

SETTING THE POWER SECTOR AGENDA FOR THE NEW

GOVERNMENT OF NIGERIA, 2023

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The power sector is very critical to every nation's development. Previous governments have promised stable power supply but little or no significant change has occurred. In 1999, when we returned to democracy, the maximum power generated to the national grid was circa 2000MW, in 2023, after 24years, the maximum we had was circa 5000MW. This is quite appalling for a highly populated nation like Nigeria with vast endowment of natural resources like gas, which can be adequately used to power generating stations.

Way Forward

As a new government, what has been obtainable in the past was to set up committees, give new political positions, have several meetings, get different white papers, and finally get confused. Then in the cause of all these, four years are gone.

What I will like to inform this new administration is that all the required paper works have been done, the agencies and bodies for implementation have been setup, with acts enacted by the national assembly, what is now required is the willful power of implementation.

The paper work and documents that need to be analyzed to get the power sector working immediately are:

1. Nigeria Power Sector Roadmap: Policy Perspectives and Prospects. (Research work sponsored by the CBN Institutional Repository)
2. Roadmap for Power Sector Reform by the Presidential Action Committee on Power
3. The Newly Assented Electricity Act 2022
4. Electricity Power Sector Reform Act 2005
5. Nigerian Electricity Supply and Installation Standards Regulation 2015
6. Electricity Roadmap for Nigeria by Siemens for FGN
7. National Energy Efficiency Action Plans (NEEAP) 2015 – 2030

These seven documents contain all that is needed to solve the power situation in the country. Any other committee set up again to look into the power sector problem will always reference these documents, and that will be a duplication of efforts. So, to get the ball rolling; the research work has been done what is now needed is the action plan.

To implement this plan, I do not expect any extraordinary appointments from the power sector except the appointment of the Minister of Power, whom I will suggest should be a practicing Electrical Power Engineer who understands the gimmicks of the power sector, not one whom the

permanent secretaries and contractors within the ministry will bamboozle to sign critical documents without knowing the technical implications. This sector is critical and will require professional hands to handle key positions.

The major reason why it was previously stated that no other committee on power should be appointed is because, we have the following agencies and ministries, and they should be mandated to do their work diligently and deliver results. They are:

1. The Federal Ministry of Power
2. Nigerian Electricity Regulatory Commission (NERC)
3. Rural Electrification Agency (REA) which Renewable has been included
4. Transmission Company of Nigeria (TCN)
5. Nigerian Electricity Management Services Agency (NEMSA)
6. Nigerian Bulk Electricity Trading (NBET) Plc
7. Niger Delta Power Holding Company (NDPHC)
8. FGN Power Company

These are government agencies and ministries that need to be mandated to give results and present a timely report and implementation plan to the presidency. A fortnightly or monthly meetings with all the key stakeholders within the power value chain (NERC, GenCos, TCN, Discos, NBET, Gas Suppliers and the Ministry of Power) is advised to signal the necessity of making a significant positive impact on the power sector and serve as the removal of any envisaged bottlenecks or challenges amongst any of the parties as early as possible.

Should the presidency require any special advisers, especially ones' that will not interfere with the operations of the ministries or agencies, I will recommend the following two individuals who have distinguished themselves during their service to the federal government and made significant improvements within the power sector. They know the power sector in-depth and can advise in the right direction because from their articles, reports, and conference presentations since they left office show that they still have the country's power sector at heart. The two individuals are:

1. Prof. Bart Nnaji – A former Minister of Power
2. Dr. Sam Amadi – A former Chairman of NERC

Suggested Immediate Action Plan

1. Fastrack the implementation of the Siemens power deal which is to increase electricity generation capacity to 25,000MW in the presidential power initiative (PPI) which has led to the set up of the FGN Power Company.

