figure 6: Schematic map of electricity and gas infrastructure



3. The electricity infrastructure will be built under two separate EPC contracts managed and supervised by KPDC. The gas infrastructure will be developed by a joint venture between SNH and Perenco Cameroon. A map of the electricity and gas infrastructure is shown above in Figure 6.

4. The Project will trigger the development of Cameroon's gas reserves that have so far not been exploited. Gas reserves in the Sanaga South gas field are estimated at 1,154 BCF (equivalent to 32.66 bcm), which are larger than the gas needs of the Project that are contractually limited by GSA 2 to 10 BCF per year (equivalent to 0.283 bcm). SNH intends to establish a gas development hub on the site of Bipaga, which was given to SNH by the responsible line ministry, the Ministry in charge of land titling and compensation issues (MINDAF), in April 2006 and comprises 22 hectares of land. The greater Bibaga site will house all infrastructure related to Cameroon's future gas projects (production facilities for methanol and other petrochemicals, end-point for pipelines to transport condensate/LPG, LNG export pipelines etc.) and, on a small area of up to 3 hectares, the CPF for the Project.

Applicable Operational Policies and Performance Standards and environmental regulatory context in Cameroon

5. The Project falls under environmental category 'A' per the World Bank's policy on Environmental Assessment (OP 4.01) and IFC's Policy on Social and Environmental Sustainability. In line with World Bank safeguard policies and IFC Performance Standards (PS), the World Bank Group has treated the power plant, the transmission line and substation, together called the Project, and all infrastructure required for the proper functioning of the power plant

(the transmission line and substation, the development of the Sanaga South gas field, the construction of the Central Gas Processing Facility, the marine and terrestrial gas pipelines; a glycol injection pipeline, and a condensate/process water pipeline) as associated facilities under OP 4.01 for joint World Bank IFC safeguard analysis. The following World Bank safeguard policies are triggered: Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04), Physical Cultural Resources (OP/BP 4.11), Indigenous Peoples (OP/BP 4.10), and Involuntary Resettlement (OP/BP 4.12). IFC has determined that the social and environment risks involved in this Project should be addressed through adherence to the following Performances Standards: PS1 (Social and Environmental Assessment and Management Systems), PS2 (Labor and Working Conditions), PS3 (Pollution Prevention and Abatement), PS4 (Community Health, Safety and Security), PS5 (Land Acquisition and Involuntary Resettlement), PS6 (Biodiversity Conservation and Sustainable Natural Resource Management), PS7 (Indigenous Peoples), and PS8 (Cultural Heritage). The applicable World Bank Group Environmental, Health and Safety (EHS) Guidelines are General EHS Guidelines, EHS Guidelines for Thermal Power, EHS Guidelines for Electric Power Transmission and Distribution, EHS Guidelines for Onshore Oil and Gas Development, and EHS Guidelines for Offshore Oil and Gas Development.

6. In terms of land acquisition/involuntary resettlement, the wider gas development activities under the gas master plan do not meet the three criteria in OP 4.12 that are required for linking these activities together. The gas development activities are (i) not directly and significantly related to the Bank-assisted Project, (ii) not necessary to achieve its project development objectives, as the future development of the wider gas projects is not required for the economic viability and operation of the Project, and (iii) are not carried out or planned to be carried out, contemporaneously with the Project. On this third requirement, detailed technical feasibility and design studies etc. for the wider gas development activities still have to be conducted before project implementation can start. The greater Bibaga site[51] is thus not considered an associated facility of the Project for purposes of resettlement and environmental management according to World Bank safeguard rules and IFC Performance Standards.

7. The main institution with responsibility for the environment assessment is the Ministry of Environment and Protection of Nature. The environmental law of 1996 and its implementation decrees require that environmental assessments be conducted for all large energy and other infrastructure projects which have to be approved by the Ministry of Environment and Protection of Nature through a Certificate of Conformity. The certificate of environmental conformity for the Project was obtained in 2007 and confirmed in 2010.

8. The project team has engaged in a comprehensive dialogue with the GOC on managing the environmental and social impacts of energy sector projects. The capacity of all governmental agencies responsible for implementing the Cameroonian environmental legislation and supervising the enforcement of environmental management plans is being strengthened by the parallel US$20 million World Bank-financed Cameroon Environmental and Social Capacity Building Project for the Energy Sector (PRECESSE). The Bank is also engaged in a dialogue with the GOC on including the Douala-Edéa nature reserve in the list of protected areas which

[51] The greater Bibaga site has a size of 22 ha of which only 3 ha are required for the location of the CPF. Several field visists of World Bank/IFC safeguard specialists have confirmed that there is no occupany or use of the 3 ha which will be used for the CPF.

are benefiting from World Bank support through its lending. The GOC has initiated the process to classify the reserve, including its marine part, as a National Park.

Table 19: Safeguards documents prepared for the Project and associated facilities

	Project and associated facility components	Financed by whom	Responsibility for implementation of ESMPs, RAPs, and CIPP	Status
Bank-financed facilities				
1.	Gas power plant: 216 MW (project component)	KPDC with loans from IFC and other DFIs and IDA Guarantee for local currency financing	KPDC	EIA disclosed in February 2007 and ESMP disclosed in 2009; updated final ESIA/ESMP disclosed in April 2010. RAP disclosed in February 2008.
2.	Transmission line: 100 km (project component)	During construction: KPDC with loans from IFC and other DFIs and IDA Guarantee for local currency financing; During operation: transferred to AES SONEL (associated facility)	KPDC (during construction), AES SONEL (during operation)	EIA/ESMP disclosed in February 2007 RAP disclosed in February 2008. CIPP disclosed in February 2008.
Associated facilities				
3.	Sanaga Gas Field and marine pipelines: 14-km offshore gas pipeline; 14-km offshore glycol injection pipeline, and 21-km offshore pipeline to transport condensate and process water	Perenco Cameroon	Perenco Cameroon	EIA/ESMP acceptable to Bank disclosed in February 2008. Includes biodiversity and archaeological studies.
4.	Central Gas Processing Facility (CPF)	Perenco Cameroon	Perenco Cameroon	EIA/ESMP acceptable to Bank disclosed in February 2008. No RAP needed.
5.	Gas pipeline from CPF to Kribi Power Plant : 18 km onshore gas pipeline	SNH	SNH	EIA/ESMP acceptable to Bank disclosed in March 2010. RPF acceptable to the Bank disclosed in March 2010.
6.	Regional Environmental Assessment (REA) addressing cumulative impacts	SNH	GOC	REA acceptable to the Bank disclosed in February 2008.

