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ELECTRICITY IN CAMEROON: WHAT IS THE WAY FORWARD?



Edith NDJENG OSSONO

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The AES Corporation announced that the Company has signed agreements to sell electric generation and distribution businesses in Cameroon to Actis, a global market investor. AES-Sonel, Kribi Power Development Corporation (KPDC) and Dibamba Power Development Corporation (DPDC) are therefore given up by the AES Corporation.

Actis will pay \$ 220 million, including \$ 180 million for the completion of the operation. Prior to this, the former National Electricity Company (Sonel) was privatized in 2001 in favor of the American AES. After the complicated first years of activity, AES finally invested in new production capacity by constructing the above-mentioned independent power plants. The decision made by the Arlington group to sell AES electricity production and distribution assets in Cameroon is justified by the desire to make more readable the group's strategy and to streamline its international expansion (Jeune Afrique 2013).

AES National Electricity Corporation (AES-Sonel) was created July 18, 2001 after the concession of Sonel. Its mission is providing the largest number of Cameroonian reliable and clean energy, not only through the upgrade of existing electrical installations but mainly through the addition of new electrical connections (AES & MINEE 2013). The transaction is expected to be closed by the first quarter of 2014. AES-Sonel received the Edison Electric Institute's (EEI) 2013 International Edison Award for its program to renew and expand Cameroon's electricity infrastructure. The International Edison Award is the electric power industry's most prestigious honor (AES 2013). The award was earned at a price: AES' investments enabled an upsurge in the number of Cameroonian families with access to electricity. AES also constructed two independent power plants (IPP) to provide thermal generation to supplement Sonel's hydroelectric generation: Dibamba, a 86 MW heavy fuel oil-fired plant which was Cameroon's first IPP, and Kribi, a 216 MW gas-fired plant that was put into service in May 2013.

Nearly twelve years after the privatization of the former National Electricity Company of Cameroon (Sonel), bought by Americans AES Sirocco, the U.S. Company claims to have invested more than 400 billion CFA francs and is satisfied by the achievements in Cameroon. However, despite such investments, consumers face an average service, with outages that may extend over several days in some areas, while businesses and households are paying a heavy price, according to a study of the GICAM (*Groupement Interpatronal du Cameroun*).

The buyer of AES-SONEL shares, Actis, a United Kingdom-based private equity fund that is familiar with energy infrastructure, since the company has invested over \$ 1.5 billion in generation and distribution of electricity in emerging markets. Actis is, for instance, the main capital investor in Azito, the greatest power station of Côte d'Ivoire; the company owns other assets in Kenya and Tanzania (Jeune Afrique 2013).



CAMEROON HAS A GREAT POTENTIAL

Cameroon has significant resources to the development of hydropower. Its economically exploitable hydropower potential is estimated at 20,000 MW, mainly available in the Sanaga Basin (MINEPAT nd), the country could produce much more energy if these resources were appropriately exploited. The development of hydropower takes place through major projects of dams and hydropower plants, some of which are already identified in the Development Plan of the Electricity Sector: reservoir dam at Lom Pangar; Nachtigal, Song-Ndong, Song-Mbengue, Kikot and other plants on the Sanaga basin, the development of the Memve'ele power station in the Ntem Basin, the hydroelectric development of the Bini to strengthen the capacity of Northern hydroelectric Network, etc...



Electricity demand is expected to continue growing rapidly, this is partly driven by rapid electrification with an advance of 750,000 connections by 2021. The Government's plan to add 5,000 MW of generation capacity by 2020 was made on national and regional Basis, in response to the demand. Ongoing power infrastructure development plan include expansion of the transmission and distribution network across the country. In addition to the Lom-Pangar Dam project with potential to increase to 10 000 MW by 2018, power infrastructure development in Cameroon include a 930 MW hydropower project which Rio Tinto Alcan plans to build as part of the new aluminium smelter and the Kribi deep-sea port, a 200 MW hydro project which will be developed by a China-based entity (Sinohydro), a 232 MW gas fired thermal plant to be developed by a South Korea's Hyundai Engineering & Construction company as well as two other plants

with total capacity of 161 MW (KPMG nd: 26). These projects indicate a critical need for increased electricity generation in the country.