2. The GenCos should upgrade their generating capacity to at least 75% of their installed capacity, any GenCo not able to meet up with this benchmark or surpass it should have their licenses suspended.
3. The TCN currently has three functions: *The Transmission Service Provider, Independent System Operator and Market Operator*. These three functions are quite cumbersome for a single government entity. There has been serious agitation for the TCN to be unbundled, and it is advised that this administration see to its early unbundling and give a clear path of action to the new companies. This will enable the TCN to effectively function as the transmission service provider and ensure the effective stability of the transmission lines across the country, as well as the improvement and creation of more lines.
4. The systems operator's daily report shows that for the 1st and 2nd quarters of 2022, there were over 7000MW of power available from the Gencos but only about 5300MW circa were activated due to the capacity of the transmission line. Therefore, as there is a plan to increase the generating capacity, there should also be a plan to improve and upgrade the transmission line network, because if our 13000MW installed capacity is revived, there might be no efficient transmission lines to evacuate the power, and even if the power is evacuated, it might lead to a national grid collapse, which we experienced over eight (8) times last year.
5. The Niger Delta Power Holding Company (NDPHC) has an installed capacity of over 4000MW, but there has never been a time when 60% of this installed capacity has been generated. The Gencos being operated by the NDPHC should be looked into and mandated to generate at least 75% of their installed capacity. Their constant complaint is the lack of gas supply, as most of their generating stations run on gas, but a lot of debts have been accrued to the gas suppliers, making it difficult for them to get a constant supply. The issue of gas and debt will be covered later in this report.
6. The Nigerian Bulk Electricity Trading Plc (NBET) has been accused severally of debt by the Gencos, making it difficult for them to generate power adequately and maintain their plants. The NBET under the ESPR Act is the bulk trader who buys power generated by the Gencos via a Power Purchase Agreement (PPA) contract and sells it to the Discos via a vesting contract. In 2021, an average of 90% of the invoiced amount was paid to the Gencos from January to May, while from June onwards, the amount paid began to drop, so that even in December, the Gencos received only 68.77%. While from 2022 the Gencos have continued to receive a decline in their payment that even some got about 48.05% leading to NERC enacting a partial PPA in June 2022, which saw the Gencos payment rise to about 78.49%.

The call for NBET to be scrapped would not be a good move at this time as the stress of getting payments from the various Discos by the Gencos which is usually a bottleneck, has been eliminated, giving the Gencos ample time to concentrate on their power generation function.

What is advised is a more robust process of metering input by Gencos, the carrying out of quarterly capacity tests on the generating stations, and more stringent penalties to Discos for non-remittance of their complete invoice to NBET. On the part of the Federal Government, fulfillment of contractual agreements is quite important to give good faith to investors to come and invest in the power sector, hence the need to accurately scrutinize any contractual document before signing. In accordance with the partial PPA, the shortfall from NERC's approved pricing of power should also be paid immediately with the NBET's proposed payment for the month. This will enable the Gencos meet up to their responsibilities and give the moral confidence to the FG to challenge any non-performing Gencos.

7. Most discos are not investing in power infrastructure, and their last-mile revenue collection is neither aggressive nor smart, leading to their inability to meet up with the Minimum Remittance Order (MRO) set out by NERC to be paid to NBET. In 2019, NERC threatened to withdraw the licenses of eight discos for accumulating a total of N30.1-billion naira energy invoice debt. In 2022, after the takeover of some discos by Fidelity and Afrexim bank, NBET stated that the discos were still owing a combined debt of N485.7-billion naira. If these discos cannot meet up with the privatization agreement, it is suggested that their licenses, which have a ten-year renewal duration, be terminated by the refusal to effect their renewal which is meant to be renewed this year.
8. The Meter Asset Provider (MAP) and the National Mass Metering Programme (NMMP) are two government policy programs to help bridge the gap in metering customers within the country, as a large percentage of citizens are on estimated billing, making them pay for power not consumed. Through this program, in 2021 there were significant increase in the number of houses being metered, although the numbers have reduced over the years due to the non-monitoring of the given contract and the massive corruption within the program. This new government should ensure that discos are mandated through NERC to ensure that all customers are metered. It is suggested that the National Mass Metering Programme (NMMP) should continue as it has given room to so many indigenous firms to go into meter manufacturing thereby bridging the gap of unemployment in the country and making the meters readily available. What should be done is to ensure stringent monitoring of the program. It is also recommended that an investigation be carried out on the companies given

licenses for the NMMP, because the program failed in some states serviced by some discos, whom it was alleged used a sister company that was just registered for the purpose of the NMMP without having the capacity, thereby jeopardizing the efforts of the federal government.