Table 20 : World Bank Safeguard Policies, IFC Performance Standards (PS), and World Bank Group EHS Guidelines of April 2007 triggered and compliance

OP/BP 4.01 (Environmental Assessment), PS 1(Assessment and Management of Social and Environmental Risks and Impacts) and PS 3(Resource Efficiency and Pollution Prevention)	Two EIAs, one for the power plant and one for the transmission line and substations, and a combined ESMP for the power plant, the transmission line, and the substations have been prepared and disclosed. KPDC will be responsible for implementation, which is underway, since about half of the construction of the power plant and transmission line is finished. World Bank and IFC safeguard specialists assessed compliance to be satisfactory. A separate EIA/ESMP was prepared and disclosed for the associated facilities: CPF, the gas wells and the marine and terrestrial gas, glycol, used water and condensate pipelines. Perenco will be responsible for implementation. In order to ensure adequate protection of biodiversity, the Bank has advised Perenco to establish a terrestrial and marine biodiversity baseline against which they can monitor changes. Biodiversity monitoring part has been specifically mentioned in the Perenco ESMP and the accompanying Environmental Policy. The Bank will work with Perenco to ensure that the monitoring will be done according to acceptable standards. In addition, the oil spill response plan for the Ebomé Platform is being adapted to the rights-of-way for the offshore and terrestrial parts of the gas and condensate pipelines. For the 18-km onshore gas pipeline between the CPF and the power plant, an additional EIA/ESMP has been prepared and disclosed. SNH will be responsible for implementation. Construction has not yet started. All the EIAs and ESMPs have been prepared in compliance with World Bank Safeguard Policies and IFC Performance Standards. The ESMPs are also in compliance with the World Bank Group General Environmental, Health and Safety (EHS) Guidelines, the Electric Power Transmission and Distribution EHS Guidelines, and the Offshore and Onshore Oil and Gas Development EHS Guidelines. This project complies with the 1998 Pollution Prevention and Abatement Handbook guidelines for thermal power plants.

OP/BP 4.04 (Natural Habitats) and PS 6 (Biodiversity Conservation and Sustainable Management of Living Natural Resources)	The above mentioned EIAs and ESMPs have assessed impacts and developed mitigation and management measures for the terrestrial and marine biodiversity in the two project areas (power plant area, transmission line and substations area) and in the areas of the associated facilities (CPF and terrestrial and marine pipelines). In addition a Rapid Biodiversity Assessment has been prepared and disclosed for the wider area of the CPF. No critical natural habitat was identified. No endemic or endangered species will be further endangered as a consequence of the project.
OP/BP 4.11 (Physical Cultural Resources) and PS 8 (Cultural Heritage)	For the area of the power plant, a Physical Cultural Resources Assessment has been prepared and disclosed. Archaelological artifacts were found and removed prior to the start of construction by a qualified team. In addition a "chance finds procedure" has been included in the EPC Contracts. KPDC will be responsible for implementation, which is underway.
OP/BP 4.10 (Indigenous Peoples) and PS 7 (Indigenous Peoples)	In the area of influence of the right-of-way for the transmission line, indigenous people communities, Bankola/Kola (pygmies), are living. For this reason a Community and Indigenous Peoples Plan (CIPP) was prepared and disclosed in compliance with World Bank OP/BP 4.10 and PS 7. The CIPP will ensure that indigenous peoples are involved in the project (both in terms of being consulted and benefitting from the project) and any adverse impacts on them will be mitigated. The CIPP is being implemented by KPDC.
OP/BP 4.12 (Involuntary Resettlement) and PS 5 (Land Acquisition and Involuntary Resettlement)	People in the area of the power plant and along the transmission line are affected. A combined RAP in compliance with World Bank OP/BP 4.12 and PS 5 was prepared and disclosed. KPDC will be responsible for implementing this RAP, which is underway. Most people have already been compensated. At the site of the CPF (3 ha), no people were using or living on the land, so no RAP is needed. For the 18-km gas pipeline between the CPF and the power plant, a Resettlement Policy Framework (RPF) was prepared and disclosed. As soon as the final routing has been determined a RAP will be prepared and disclosed in compliance with OP/BP 4.12 and PS 5. Construction can only start when the RAP has been implemented and people have been compensated. It has been estimated that a limited number of people will be affected

	by the pipeline.
PS 2 (Labor and Working Conditions)	The Project will be owned and operated by KPDC which will put into place a Human Resources Policy and management structure to meet the requirements of PS 2. This policy and management structure will be based on those of AES SONEL. IFC has reviewed and found the AES SONEL policy, the "*Convention Collective d'Enterprise AES SONEL*," and programs to be acceptable and consistent with PS 2 requirements.
PS 4 (Community, Health, Safety and Security)	KPDC will adopt good international industry practices including vehicle safety management, to ensure that health and safety risks to the affected communities are minimized and ensure and monitor that the EPC contractor does the same. KPDC will retain security contractors to provide security to safeguard its personnel and property at Kribi site. Training and monitoring and screening of those security contractors will be conducted in accordance with good international industry practices as already established at AES SONEL.

Main environmental and social impacts and mitigation measures

Biophysical impacts, pollution prevention and abatement (OP/BP 4.01, OP/BP 4.04, PS1, 3, and 6):

9. **Power plant site:** The 16-hectare power plant site is located close to the main Edéa-Kribi road. 150 meters of a new access road will be built to access the Mpolongwe site from the main road. Direct land take for the construction of the power plant will be approximately 7.5 hectares and a total area of 16 hectares will be fenced off during plant operation. An independent study for plant site alternatives[52] confirmed the power plant site in Mpolongwe as the best alternative out of five potential sites in the Kribi area, with respect to size, flatness, quality of soil, access roads, availability of fresh water, land use. At the power plant site, the frequent transport of material during the construction period may disturb the normal traffic and increase the noise for nearby residents. To address this issue, measures have been taken to ensure maximum utilization of the route during the evening and non-peak hours. Moreover, special precautions including safety campaigns have been taken during construction in order to prevent road accidents. In addition, well designed precautions have been taken to prevent pollution of community water resources during construction. The contractors have also been required to apply applicable World Bank Group EHS Guidelines.

