

Energy management in developing countries: The Nigerian example

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ABSTRACT

Nigeria like many other countries of the world are endowed with rich mineral and natural resources. It is disheartening to say that while crude have attracted serious interest and have become the main stay and source of Nigeria's economy many other natural resources are abandoned and not harnessed. In many developed countries of the world, wind, solar, water among a host of others serve as sources of power. While in developing countries of which Nigeria is one electricity is dominant and serve as the main source of energy/power supply as wind, solar, water and others are not

harnessed and in all the major source is so costly. The above form the basis for this study. A variety of data collection techniques like interviews, journals textbooks and the internet were adopted. A handful of theories were x-rayed from which one was adopted for theoretical framework. The work concluded with the scholars making case that Nigeria have all it takes to get better with the array of talents we have who can explore the nature gifts we have which can make us better.

Keywords: Energy, Management, developing, countries and Nigeria.

INTRODUCTION

Energy has been defined by many scholars but the central idea in all is that it is seen as the ability to do work.

In many countries, there is diversified ways of generating energy, this makes energy supply a certainty and encourages competition among the various suppliers. Generating energy is to move forward. Energy management agencies have been recommended or suggested by experts in different countries but it is agonizing that irrespective of the ones set up, not even much have been achieved by energy management agencies like that of Nigeria [1]. The more worrisome aspect is that these agencies have faced various problems in their primary responsibility of generating and managing energy effectively. Though the above is the situation on ground, they always have one flimsy excuse or reason to give for their failure. It is either they will say that the government have not given them the necessary equipment/support that they will require in order to be at their best. They also complain of shortage of personnel in this field which have resulted

in lapses or void that leaves much to be desired.

All these among a host of others have negatively affected the effective management in these countries and nothing much seem to be done in that regard.

The Concept of Power Management in Nigeria

Power management and its supply in Nigeria basically has been poor. According to the reports provided by the electricity generating companies, the average power supply in Nigeria is 3,851 MW. The peak averaged power supply was fixed in January 2017 and was around 4,425 MW. Out of the farthest reaches of Lagos, you may see the real problem of unstable power supply in Nigeria.

The largest cities of the country are provided with majority of the power and energy and there are no significant changes to this situation [2]. What can be changed about this situation for today? Power supply background until the reforms in power sector of Nigeria in 2005, the transmission of the energy into houses was

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the sole problem of the Nigerian federal government since 2005, the whole sector was privatized and now it's the sole responsibility for them. In 2012, Nigeria generated approximately 5,000 MW of power for the population of over 150million people. You may compare this situation with the second largest economy in Africa which is South Africa which produces over 40,000 MW of energy for 62million people. The main problem is provided with private generators that can't reach the full capacity of their potential [3]. The current state of energy production in Nigeria for today, Nigeria provides its energy through the four main sources; coal, hydro, oil and natural gas.

The whole energy sector is dependent on the petroleum which slow down the development of alternative forms of energy.

Sources of Power in Nigeria

- (1) **Coal:** Coal provides around 0.4% of energy output in Nigeria. The country is rich in coal. Therefore, it makes coal a relatively easy energy source as we Nigeria have access to this resources.
- (2) **Oil:** Source govandbusinessjournal.com.ng Nigeria posits that Nigeria has the largest supply of oil in Africa. It is also considered to be the seventh largest oil country in the world. Therefore, oil is made to provide around 24.8% of power supply in Nigeria.
- (3) **Natural gas:** Sourcenan.ng posits that natural gas provides about 39.8% of energy for Nigerians. its now being mined by the great amount of tracking. It seems to be one of the main problems that produce green, house effect for the country.
- (4) **Hydro:** Sourcepost-nigeria.com, has it that hydro is provided to be the most environmentally friendly option for Nigeria. It provides around 35.6% of energy for the country. Nevertheless carbon dioxide and methane are also a part of hydroelectric stations that can't

be hidden. Therefore, it might also be problematic for the environment.

Major challenges facing power/energy supply in Nigeria.

In the 21st Century, it is true to state that when it come to power supply Nigeria is in utter disarray.