9. The Multi Year Tariff Order (MYTO) is a tariff model for incentive-based regulation that seeks to reward performance above certain benchmarks, reduce technical and non-technical losses, and lead to cost recovery and improved performance standards from all industry operators within the NESI. To ensure the effective use of the MYTO, all the above functions need to be implemented, but what has been seen in the past years is just the cost recovery by increasing tariff, hence leading to the criticism by so many professionals especially on the disco level, due to the fact that most discos are not improving on their supply networks and infrastructure but only want to collect increased tariff to aid their return on investment.

Despite these assertions, I will like to advise that the MYTO be left as the current cost of electricity in the country is cheap compared to other alternative sources of power, and since the prices within the sector are regulated so that a cost reflective tariff is set at all times to enable the value chain to continue to be in business, especially in an economy that is being affected by inflation.

Gas Supply

Almost 90% of our power generation is dependent on gas supply; the hydropower plant only accounts for about 10%. Hence, gas is quite paramount to the constant electricity generation within the country. Unfortunately, financial liquidity has crippled the ability of Gencos to fund gas pricing, hence the numerous outstanding gas invoice arrears. Report shows that gas producers have been cautious about investing in gas infrastructure because of the low gas prices and the lack of assurance and guarantee of payment from Gencos.

For this power-gas value chain, I will like to make the following analysis:

1. Nigeria being the world's 13th largest oil producer and with about 203 trillion cubic feet of available gas and owning about the 7th largest gas reserves in the world (Src. thisdaylive.com) hence, gas availability obviously is not the country's problem.
2. The major issue is the fundamental regulatory framework and institutional misalignment between the domestic gas supply industry and the electric power market as well as policy inconsistency which has led to the lack of cooperation among the key stakeholders within the gas-power value chain. There is also a non-alignment of the gas transportation code with

existing contracts for power generation, thus creating inconsistencies in the contractual framework for gas to power transactions.

3. Due to the lack of implementation of these legal frameworks, most gas producers do not comply with the Domestic Gas Supply Obligations (DGSOs); instead, they opt for the exportation of the natural gas, which has preferable contract terms and appropriate level of regulatory certainty and guaranteed reasonable return on investment.

Therefore, to ensure that these gas power discrepancies are resolved or reduced to the barest minimum, a meeting backed by action needs to be held between the new FEC, Gas Producers, Association of Power Generation Companies (APGC) in Nigeria, TCN, Discos, NBET, NERC and other members of the gas-power value chain on the urgent need to revamp the power sector.

Also, there must be a clear legal, regulatory, and policy framework and appropriate value chain pricing, which some have been taken care of in the Petroleum Industry Act (PIA). Note that this legal framework or any necessary agreement must be properly looked into by the power professionals and legal luminaries because the situation of Calabar power and Azura power is still fresh on our minds. I would advise that the agreement of Azura power in Edo State called the Partial Risk Guarantee (PRG) in which the Federal Government signed a Put-Call Option Agreement (PCOA) requiring the country to pay Azura Power Company the sum of \$33million monthly even though the country take power from it or not, or a get-out clause of \$1.2billion is outrageous. The Federal House of Representatives tried to look into the matter, but it was difficult to modify because the World Bank was a guarantor of the agreement. It will be noted that the then Attorney General of the Federation (AGF) Mohammed Adoke advised President Goodluck Ebele Jonathan against some clauses on the PRG, which he listened to despite the then minister of power, Chinedu Nebo's agitation for him to sign, but President Goodluck refused to sign, although when President Mohammadu Buhari came into power on May 29th 2015, the acting AGF Abudullahi Ahmed Yola hurriedly advised the Presidency to sign the document, and on August 21st 2015, barely three months into their administration, the PRG was signed, putting the country into this massive financial quagmire.

4. A careful look at the Gas Sale and Aggregation Agreement (GSAA) shows that it is an agreement that stipulates the contractual framework, rights, obligations, and risk allocation for gas supply to the Genco, and it is usually between the Genco, the Gas Supplier and the Gas Aggregation Company. This agreement must be reviewed so as to avoid the incident

between Calabar Genco and Accugas Ltd., which forced the federal government to keep paying about \$10million monthly with or without gas supply to the plant.

