Ghana's Electricity Policy Since 1920:

The Plans, the Promises and the Election Cycle

Background

According to Genesis 1:3…And God said, "Let there be light," and there was light. God saw that the light was good, and he separated the light from the darkness. The first attempt to make this vision a reality in Ghana was in 1920. The first attempt to also develop a modern legal framework for the energy industry in Ghana was in 1920 when the Electricity Supply Ordinance was passed (Botchway, 2000). Indeed electricity is the convertible currency of modern development. Access to reliable electricity facilitates the establishment of industries, small and medium scale enterprises, knowledge sharing and acquisition and agriculture productivity. In order to take advantage of the importance of electricity, Ghana launched a Strategy Paper (2012-2016) that sought to support two strategic pillars: Improving productivity in Ghanaian enterprises and, supporting economic and structural reforms aimed at improving the business environment. Further, the Shared Growth and Development Agenda seeks to fast-track the rate of development, energy access and industrialisation. The Achaemenes of these goals depend on access to reliable supply and quality electricity by industry, commercial and domestic users. This means that effective (reliability of supply) and efficient distribution (reduction of losses) are pre-requisite for Ghana's development.

However, Ghana has experienced 5 Major Loading Shedding Eras since 1983: That is1983, 1997, 2003, 2007 and 2010 till 2016 when the country experienced generation crises. These crises were broadly attributed to the following:

(1) Insufficient investment in new infrastructure (Adom et al., 2012)

(2) The failure of hydropower plants to supply adequate power due to perennial drought;

(3) Spontaneous outages at the Vridi thermal plant in Cote d'Ivoire where Ghana imported an average amount of 674.8GWh of electricity from 2000 to 2010 (Energy Commission, 2010);

Electricity supply challenges requiring huge investments;

(ii) Inadequate access to energy services;

(iii) High cost of fuel for electricity generation;

(iv) Inadequate regulatory capacity and enforcement;

(v) Operational and management difficulties in utility companies;

(vi) Vulnerability to climate change and environmental impacts and;

(vii) Inefficiency in the production, transportation and use of energy

The challenges have been attributed to both internal (management) and external factors (government interference, lack of investment). The question is, how has politics contributed to the problems or the solutions in the power sector?

ăAbundant and cheap power, which would, in turn, make possible modernization through industrialization of the Ghanaian society.

This brought about the establishment Volta River Authority (VRA) in 1961 for the generation and transmission of power. Four hydroelectric generating units with total capacity 588MW, including 15 percent overload capacity, were installed in 1965 at Akosombo.

3. Ministry of Fuel and Power in the 1967 - 1970's

The enactment of the Electricity Corporation Decree, 1967 (NLCD 125) and the repeal of the Electricity Act, established the Electricity Corporation of Ghana (ECG). Two additional units with a capacity of 324MW, including 15 percent overload capacity, were commissioned in 1972 to bring the total installed capacity of hydropower to 912MW.

In 1981, a second hydroelectric plant was installed at Kpong and this added 160MW to the installed capacity. Both plants are capable of providing long-term firm energy of approximately 4,800 GWh/year. On the long-term average, however, the potential energy available from the two plants is estimated to be 6,100 GWh/year.

During the national energy crisis in 1982-1983 induced by a major regional drought, the National Energy Board (NEB) was created in 1983 to plan for the comprehensive development and utilization of energy resources.

4. Rural Electrification Programme (1972)

The Rural Electrification Programme (1972) was an ambitious programme, which for the rural population. No better data is available to assess the success of the programme.

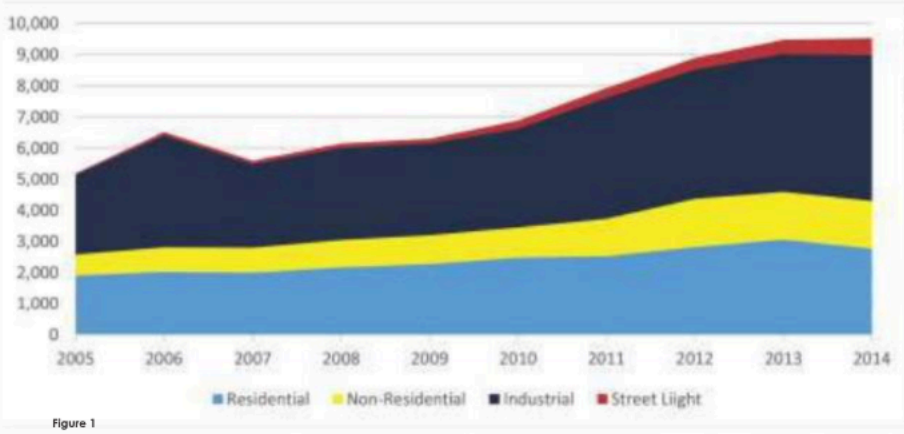

Figure 1

According to figure 1, over the past ten years (2005 to 2014), Industrial consumption grew by 7% annually, Non-Residential 9.5%, Residential 4.23% and Street light, 30.3% annually. This calls for investments in generation, transmission and distribution.

5. National Electrification Scheme (1989)

Under the National Electrification Scheme (NES) introduced in 1989, the Government of Ghana committed the country to increase electricity access to all communities with a population above 500 by the year 2020. The NES was planned to proceed in six-five year phases over the period 1990 - 2020. The electrification of the several thousand un-electrified villages in the country has been assumed to be by grid extension, with community participation in the Self-Help Electrification Program (SHEP).

Challenges envisaged within this programme include: low density of potential consumers of rural areas; low-income levels in rural communities; significant

low-voltage lines, transformers, and service drops. Encouraged by the achievements of the ERP in 1989- 1990 government committed itself to increase access to electricity for all parts of the country over a 30-year period in a programme known as the National Electrification Scheme (NES).In order to extend electricity to the northern regions of Ghana, where there was no grid electricity, the legislation that established the Volta River Authority (VRA) and the Electricity Corporation of Ghana (ECG) were amended to put the VRA directly in charge of the Northern Electrification Programme (NEP). In 1987 the VRA created the Northern Electricity Department (NED) and took over the additional responsibility for extending electricity to the northern regions of Ghana. In 1990, the VRA rehabilitated and re-commissioned the Tema Diesel Generating Station which has a capacity of providing supplementary generation of 30MW thereby raising the total capacity of electrical power to about 1,102MW.

6. Ghana Energy Development and Access Project (GEDAP).

as far as access to energy services is concerned is the Ghana Energy Development and Access Project (GEDAP).The development objective of GEDAP is to improve the operational efficiency of the power distribution system and increase the population's access to electricity and help the transition of Ghana into a low-carbon economy through the reduction of greenhouse gas emissions. Between 1990 and 2001, electricity consumption grew from 4457GWh to 6033GWh at an average rate of 9.42 percent per annum, excluding the Volta Aluminium Company, VALCO, whose aluminium smelter at Tema consumed around 40% of total electricity supply in the mid-1990s.There was an increase in access to electricity from 28 percent in 1988, 32 percent in 1992, 43.7 percent in 2000 to over 50 percent in 2005. The energy crisis experienced by the sector in the year 2006 spurred the government and VRA to review their long-term electricity policy in terms of the electricity generating mix. Significant investments have been made in thermal plants and system upgrading with the completion of VRA's 126 MW Thermal 1 Project and several independent power