10. The plant during its operation will produce NO_x and SO_x from the combustion of hydrocarbons. The Stack Height Assessment dated November 2009 concluded that, with a stack height of 32 meters, both World Bank and World Health Organization guidelines requirement for

[52] Power Planning Associates, 2005.

one-hour concentration of nitrogen dioxide (NO_2) would be met, furthermore, the annual mean sulfur dioxide (SO_2), NO_2, and particulate (PM_{10}) emissions would also satisfy World Bank requirements. The plant design will ensure that emission levels are within international standards and in compliance with World Bank EHS Guidelines. The impact with regard to water quality is not considered to be significant. KPDC will ensure that the EPC Contractor disposes of any construction effluents in a responsible manner. The plant design is aiming to avoid the adverse impacts of oil and other substances from plant equipment on water quality. The overall environmental impact at the power plant site has been assessed as low due to the relatively small area of land take, the low conservation status of the area affected and the current level of disturbance within this area. KPDC and the power plant EPC contractor will establish systems to implement the respective ESMP under KPDC's overall control to ensure proper management of impacts. This management plan is based on final Project design specifications and was developed by KPDC prior to starting construction and operation. The plant will employ a maintenance program that consists of preventive, predictive, and planned maintenance. The maintenance program will be managed using specialized software developed by the EPC Contractor. Preventive maintenance plans are established based on standard industry practice coupled with equipment history and overhaul schedules. KPDC has developed, in coordination with the EPC Contractor, the site emergency preparedness and response plans, including typical measures for reciprocating engine gas-fired thermal power plant, and to effectively respond to emergency situations to minimize risks and impacts to the environment and the surrounding communities.

11. **Transmission line:** The route of the 100-km transmission line was chosen to minimize environmental and social impacts. Several alternatives of the route were considered with reference to existing houses, plantations, farmlands, and forest areas. The new transmission line will be constructed within a corridor of 30 meters wide and will follow the existing 90-kV Edéa-Kribi transmission line for approximately 90% of the distance. As the existing and new line also follow the main road Edéa-Kribi, access to the transmission line corridor will only require construction of a few, short access tracks to the high voltage towers. Due to the level of existing disturbance it was concluded that the overall environmental impacts of the transmission line corridor are low. KPDC and the transmission line EPC contractor will establish systems to implement their respective ESMP under KPDC's overall control to ensure proper management of impacts.

12. **Offshore gas infrastructure:** The marine ecosystems affected by Perenco's offshore gas infrastructure are part of the coastal fishery of Cameroon. The main identified risks to marine biodiversity (such as marine turtles) and local marine ecosystem services (especially fishing resources) arise from potential hydrocarbon leaks from the 21-km condensate pipeline. According to international best practice, Perenco Cameroon has prepared management plans to address health, safety, and environmental impacts of offshore gas infrastructure. Perenco Cameroon's ESMP, as well as Perenco's Environmental Policy, includes a requirement to prepare an Emergency Response Plan. The Oil Spill Response Plan for the Ebomé Platform will be adapted to include the rights-of-way for the offshore and terrestrial parts of the gas and condensate pipelines. Significant minimization of the magnitude of the marine impacts for both biodiversity itself and livelihoods is also possible through management of impacts and sensitive timing of construction. Perenco's Environmental Policy includes a requirement to establish a baseline on terrestrial and aquatic biodiversity, including fisheries, and to monitor future changes

against this biodiversity baseline during construction and operation. Perenco Cameroon's ESMP also specifies actions to minimize impacts on marine biodiversity and fisheries. In order to implement these mitigation measures more knowledge will be required (biodiversity surveys) with regard to the presence, reproduction and migratory behavior of protected marine turtles, whales and dolphins. The Bank will work with Perenco Cameroon to make sure that this due diligence with regard to the protection of the marine and terrestrial biodiversity will be undertaken as part of the implementation of the ESMP.

13. **Central Gas Processing Facility:** The environmental, health and safety impacts of the CPF and their management are in included in the EIA/ESMP prepared by Perenco for the Sanaga South Gas Field (see paragraph 12). The CPF will be located on a 3 ha plot which is not being used nor occupied by people, so that no RAP is needed. The main environmental, health and safety impacts during construction are: soil, groundwater and surface water pollution in case of accidental spills, impacts on terrestrial biodiversity, including on mangroves, public health impacts (*i.e.*, HIV/AIDS) as a consequence of the presence of a foreign workforce. Other construction impacts are similar to the impacts of the Kribi power plant and are manageable. The environmental, health and safety impacts during operation are: risk of gas explosion at the CPF, air pollution from gas flaring at the CPF, increase in poaching of wildlife in the area surrounding the CPF. Perenco has prepared management plans to address these environmental, health and safety impacts.

14. **Onshore gas pipeline:** The environmental assessment undertaken for the 18-km onshore gas pipeline between Bipaga 1 and Mpolongwe identified the following main environmental and social impacts: risks of soil erosion, potential pollution of soil and water bodies, noise, and impacts on health and security of local population with a potential need for relocation. Benefits for local commercial activities are expected. Appropriate mitigation measures to reduce those impacts to an acceptable level were specified by SNH in the pipeline ESMP, including the optimization of construction period and technology, awareness raising campaign with local authorities at the beginning of the construction work, and the implementation of appropriate management plans for resettlement/land acquisition and compensation, health, safety and environmental management. The analysis of the different options of the route for the onshore pipeline is ongoing and expected to be finalized soon.

15. **Natural habitats:** The Project EIA states that the plant site and the transmission line corridor are both situated within the disturbed habitats along the corridor of the Edéa-Kribi highway and the existing 90-kV transmission line. The EIA for the Sanaga South gas project, on the other hand, observes that protected species are present among the terrestrial fauna and flora of the project areas, *i.e.*, in the 25 hectares of forest land allocated to develop the CPF (the CPF itself uses 3 ha), and also, that protected marine species (marine turtles, dolphins and whales) may be present in the project area. The additional Rapid Biodiversity Assessment financed by the IFC showed four habitats (near shore pelagic waters, sandy shoreline, coastal humid forest, mangrove lagoon) of the Sanaga South gas field project area harbor IUCN-listed species which inhabit, migrate, and/or breed in these habitats. However, these natural habitats are not deemed to be critical to the widespread survival of these specifies because (i) all the recognized IUCN-listed species are of a relatively or very wide distribution and therefore the magnitude of the

impacts within the project area is comparatively small and could not be said to be of global significance, and (ii) many of those species will probably continue to exist alongside the planned developments if appropriate mitigation measures are put in place. For example, careful forest management can reduce deforestation, and careful hydrocarbon leak mitigation and anti-poaching programs can minimize impacts on marine turtles. Based on this analysis, the habitats are not considered as critical natural habitat under the World Bank Natural Habitat Policy OP 4.04 and IFC's PS6. Careful mitigation measures and environmental management, as proposed in the Sanaga South gas field project EIA, are essential to limit biodiversity impacts, particularly risks concerning hydrocarbon leaks (see paragraph 12 above).