In addition to the escalating demand for electricity, another reason for concern is the very type of the company that is taking-over from AES-Sonel. A private equity fund seeks profit by all means. This diverges from the social purpose that is assigned to a state-owned electricity company, which as a rule provides electricity for all, even in remote places that are not cost-effective. The economist Eugene Nyambal during a granted interview on the topic rightly fears a price adjustment favoring a short-term financial logic, rather than a long-term investment plan to revive the economy. "The acquisition of the SONEL by an investment fund [ACTIS] would be the worst option for Cameroon" he says. The IMF argues: "By nature, the objective of investment funds is to maximize the compensation funds provided by investors to whom he promised a minimum level of profitability in consideration of capital raised". According to this economist, this would be a move of the utmost gravity for Cameroon considering the inconvenience posed by the private sector ownership in Europe and Great Britain, where the provision of public services (water, electricity) through public partnerships create a backlash against public opinion.

THE WAY FORWARD

Despite the advance observed in public-private partnerships in the energy sector in Cameroon, it is important to consider other solutions that have proven to improve electricity supply, to better face an increasing demand. We therefore recommend the following:

- IMPLEMENTATION OF THE REGIONAL POWER POOL'S MISSION

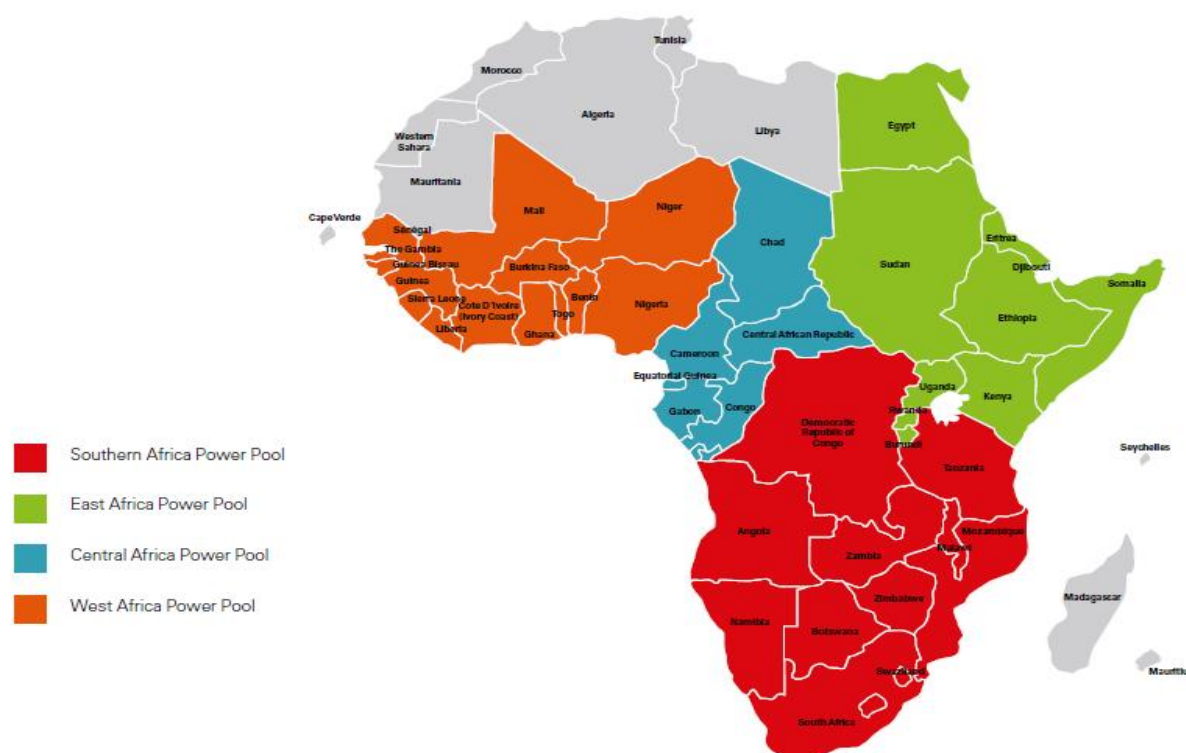
The Central African Power Pool (CAPP) was created in 2003 and mandated in 2004 as a Specialised Institution of the Economic Community of Central African States (ECCAS) with goal to execute ECCAS' energy policy. Economy of scale, increased system reliability, security of supply, and diversification of power generation mix are some features expected from a regional pool (ICA 2011). African regional power pools, including CAPP, are illustrated on figure 1.