Basically the Nigerian energy supply crisis offers to be ongoing, failure of the Nigerian power sector to provide adequate electricity supply to domestic households and industrial. Producers despite a rapidly growing economy, some of the world's largest deposits of coal, oil and gas and the country's status as Africa's largest oil producer [4]. Currently only 40% of Nigeria's population is connected to the energy grid whilst power supply difficulties are experienced around 60% of the time. At best average daily power supply is estimated at four hour through several can go by without any power at all. It is evidenced that inadequate power supply difficulties cripple the agricultural, industrial and mining sectors and impede the Nigeria's ongoing economic development. The energy supply crisis is complex, stems from a variety of issues and has been going for decades. Most Nigerian businesses and households that can afford to do so run one or more diesel - fueled generators to supplement the intermittent supply.

Since 2005, Nigerian power reforms have focused on privatizing the generator and distribution assets and encouraging private investment in the power sector. The government continues to control transmission assets whilst making "modest progress" in creating a regulatory environment attractive to foreign investors, actually, minor increases in average daily power supply have been reported.

Measure which could be Adopted to Improve Power Supply in Nigeria

In a bid to tackle this electricity problem, here are some ways to improve power and utilization in Nigeria.

- (1) **Studying advanced countries:** There are so many countries that have succeeded in having 24hours electricity supply, year in and year

- out. One of such countries is the united states of America. It would go a long way if Nigeria can work with the united states to fix this perennial problem.
- (2) **Public/private collaboration:** One of the present complaints about the electricity distribution companies is their irregular billing which many Nigerians term exorbitant. Nigerians complain that power supply has greatly dropped but monthly electricity bills have skyrocketed. They also lament that meters are never checked and bills are estimated out of the blues.
 - (3) **Renewable energy:** The modern means of power generation is renewable energy. Renewable energy can be defined as power generated through natural agents that are easily replenished
 - (4) **Upgrade of transmission Equipment:** Nigeria is under producing electricity presently. This is not necessarily from non-

availability of power plants. It is as a result of the fact that some of these powers plants do not work.

- (5) **Stop vandalism:** This is one song that has been sung by the federal government over the years. Vandalism is one of the cause of poor power supply in Nigeria. Yet, many people do not realize the havoc they commit by vandalizing pipelines. Stealing petroleum from the vandalized pipelines is equivalent to making production short as the stolen oil cannot be accounted for.
- (6) **Diversification of power source:** It is unrealistic to overburden one source of power supply and expect it to be sufficient for the entire nation. It is high time Nigeria alternated among different types of power sources.
- (7) **Training of workers:** Workers of the electricity companies should be trained from time to time

THEORETICAL FRAMEWORK

The structural functional theory will stand as the theoretical framework of this study. This framework will however be for the analysis of such phenomenon like energy management. The structural functional theory is most appropriate and relevant [5]. According to Emile Durkheim, the performances of ritual supplied so called aboriginal society with the resources it needed to ensure the right balance between the generation of energy on the one hand, Durkheim of course could not have known how apposite this line of thought would be to we humans of the Anthropocene, a term coined to mark that moment in Earth's history when human impact on Eco-systems (notably the extraction of

resources for generating energy) threatens the sustainability of all human resources [6].

Implication of the study.

Energy (power) supply satisfies/meets given human needs. It becomes very necessary at this juncture to study the various uses to which energy could be put. According to Emile Durkheim in his analysis to energy, energy is needed to ensure the right balance.

Durkheim see the human society as being made up of various parts which work together to ensure actualization of basic needs and homeostasis, and energy is an integral part of the human society.

CONCLUSION

It has to be established that energy - power supply is a basic requirement for economic development. Nigeria is called the second poorest power supply country in the world. Still, there is always bright future. The

main idea is to concentrate on the renewable sources of energy which can drastically change the situation and promote better energy output for the country.

RECOMMENDATION

Having concluded this study, we make the following recommendations:

- (1) The private-sector should be adequately involved in order to

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- boost and promote power/energy supply in Nigeria.
- (2) Efforts by federal government at promoting energy supply should be genuine if improvement is to achieved in this sector.

- (3) National energy regulation commissions should be better positioned to achieve energy supply in the country.
- (4) Constant training and retraining of NERC staff is considered necessary

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