16. The Regional Environmental Assessment (REA), which was done based on the Bank's guidelines for cumulative environmental and socials impact assessments, has been prepared to assess the magnitude of the cumulative development initiatives on the region. The REA concluded that the impact of project activities is limited compared to the regional industrial development plans. Regarding the follow-up on the REA, the Bank is engaged in a dialogue with the GOC on including the Douala-Edéa nature reserve in the list of protected areas which benefit from World Bank support under ongoing Forest and Environment Policy Development Grant (PFSE). The GOC has initiated the process to classify the Douala-Edéa reserve, including its marine part, as a National Park.

Cultural Resources (OP/BP 4.11 and PS8):

17. Archeological sites including a diverse human settlement exist in the surface area of the Mpolongwe gas power plant site. An archeological study (Physical Cultural Resources Assessment) was conducted for the site. Archaeologists were consulted during construction works and a "chance find procedure" has been included in both ESMPs and EPC Contracts. Articrafts were identified and safely removed from the site by an archeological team.

Indigenous Peoples (OP/BP 4.10 and PS7):

18. The Project area affects the livelihood of Indigenous Peoples[53] in particular pygmies in the Bankola and Bantou communities. The Community and Indigenous Peoples Plan (CIPP) was developed to ensure that Indigenous Peoples are involved in the project (both in terms of being consulted about and benefitting from the project) and any adverse impacts on them are mitigated. Key issues in the CIPP include:

- Defining the roles and responsibilities of KPDC staff, government, local authorities, traditional community leadership, civil society and other stakeholders in relation to implementing the CIPP;

[53] There are three main indigenous ethnic groups, formerly known as 'Pygmies' in Cameroon: (i) The Aka (which encompass Mbezele, Bayaka and Babinga groups) that are located along the border of Cameroon with Central African Republic with permanent links with Ubangians and Bantou groups; (ii) The Baka (which encompass Bebayaka, Bibaya, Babinga and Bangombe groups) that are in the Southeast Province and east of South Province of Cameroon. These are mainly linked with the Bantous and Ubangians; (iii) The Kola (which encompass the Gyele, Bagyele, Bagiele, Bajeli, Bogyeli, Bako, Bekoe, Bakola, Babinga) that are located in west of South Province of Cameroon and are linked with the Bassa, Ngumba, Mabea, Batanga and Iyasa.

- Establishing legal recognition of ownership and usage of Bakola Land, developing a strategy for continued interaction, consultation and sustainable livelihoods for the Bakola, and preparing a Livelihood Development Strategy for the Bakola;
- Promoting sustainable social and economic development in the Bakola and Bantu Communities through community mobilization and training, microenterprise and micro credit scheme, and social infrastructure microprojects;
- Providing an overall framework and guidance to KPDC (and other stakeholders) on how best to take a proactive and consistent stance on community development initiatives that are linked to the project; and
- Describing how the CIPP will be monitored, evaluated, and integrated into the social and environmental management system of KPDC.

19. Given that (i) that the Project will follow the road and thus affect the secondary forest next to the road; (ii) there are only thirty households of the Kola group in the Project area; and (iii) that only 78 hectares over a 65-km distance will be affected it is believed that this impact is not very significant and is well localized to ensure mitigation in line with World Bank Safeguard Policies and IFC Performance Standards.

Land acquisition and Involuntary Resettlement (OP/BP 4.12 and PS5):

20. To mitigate the social impacts identified, KPDC has prepared a RAP consistent with national and World Bank Group standards and is in the process of finalization its implementation. The construction of the power plant and transmission line affects 682 people, whereof a majority of 647 people will be compensated for crops. Physical resettlement due to the construction of the power plant and transmission line will be required for 85 households. An independent valuation has been carried out and provided a database that has determined the amount of compensation to be paid either in cash or in kind. The valuation was conducted based on the 'Fair Market Value' process for crop, property, land, and other properties such as houses. The compensation of economically affected people and the resettlement has been carried out before start of construction. The cost for compensation and resettlement of affected people is estimated at US$9 million and is included in the Project budget. Following World Bank Group policy, people have been encouraged to take replacement land (land for land) rather than compensation. For households who have to move as a result of the Project, KPDC offered to build a new house of better quality or larger size within the same community. People may also choose cash compensation at full replacement cost for the loss of their buildings. Out of 85 households to be physically resettled, only 22 accepted in-kind compensation, while the other 63 preferred compensation in cash. KPDC recruited a witness NGO for oversight of RAP execution who has confirmed the regularity of compensation payments. The relocation of the 22 households that have opted for physical resettlement is planned for October 2011. KPDC is facilitating access to new land for project-affected people. Where the transmission line passes through a densely populated area before entering the substation in Edéa, local residents expressed concerns about being able to find new land for crops and housing. KPDC is ensuring access to land in this area. Implementation of the project RAP is ongoing as per Table 21 below.

Table 21: Status of Project RAP implementation

RAP Details	Number of Project Affected People (PAPs)	Number of compensated PAPs to date
Crops – Power Plant Site	22	22
Crops – Transmission Line	625	587
Land – Power Plant Site	0	0
Land – Transmission Line	53	33
Resettlement – Power Plant	8	7 PAPs compensated, 1 PAP to be resettled
Resettlement – Transmission Line	85	62 PAPs compensated, 1 payment outstanding pending clarification, 22 PAPs to be resettled
TOTAL	682	

Source: KPDC

21. A Resettlement Policy Framework (RPF) for the associated 18-km onshore gas pipeline between the CPF at Bibaga and the power plant at Mpolongwe has been prepared and disclosed in country and in the InfoShop on March 8, 2010. An inventory of project-affected people related to the construction of the 18-km onshore gas pipeline between the CPF and Kribi power plant is being finalized. Following the final identification of the onshore gas pipeline routing between the CPF and Kribi power plant, a RAP will be prepared, consulted upon, and disclosed in-country and in the InfoShop. SNH and the Government of Cameroon will finance and manage the compensation and eventual resettlement, which will be carried out before construction of associated infrastructure can start. The Government has confirmed, through a letter dated October 11, 2011, that compensation will be paid in accordance with the Bank's applicable policies.

Labor and Working Conditions (PS 2)

22. The Project will be owned and operated by KPDC which will put into place a Human Resources Policy and management structure to meet the requirements of PS 2. This policy and management structure will be based on those of AES SONEL. IFC has reviewed and found the AES SONEL policy, the "*Convention Collective d'Enterprise AES SONEL*," and programs to be acceptable and consistent with PS 2 requirements. AES SONEL's human resource policy includes non-discrimination and equal opportunity provisions. Workers at AES SONEL are represented by a union, and collective bargaining is evident. The same approach toward freedom of organization and collective bargaining will be applied to KPDC.