The CAPP seeks to secure energy supply within the ECCAS and achieve socio-economic development of Central Africa through a regional electricity market. An Electricity Market Code aims at implementing a regulatory framework for promoting and securing power investments and regional trade. The Code was adopted in October 2009 by head of States and Government Conference held in Kinshasa. It was later published in November 2010 by ECCAS gazette (ICA 2011).

Figure 1: Sub-Saharan African Power Pools

Sub-Saharan African Power Pools



Source: KPMG nd: 8

However, according to KPMG (nd: 22), CAPP is the smallest of the four Sub-Saharan African power pools, with the lowest electrification rate of 16%. The strategy of the CAPP is to exploit the Central African Countries enormous hydro power potential estimated at more than 59 GW (more than half of the total Africa potential). The interconnection infrastructure to distribute such large amounts of electricity needs to be developed in parallel to the building of the generation infrastructure. The current capacity of the CAPP is about 4 815 MW.

- **PROMOTION OF INDEPENDENT ELECTRICITY PRODUCTION**

Law N ° 2011/022 of 14 December 2011 governing the electricity sector in its Article 29 provides that the following fall under the regime of a license:

- Independent power production;
- Sale of very high, medium and high voltage electricity;
- Import and export of electricity.

Article 30 then provides that the Regulatory Agency of Electricity Sector (ARSEL) receives and processes applications for licenses relating to the activities referred to in Article 29 and transmits them to administrative authorities.

Article 31 states later that the independent power producers are responsible for the production and sale of electricity to distributors or key accounts, in accordance with both Articles 29 and 34 of the Act. Article 34 states that licenses to sell electricity of very high, medium and high voltage, as well as independent production, and import & export of electricity, are only granted to operators that are technically qualified and that provide proof of sufficient financial guarantees for these activities. Independent Producers have proved to make a significant contribution to energy production and distribution in many countries such as Ivory Coast and Kenya, as they greatly alleviate the electricity deficit.





