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APPRAISAL STAGE

Report No.: AB6777

Project Name	Cameroon - Kribi Gas Power Project
Region	AFRICA
Sector	Power (80%); General energy sector (20%)
Project ID	P110177
Borrower(s)	Government of Cameroon Kribi Power Development Company
Guarantor	Government of Cameroon
Project Sponsors	AES Corporation (United States) and Government of Cameroon
Environment Category	[X] A [ ] B [ ] C [ ] FI [ ] TBD (to be determined)
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Country and Sector Background

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.

The 2009 economic crisis illustrated the economy's ongoing vulnerability to exogenous shocks. Under a Poverty Reduction and Growth Facility 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. 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%.

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 value-added tax 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, Société Nationale de Raffinage (SONARA), amounting to 1.2% of GDP.

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.

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 framework.

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 and has published two reports for the periods 2001-2004 and 2005, respectively, while not yet having achieved validation.

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%.

Governance challenges are a key impediment to economic growth. Cameroon ranks 161 out of 183 in the 2012 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 2012 by simplifying procedures for starting a business and getting credit. 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 reform action plan following a review conducted through a Public Expenditure Financial Accountability report in 2008. Implementation of the action plan has started, with donors' support, including the World Bank.

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]

[1] Calderon, Serven (2008).

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.

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, Agence de Régulation du Secteur de l'Electricité (ARSEL), and a rural electrification agency, Agence d'Electrification Rurale (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 megawatts (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.

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[2] 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

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

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.

The GOC has initiated a second phase of reform of the sector framework aimed at attracting additional private operators and developing Cameroon's hydropower resources. With the objective to initiate the unbundling of the sector to encourage the entry of new operators and to facilitate investment in the development of Cameroon's hydropower resources, the GOC in April 2011 submitted a new Electricity Law to Parliament, which was passed by Parliament but not promulgated. The World Bank is working with the GOC to improve the reform package. A revised version of the 2011 Electricity Law is expected to be submitted to Parliament for a second reading in November 2011. The new law proposes a number of changes to existing institutional arrangements in the sector. It seeks to establish a new publicly owned national grid company as a further step to unbundle the power sector to enable greater competition within the market. A transition period is included in the new law to manage the required changes in the concession of AES SONEL in an orderly manner. Regarding industrial power 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 to ensure that the full potential of Cameroon's hydropower resources is realized for the benefit of all consumers.

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[3] 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 expansion of the aluminum smelter owned by the Aluminum Company of Cameroon, Compagnie Camerounaise de l'Aluminum (Alucam[4]), 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

[3] 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.
[4] 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.

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.

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,[5] 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)[6]—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[7] and the on-shore gas pipeline will be built by the National Hydrocarbons Company, Societé Nationale des Hydrocarbures (SNH).

Over the medium term, the development of Cameroon's significant hydropower resources, starting with the Lom Pangar Hydropower Project (LPHP) will add low-cost power supply to the system and satisfy demand from industrial and household consumers. Cameroon's hydropower potential is estimated at over 12,000 MW of which less than 1,000 MW are currently developed through the existing Edea and Song Loulou hydropower plants. Cameroon's main river basin, the Sanaga river, has an estimated hydropower potential of 6,000 MW alone. The LPHP, a regulating dam with a power house at the foot of the dam, will allow for the optimal seasonal management of the water flow of the Sanaga river, thereby increasing the guaranteed average water flow on the Sanaga. This will unlock access to incremental hydropower potential of the Sanaga of over 5,000 MW. Following the LPHP, a cascade of low-cost hydropower projects can be built along the Sanaga. 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.

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 Energy Sector Development Project 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

[5] 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.
[6] KPDC is 56% owned by The AES Corporation, 44% by the Government of Cameroon.
[7] A subsidiary of Group Perenco S.A. (France).

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.

Objectives

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 Kribi Gas Power Project, including local currency finance.

Rationale for Bank Involvement

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).

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.

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 technical assistance 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.

Description

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.

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.

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.

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)).

Financing

Source:		($m. equivalent)
The AES Corporation		48
Government of Cameroon		38
IFC		86
Other DFI debt		95
Local Loan (guaranteed by IDA)		82
	Total	350

Implementation

Partnership arrangements

The Project is a PPP between the KPDC, the GOC, and multilateral and bilateral Development Financial Institutions (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.

Institutional and implementation arrangements

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.

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.

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.

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.

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.

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.

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.

Sustainability

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.

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.

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.

Proven reserves in the Sanaga South gas field exceed the amount required for the Project.[8] 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.

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

[8] 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).

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%.

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,[9] 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 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.

Lessons Learned from Past Operations in the Country/Sector

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:

(a) **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 SNH, 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.

(b) **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

[9] 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.

statutory mandates and increase planning capacity, transparency and governance in the sector. The ESDP is providing technical assistance 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.

(c) **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.

(d) **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.

(e) **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.

(f) **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 a Local Loan Purchase Agreement feature to allow local lenders to extend the Local Loan by another seven years, bringing the total maturity up to fourteen years, in line with financing requirements for infrastructure projects.

(g) **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.

Safeguard Policies (including public consultation)

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

List of Factual Technical Documents

Laws and regulations

- Gas price audit report for gas delivered to Kribi Power Plant, ARSEL, 2008
- 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")

* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

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- 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
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- 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
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- ESMP, Scott Wilson, February 2009

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- 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

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