23. KPDC will put in place the same international good practice health and safety policies and programs, and employee training programs, as are currently used by AES SONEL. These policies and programs are monitored, evaluated and managed by AES SONEL. AES SONEL's experience rate with lost time accidents (in which at least one day of work was lost) per 100,000 hours worked is 0.23. This figure is below the average, 0.93, for all industries in, for example, the United Kingdom according to the Safety Health Environment Intra Industry Benchmarking Association. While AES SONEL is seeking constant improvement in health and safety standards, the current accident rate is comparable to incidents at sites in industrialized countries. KPDC will

need to manage and monitor the performance of contractors and sub-contractors on the construction site for the Project.

Community Health, Safety and Security (PS 4)

24. KPDC will adopt good international industry practices including vehicle safety management, to ensure that health and safety risks to the affected communities are minimized and ensure and monitor that the EPC contractor does the same. KPDC will retain security contractors to provide security to safeguard its personnel and property at Kribi site. Necessary training and monitoring and screening of those security contractors will be conducted in accordance with good international industry practices as already established at AES SONEL.

Preparation and disclosure of safeguard studies

25. EIAs have been finalized and disclosed in-country and in the InfoShop for all associated facilities of the Project in accordance with OP 4.01. The EIAs have been undertaken to both Cameroonian legislation and internationally recognized guidance and standards adopted by the World Bank and IFC. In addition, the REA was conducted to gauge the cumulative impact of existing projects and projects under development in the Kribi region. The REA has been publicly discussed in the Kribi area on February 14, 2008. The above-mentioned studies have received the certificate of conformity by the Ministry of Environment and Protection of Nature and have been disclosed in the World Bank InfoShop and in-country on February 25, 2008. The above-mentioned EIA has been updated in-country and in the World Bank InfoShop on April 9, 2010, to consolidate the original EIA (2006), additional technical information and the final ESMP (2009) into one document. A supplementary EIA for the 18-km onshore gas pipeline between the CPF site and the power plant site has been finalized and an acceptable draft final report has been published in-country and in the World Bank InfoShop on March 8, 2010.

26. KPDC developed a detailed ESMP for the power plant and transmission line in February 2009 building on the various EIAs, studies as well as the subsequent environmental and social reporting. The ESMP includes all aspects of mitigation, environmental and social management, health and safety, monitoring, and institutional measures that will be undertaken by KPDC to ensure conformity with best practice international standards, World Bank Safeguard Policies and World Bank Group EHS Guidelines, and IFC's performance standards. The ESMP ensures guidance and advice on environmental and social policies, register of environmental and social impacts, environmental and social standard and quality objectives, risk mitigation, implementation, monitoring and evaluation, environmental management requirements, data handling, audits and reviews. The ESMP update has been disclosed in-country and in the World Bank InfoShop on April 8, 2010.

27. The REA has been prepared to assess the magnitude of the cumulative environmental and social impact of development initiatives on the region.

28. A Rapid Biodiversity Assessment for the Sanaga Gas Project area was carried out in January 2008 and was disclosed in country and in the InfoShop on February 10, 2008.

29. An archeological study was conducted for the power plant site and disclosed in the World Bank InfoShop and in country on February 25, 2008.

30. The CIPP has been disclosed in the World Bank InfoShop and in-country on February 25, 2008.

31. The RAP for the Project was prepared and has been disclosed in the World Bank InfoShop and in-country on February 25, 2008. An RPF for the 18-km onshore gas pipeline between the CPF site and the power plant site has been prepared and disclosed in-country and in the InfoShop on March 8, 2010. A RAP will be prepared, consulted upon, disclosed and implemented before any construction can start as soon as the final right-of-way for the pipeline has been determined. An approximate inventory has been made of the people affected and having assets in the wider corridor of this 18-km gas pipeline. This inventory will be the basis for the finalized RAP as soon as the final right-of-way of the onshore gas pipeline has been established.

32. IFC disclosed its Environmental and Social Review Summary (ESRS) on April 2, 2010. An ESRS had previously been disclosed for the Kribi Project along with the Dibamba HFO power plant in Feburary 2008. The Dibamba project was subsequently disclosed separately and a new ESRS released based on the material change in the Project from 185 MW to 216 MW.

Public consultations (PS 1) and supervision

33. All the actions included in the management program (EIAs/ESMPs, RAPs, and CIPP) have been disclosed to the affected communities. Consultations were carried out through a series of focus groups.

34. A summary of the RAPs in French and English has been made available to local communities, and KPDC has been carrying out further consultations on the contents of the RAP and CIPP to clarify impacts, the project implementation process, entitlements, and community benefits. The RAPs will go through an independent and post implementation audit to ensure that residual concerns/grievances are appropriately handled.

35. Consultation for the EIAs has also also been undertaken in accordance with the requirements of the Decree of Cameroon 2005/0577, which requires:

- The determination of the acceptability of the EIA, which involves consultation and public hearings and which will also include meetings undertaken during the studies.
- The proponent to provide thirty days notification prior to the first consultation meeting.
- Minutes of meetings to be included in the EIA report.
- After confirmation of acceptability of the EIA report, public consultation to be undertaken. Following thirty days, a report of the findings is presented to the Minister.

36. The preparation of the EIAs has involved identification of stakeholders through formal and informal public meetings, document review, household surveys and unscheduled informal discussions. Public consultation meetings were conducted with the twenty-five affected villages. Subsequent formal public meetings have been held to update stakeholders on the Project plans. These have been conducted primarily in French with translation into other local languages where necessary. The following parties were consulted:

- Government Agencies, including the Kribi and Edéa Divisional Officers, ARSEL and the Ministry of Environment and Protection of Nature; and
- The affected villages in the Project area, namely Bebambwe 1 and 2, Londji, Bipaga, Ebea, Pama, Bivouba, Mbebe, Elogbatindi, Bonguen, Dehane, Appouh Koukoue, Malimba Farm, Ekite Pilote, Malimba Urbain, Ekite 1 village, Ekite 3 village, Londji Health Centre staff, and Mpolongwe 1.

37. Key issues raised during village consultations included:

- requests for electricity and potable water supply;
- assurance that consultation would be carried properly, with written explanation about the Project;
- clarification on resettlement and compensation;
- land and security of tenure cultural protections for indigenous peoples;
- requests to receive relevant training opportunities to enable PAPs to compete for Project jobs; and,
- lack of access to health care and, in particular, concern about the effects of possible radiation from the transmission lines on human health.

38. IFC participated in several consultations conducted by KPDC, met with communities directly, and reviewed the minutes of other consultations. IFC has determined that the consultations were carried out based on free, prior and informed consultation, leading to broad community support for the Project. KPDC is committed to ensure a timely and transparent consultation process going forward. KPDC is also committed to involve local people in the Project as much as possible. All required technological and safety checks will be carried out and monitored. Water and electricity provision are outside of the scope of the Project and would be addressed through national programs, such as the Rural Electrification Fund established in 2009.