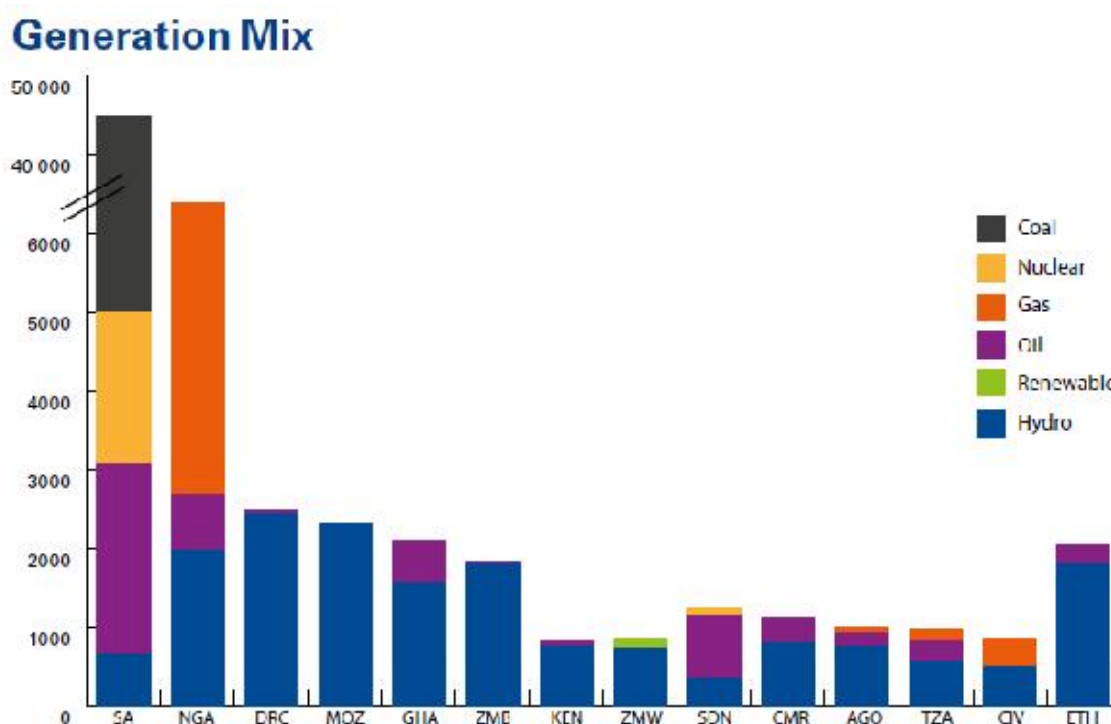
• PROMOTION OF RENEWABLE ENERGY SOURCES

The law governing the electricity sector in Cameroon in Articles 63 to 65 states the following: “Renewable energy contributes to meeting the energy needs of consumers. They contribute to the protection of the environment and security of supply. The following are considered as renewable energies:

- Solar thermal and photovoltaic;
- Wind power;
- Exploitable Hydropower streams with power exceeding 5MW;
- Biomass energy;
- Geothermal energy;
- Energies of marine origin.

Although they are prescribed by the regulations in force, renewable energies are almost inexistent in Cameroon as seen in Figure 2.

Figure 2: Generation mix across Sub-Saharan countries



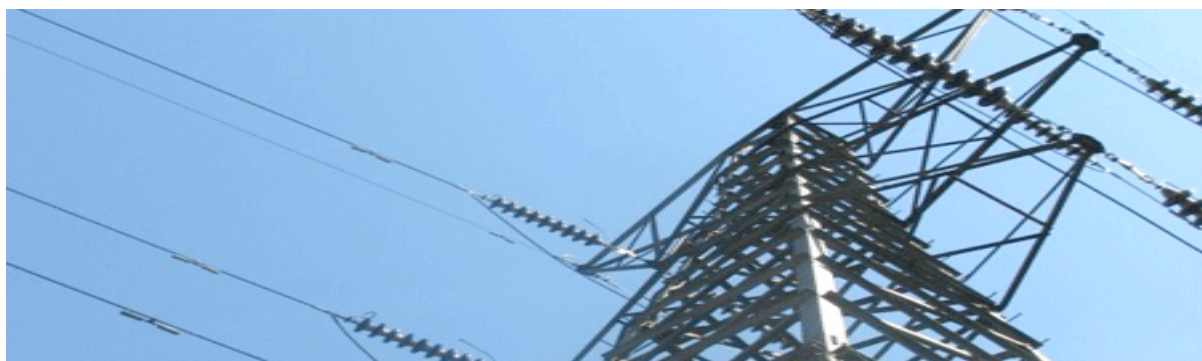
Source: KPMG nd: 10

The State must ensure the promotion and development of renewable energy (RE), as well as provide the conditions, procedures and mechanisms for research and development, local production of materials and project financing.