39. Grievances involving project-affected people and KPDC will be addressed through a designated KPDC contact point to ensure that the grievance will be addressed within a fourteen-day period. If not, the EIA and RAP Coordination Unit of KPDC will take responsibility for the grievance and ensure that is resolved within fourteen days. People will still be able to take grievances to court if they are not satisfied with KPDC's grievance process. The RAP establishes a monitoring and evaluation framework for ensuring that the RAP activities are carried out as agreed.

40. Consultation will be ongoing throughout the Project and in line with both Cameroonian legislation and World Bank Group Safeguard Policies and Performance Standards. Regarding the broader issue of addressing the Project's potential environmental risks and impacts in its area of influence, *i.e.*, all ancillary aspects of the Project in accordance with OP 4.01, the team has engaged in a comprehensive dialogue with the GOC on managing the environmental and social impacts of energy sector projects.

41. The World Bank acknowledges that the geographic reach of the associated facilities of the Project is wider than the Bank's immediate area of influence, since the proposed IDA Guarantee is limited to the financing of the Kribi power plant, substation, and transmission line.

The Bank will use its existing dialogue with the GOC on environmental issues as platform to monitor compliance with the World Bank Safeguard Policies. In particular, the ongoing PRECESSE is providing TA to responsible line ministries to ensure adequate supervision of safeguards aspects of the Project and other large-scale energy projects. The contractual arrangements allowing for monitoring compliance with World Bank Safeguard Policies and IFC Performance Standards are detailed in Table 20.

42. IDA and IFC will supervise the Project through field-based staff in Cameroon and through at least two supervision missions per year. Supervision teams will include environmental and social safeguard specialists and technical and financial experts. KPDC is required to provide IDA and IFC with an Annual Monitoring Report (AMR) outlining environmental and social performance data. As this is a category A project, the data in this AMR will be verified by an independent consultant.

Annex 12: Project Preparation and Supervision

CAMEROON: Kribi Gas Power Project

	Planned	Actual
PCN review	12/10/2007	12/10/2007
Initial PID to PIC	02/25/2008	02/25/2008
Initial ISDS to PIC	02/25/2008	02/25/2008
Appraisal	04/20/2010	09/27/2011
Negotiations		
Board Approval	06/24/2010	11/10/2011
Latest date of effectiveness		
Planned date of mid-term review	06/24/2012	
Planned closing date	12/31/2015	

Key institutions responsible for preparation of the Project:

- Ministry of Energy and Water (MINEE)
- Kribi Power Development Company (KPDC)
- AES SONEL
- Electricity Sector Regulation Agency (ARSEL)

IDA staff and consultants who worked on the Project included:

Name	Title	Unit
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IFC staff who worked on the Project includes:

Name	Title	Unit
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Seynabou Ba	Environmental Specialist	CESI2
Omar Chaudry	Principal Economist	CNGSF
Eusoph Deriza Kanyeda	Insurance Officer	CBRIS

Bank funds expended to date on Project preparation:

1. Bank resources: US$402,903
2. Trust funds: 0
3. Total: US$402,903

Estimated Approval and Supervision costs: US$40,000

Remaining costs to approval: US$10,000

Estimated annual supervision cost: US$30,000

IFC funds expended to date on Project preparation:

1. Bank resources:
2. Trust funds:
3. Total:

Annex 13: Documents in the Project File

CAMEROON: Kribi Gas Power Project

Laws, regulations and contracts

- Power Plant EPC Contract, December 2009
- T-Line and substation EPC Contract, January 2010
- GSA 1 between Perenco and SNH, February 2008
- GSA 2 between SNH and KPDC, January 2008
- Amendment GSA 1, July 2009
- Amendment GSA 2, March 2009
- PPA between KPDC and AES SONEL, June 2011
- Technical Service Agreement between AES and KPDC, June 2011
- Connection Installation Agreement between AES SONEL and KPDC, June 2011
- IPP Licenses for generation and sales
- Gas price audit report for gas delivered to Kribi Power Plant, ARSEL, 2008
- Government Commitment Agreement among the Republic of Cameroon, Kribi Power Development Company, AES SONEL and AES Kribi Holdings BV, June 2011
- Multi Party Arbitration Agreement among KPDC, AES SONEL, the Republic of Cameroon, SNH and Perenco, December 2009
- Declaration of public interest for power plant construction, MINDAF 2005
- Declaration of public interest for T-Line construction, MINDAF 2005
- Land title

Technical

- SNH/Shell, Cameroon Gas Master Plan, 2003
- SNH, A technical and economic assessment of the Sanaga South gas field offshore, Cameroon, October 2005
- AES SONEL, KRIBI POWER PROJECT 150 MW Gas Plant & 225 kV Transmission Line, Environmental and Social Impact Assessment Report – Addendum Relating to Gas Reciprocating Engines, prepared by Scott Wilson, October 2007 ("Kribi Addendum EIA")

Safeguard-related

- AES SONEL, Kribi Power Project 150MW Gas Plant & 225 kV Transmission Line, Environmental and Social Impact Assessment Report, prepared by Scott Wilson, October 2006 ("Kribi EIA"), update January 2010
- AES SONEL, Kribi Power Project 150MW Gas Plant & 225 kV Transmission Line Cameroon, Community and Indigenous Peoples Plan, prepared by Scott Wilson, December 2007 ("CIPP")
- AES SONEL, Kribi Resettlement Action Plan, Report, prepared by Scott Wilson, December 2007 ("RAP")

- AES SONEL and IRD (Institut de recherche pour le developpement), Archaeological Potential Evaluation Report for the future Kribi (Mpolongwe) gas fired power plant site, prepared by OSLISLY Richard (IRD Yaounde) avec la collaboration de Kinyock Pierre et Nlend Pascal, November 2007 ("archeological study").
- Perenco Cameroon, Projet de Developpement du Gaz du Champ Sanaga, Rapport d'Etude d'Impact Environnemental, Septembre 2006
- SNH and Royal Haskoning, Regional Environmental Assessment (REA) of the Kribi region, February 2008
- Rapid Biodiversity Assessment, 2008
- Certificate of environmental conformity for Kribi Project, Ministere de l'Environnement et de la Protection de la Nature, 2007 (and confirmed in 2010)
- SNH and Royal Haskoning, Environmental Impact Assessment (EIA) of the gas pipeline between the CPF site and the power plant site, March 2010
- SNH and Royal Haskoning, Framework RAP of the gas pipeline between the CPF site and the power plant site, March 2010
- ESMP, Scott Wilson, February 2009

Economic and Financial

- Kribi financial model, April 2010
- AES SONEL, Etude économique du projet de central thermique au gaz de Kribi, Reactualisation July 2008
- AES SONEL, Etude économique du projet de central thermique au gaz de Kribi, October 2007

Annex 14: Statement of Loans and Credits

CAMEROON: Kribi Gas Power Project

Project ID	Project Name	Last PSR Supervision Rating: Development Objectives	Last PSR Supervision Rating: Implementation Progress	FY	Original Amount in US$ Millions: IBRD	IDA	GRANT	Cancel.	Undisb.	Expected and Actual Disbursements[a/]: Orig.	Frm Rev'd
P112975	CM - Competitive Value Ch	S	S	2010		30			27.09	2.83	
P073020	CM GEF Forest & Env DPL	MS	MS	2006			10		6.2		
P112635	CM-Agricultural Competitiv	MS	S	2009		60			57.21	16.42	
P113027	CM-Com Dev Prog Sup AP	S	S	2009		40			25.54	4.09	
P075964	CM-Edu Dev CB (FY05)	MS	MS	2005		18.2			11.07	10.18	4.46
P104456	CM-Energy Sector Develop	MS	MU	2008		65			57.47	32.74	
P109588	CM-Env. Capacity Energy S	MS	MS	2008		20			14.82	8.52	
P070656	CM-Forestry & Env DPL (F	U	U	2006		25			16.53	14.95	
P089289	CM-GEF Sst AgroPastor &	MS	S	2006			6		1.57	1.57	
P104525	CM-Health Sector Supp. S'	MU	MU	2008		25			22.22	9.54	2.01
P117102	CM-Sanitation APL	#	#	2011		30			29.92	0.5	
P084160	CM-Transp & Account CB (	U	U	2008		15			13.36	8.39	
P084002	CM-Urban and Water D. SI	S	MS	2007		108.7			82.66	45.37	

STATEMENT OF IFC's Held and Disbursed Portfolio
(Millions of US Dollars)

FY Approval	Company	Committed: Loan	Committed: Equity	Committed: **Quasi Equity	Committed: *GT/ RM	Committed: Participant	Disbursed Outstanding: Loan	Disbursed Outstanding: Equity	Disbursed Outstanding: **Quasi Equity	Disbursed Outstanding: *GT/ RM	Disbursed Outstanding: Participant
2006	Aef 3t cameroun	0.54	0	0	0	0	0.54	0	0	0	0
2005/10	Aef nosa iii	2.14	0	0	0	0	0.55	0	0	0	0
2006	Aes sonel	93.84	0	0	0	0	93.84	0	0	0	0
2007/09	Cmf	1.09	0.9	0	0	0	1.09	0.9	0	0	0
2000	Cotco	9.64	0	0	0	9.64	9.64	0	0	0	9.64
2010	Dibamba	31.72	0	0	0	0	31.72	0	0	0	0
0	Eb-accion cmr	0	0.85	0	0	0	0	0.46	0	0	0
2010	Ecobank cameroon	4.34	0	0	0	0	4.34	0	0	0	0
2008	Fme-gaz	1.76	0	0	0	0	1.76	0	0	0	0
Total Portfolio:		**145.07**	**1.75**	**0**	**0**	**9.64**	**143.48**	**1.36**	**0**	**0**	**9.64**

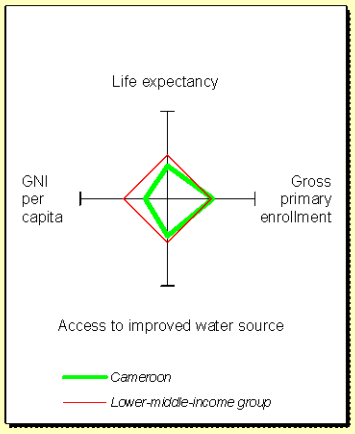
Annex 15: Country at a Glance

CAMEROON: Kribi Gas Power Project

Cameroon at a glance

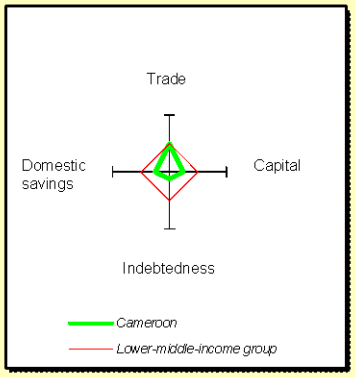
2/25/11

POVERTY and SOCIAL	Cameroon	Sub-Saharan Africa	Lower-middle-income
2009			
Population, mid-year *(millions)*	19.5	840	3,811
GNI per capita *(Atlas method, US$)*	1,190	1,126	2,316
GNI *(Atlas method, US$ billions)*	23.2	946	8,825
Average annual growth, 2003-09			
Population *(%)*	2.3	2.5	1.2
Labor force *(%)*	2.8	2.9	1.5
Most recent estimate (latest year available, 2003-09)			
Poverty *(% of population below national poverty line)*	40	..	..
Urban population *(% of total population)*	58	37	41
Life expectancy at birth *(years)*	51	52	68
Infant mortality *(per 1,000 live births)*	95	81	43
Child malnutrition *(% of children under 5)*	17	25	25
Access to an improved water source *(% of population)*	74	60	87
Literacy *(% of population age 15+)*	76	62	80
Gross primary enrollment *(% of school-age population)*	111	100	107
Male	119	105	109
Female	102	95	105

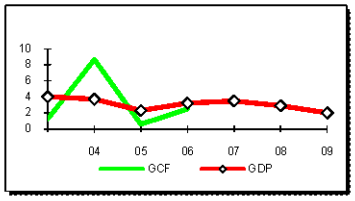


KEY ECONOMIC RATIOS and LONG-TERM TRENDS	1989	1999	2008	2009
GDP *(US$ billions)*	11.1	10.5	23.7	22.2
Gross capital formation/GDP	17.1	14.9	..	..
Exports of goods and services/GDP	20.7	21.5	32.5	26.6
Gross domestic savings/GDP	20.0	19.2	..	..
Gross national savings/GDP	18.8	15.9	..	..
Current account balance/GDP	1.8	-3.6	-1.8	-2.7
Interest payments/GDP	1.8	2.5	0.5	0.3
Total debt/GDP	48.2	100.7	11.6	13.3
Total debt service/exports	17.2	24.3	6.6	5.6
Present value of debt/GDP	..	..	..	3.5
Present value of debt/exports	..	..	..	10.9

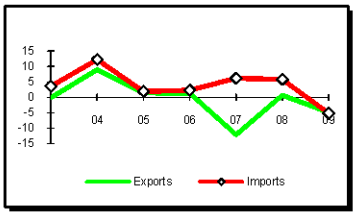
	1989-99	1999-09	2008	2009	2009-13
(average annual growth)					
GDP	0.5	3.4	2.9	2.0	2.7
GDP per capita	-2.1	1.1	0.6	-0.3	..
Exports of goods and services	1.4	-0.5	0.7	-4.8	1.5