Sub-Saharan Africa has about 83 gigawatts (GW) of electric generating capacity, of which 22 GW are issued from renewable sources. Hydropower represent 98% of the total, alongside wind power (120 megawatts (MW), geothermal (210 MW) and solar (10 MW, mostly off-grid). While most public works are generally focused on traditional means of electricity generation (thermal, large hydraulic projects mainly) and some authorities may be reluctant towards intermittent energy utilities, private developers have an important role to play in the promotion of renewable energy projects in sub-Saharan Africa. The speed of implementation of these projects and their economic competitiveness with fossil fuels now make them highly attractive, especially in the short run (PROPARCO 2013).

Renewables are often perceived as too expensive, mainly due to high investment costs. However, they are already competitive in isolated network, reaching in many cases parity with the average cost of electricity production. This is the case for energy storage such as hydro and geothermal, but also for intermittent energy sources like wind and solar. According To PROPARCO (2013: 26) the RE is characterized by a specific structure of the capital costs: development costs (especially related to resource assessment) and investment are important, while operating costs are very low. The profitability of these projects is thereby delayed. The evaluation of economic interest compared to fossil fuels must be over a long period (15-20 years) and using appropriate criteria such as the average cost of production per kWh updated for hydroelectric or geothermal projects;

According to the Electricity Sector Regulation Agency (ARSEL nd:1-2), Cameroon has significant considerable hydroelectric resources, renewable energies and small hydrocarbons. Apart from oil, Cameroon has natural gas reserves currently estimated at about 186 billion m³. Additionally, Cameroon has the second hydroelectric potential in Sub-Saharan Africa (19.7 GW fair technical potential for energy production of 115 TWh / year). Regarding solar energy, Cameroon has an abundant and available potential, especially in the country's northern part. But its operation remains low. The average insolation in the northern part of the country is 5.8 kWh/m² / day and in the southern part 4 kWh/m²/day. Thus, an average insolation of 4.9 kWh/m²/day is observed in the entire country. According to recent studies, the wind potential of Cameroon is significant and economically exploitable, mainly in the regions of western Cameroon and Adamawa.



- **INCREASE THE ENERGY PRODUCTION AND DEVELOP A REGIONAL ELECTRICITY MARKET**

By implementing the energy maintenance rehabilitation and capacity-building programmes of the country, Cameroon aims to finally put an end to the structural deficit; supplement energy needs to achieve the expected growth results, become an electricity exporter, and thus contribute to the country's trade balance (GESp 2009: 17). The development of an electricity market where Cameroon is a net exporter would significantly contribute to the Country's as well as all stakeholders' economic growth.

- **DEVELOP THE FINANCIAL MARKET**

The current state of affairs in the Cameroonian energy sector should be an eye-opener for the country to develop the Financial Stock Market: The Douala Stock Exchange is still at the embryonic stage, yet a private British equity Fund acquires 56% of the AES-Sonel shares and therefore controls the production, transport and distribution of electricity in Cameroon. The authorities should encourage private investors (especially Cameroonians) to invest in the energy sector through the Douala Stock Exchange. Electricity issues affect everyone and nowadays the average Cameroonian understands the need to invest in energy for the future. Such initiatives are likely to boost both the energy and financial markets, and hence improve economic growth in Cameroon.

In brief, it is important to promote private investments in the electricity sector, in order for the population to benefit from a competitive service through innovation and efficient management of the available resources. However, the Government must have a say to ensure that the entire country is electrified, that norms are abided by, and that the service is properly maintained. Another aspect of the importance of the State is the effect on prices, as private firms (especially in a monopolistic position) might want to take advantage of vital sectors such as energy and set prices that too high for the average population.

Cameroon would therefore gain much from exploiting additional resources for electricity supply, and promoting a market-oriented energy policy while the Government sustains a social policy in order to efficiently address the growing demand for electricity.



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