STRUCTURE of the ECONOMY	1989	1999	2008	2009
(% of GDP)				
Agriculture	26.1	24.4	..	..
Industry	29.7	32.1	..	..
Manufacturing	14.4	21.0	..	..
Services	44.2	43.6	..	..
Household final consumption expenditure	69.2	71.3	..	..
General gov't final consumption expenditure	10.8	9.5	..	..
Imports of goods and services	17.8	17.2	35.5	30.9



	1989-99	1999-09	2008	2009
(average annual growth)				
Agriculture	4.6	3.6	..	..
Industry	-2.8	0.5	..	..
Manufacturing	-0.3	7.0	..	..
Services	-0.7	6.0	..	..
Household final consumption expenditure	2.0	4.8	..	..
General gov't final consumption expenditure	-0.1	3.2	..	..
Gross capital formation	-1.0	4.9	..	..
Imports of goods and services	3.5	4.4	5.8	-5.2



Note: 2009 data are preliminary estimates.

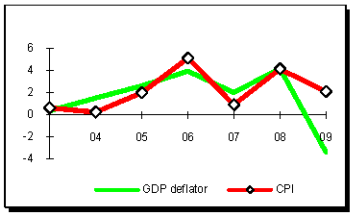
This table was produced from the Development Economics LDB database.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

Cameroon

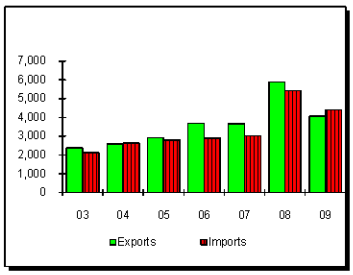
PRICES and GOVERNMENT FINANCE

	1989	1999	2008	2009
Domestic prices				
(% change)				
Consumer prices	-1.7	2.9	4.1	2.1
Implicit GDP deflator	-1.8	1.9	4.2	-3.4
Government finance				
(% of GDP, includes current grants)				
Current revenue	16.0	11.5	20.8	18.4
Current budget balance	0.4	2.5	7.7	4.2
Overall surplus/deficit	-4.5	-5.1	2.3	-0.1



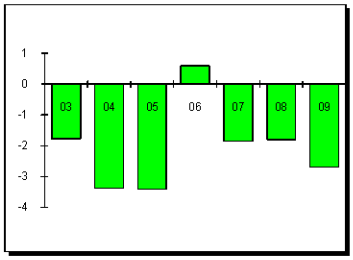
TRADE

	1989	1999	2008	2009
(US$ millions)				
Total exports (fob)	1,837	1,682	5,891	4,080
Oil and refined oil	746	529	..	..
Cocoa beans, butter, cake	207	157	..	..
Manufactures	300	399	..	..
Total imports (cif)	1,352	1,484	5,431	4,406
Food	155	169	..	..
Fuel and energy	10	12	..	..
Capital goods	424	407	..	..
Export price index *(2000=100)*	52	91	..	..
Import price index *(2000=100)*	50	99	..	..
Terms of trade *(2000=100)*	105	92	..	..



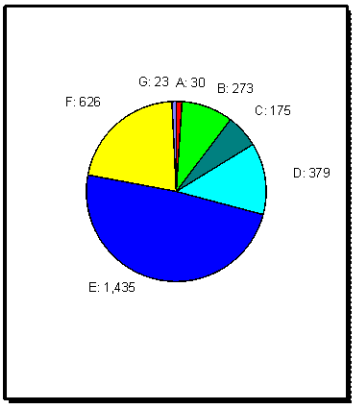
BALANCE of PAYMENTS

	1989	1999	2008	2009
(US$ millions)				
Exports of goods and services	2,307	2,241	7,718	5,896
Imports of goods and services	1,980	2,268	8,435	6,856
Resource balance	327	-27	-717	-960
Net income	-218	-468	-328	-127
Net current transfers	85	117	..	..
Current account balance	195	-378	-424	-597
Financing items (net)	-64	381	757	909
Changes in net reserves	-131	-4	-333	-311
Memo:				
Reserves including gold *(US$ millions)*	..	4	3,991	4,590
Conversion rate *(DEC, local/US$)*	315.4	588.4	447.8	472.1



EXTERNAL DEBT and RESOURCE FLOWS

	1989	1999	2008	2009
(US$ millions)				
Total debt outstanding and disbursed	5,365	10,562	2,756	2,941
IBRD	572	276	35	30
IDA	239	749	225	273
Total debt service	406	548	478	395
IBRD	80	91	7	7
IDA	4	11	2	3
Composition of net resource flows				
Official grants	226	190	872	382
Official creditors	312	36	26	16
Private creditors	241	-52	-106	-12
Foreign direct investment (net inflows)	-86	-15	-60	340
Portfolio equity (net inflows)	0	-10	-1	0
World Bank program				
Commitments	340	13	125	100
Disbursements	109	67	29	48
Principal repayments	37	71	6	7
Net flows	71	-4	23	41
Interest payments	46	32	3	3
Net transfers	25	-36	20	37



Note: This table was produced from the Development Economics LDB database. 2/25/11

IBRD 37349R

CAMEROON
GENERATION ASSETS

- HYDRO POWER PLANTS
- HYDRO STORAGE DAMS
- HYDRO STORAGE DAMS (PLANNED)
- THERMAL POWER STATIONS:
  - < 6MW
  - 6MW—50MW
  - >50MW
- THERMAL POWER STATION (PLANNED)
- TRANSMISSION NETWORK
- MAIN CITIES, TOWNS
- PROVINCE CAPITALS
- NATIONAL CAPITAL
- RIVERS
- INTERNATIONAL BOUNDARIES

LAGDO	72 MW 4.5 bn m3	
MBAKAOU	2.2 bn m3	
MAPÉ	3.6 bn m3	
BAMENDJIN	1.8 bn m3	
TOTAL	7.7 bn m3	
ÉDÉA	265 MW	
SONG LOULOU	384 MW	
TOTAL - HYDRO	**721 MW**	**71%**
THERMAL GRID:		
HFO	210 MW	21%
DIESEL	66 MW	6%
ISOLATED	24 MW	2%
TOTAL - GENERATION	**1,011 MW**	**100%**

Oyomabang	32 MW
Bassa	18 MW
Logbaba	31 MW
Bafoussam	14 MW
Limbe	85 MW
Dibamba	88 MW
Kribi (planned)	216 MW

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OCTOBER 2011