Also, another cogent fact is that of gas flaring, a stringent penalty that should be increased to levels higher than marketing alternatives should be put in place so that companies can make efforts to commercialize gas, thereby making more gas available to the power sector and also helping to improve the environment.

5. It is observed that most ministries, departments, and agencies (MDA's) of both the state and federal governments are indebted to various discos to the tune of trillions of naira, which is not reflected in the Aggregate Technical Commercial and Collection (ATC&C) losses, hence affecting the amount remitted to NBET, which affects the amount the Gencos will receive and finally affect the amount given to the gas suppliers, which is usually very low compared to their given invoice.

The New Electricity Law

The administration of President Mohammed Buhari saw to the assent to law of the Electricity Bill 2022, in which the major takeoff was to give powers to states to generate, transmit, and distribute power in areas covered by the national grid. This surely will give room for healthy competition amongst the state to see how power supply can be adequately provided to her citizens. This report wishes to recommend that the necessary support required of any state willing to take the giant stride be given so as to encourage other states to do the same, which in no time will lead to the reduction of stress on the national grid. Mini and small generating, distributing, and transmitting companies that will be formed across states should also be encouraged and given the necessary assistance so that we can get as many as possible venturing into the business, and the licensing procedure should not be filled with so much bottleneck that would scare viable investors from coming to invest in the sector.

The report also wishes to advise the states within the southern region or any state having access to gas to focus on generating power via gas generators or steam turbines, while states in the northern region or states without access to gas can focus on hydropower or other alternative power sources such as renewables.

It will be recalled that on March 2, 2023, the President commissioned a 50MW gas power plant in Maiduguri, Borno State, which was built and to be operated by the NNPC Limited, and since Maiduguri has no available natural gas pipeline, it was stated that the plant will be supplied gas via a **virtual pipeline**. Note, Mr. President, that virtual pipeline is just a technical term for the common gas truck that supplies gas to sites, which is not sustainable as there could be vehicular

breakdowns along the way, human factors and the rest of them. Therefore, in no distant time, that 50MW plant might become redundant due to a lack of gas supply.

So, it is advised that power plants should be sited in locations where there will be easy access to the required fuel.

Renewable Energy

There is a global clamour for a shift to renewable energy and other forms of clean energy; this is a good idea considering the researched effect of fossil fuels on the ozone layer. However, this report tends to advise the incoming government to focus on research grants to academicians so as to come up with a feasible and practicable solution on how the use of our naturally given resources (oil and gas) can be treated to reduce or eliminate its effect on global warming. This research idea can be extended to other OPEC countries, and in no distant time positive results will be attained, which will go a long way to helping the world and our country which entirely depends on these natural resources for foreign exchange.

The outgoing administration has done a lot on renewable energy, most especially in solar. On March 24, 2023 the Vice President performed the ground-breaking ceremony of the NASENI solar cell production plant in Nasarawa State. It is advised that this new government see to its completion, for this will surely revolutionize the solar industry as the key components to solar energy production are the panels and the batteries.

Fortunately, the Nigeria Geological and Survey Agency (NGSA) through the Ministry of Mines and Steel Development has confirmed the discovery of lithium, which is a highly reactive metal that is used for making energy-dense rechargeable lithium-ion batteries in various states in the country such as Kogi, Nasarawa, Kwara, Plateau, Oyo, Ekiti and Cross River. This has been attracting so many foreign investors to Nigeria. We therefore advise that the Federal Government should be very stringent with the mining licensing terms; all licensed companies must explore and manufacture lithium-ion batteries in the country and should not be allowed to take the raw ore out of the country. This will help create jobs and improve the economic viability of the country as the entire world is in dire need of durable lithium-ion batteries, and it will also make the battery cheaper and more accessible to Nigerians hence, enhancing the renewable energy drive in the country. It is also advised that incentives in terms of a reduction in licensing costs and/or access to soft loans be given to local manufacturers or explorers of this lithium ore to enable the country to have so many indigenous players in the industry, leading to the faster development of the sector.

Training

A country that tends to grow in any sector of the economy must invest in the training and re-training of its citizens who are interested in such a sector. The power sector needs competent and professional power engineers, and if we must get it right in the future, we should start now by training the younger engineers on the various sectors of the power network. The National Power Training Institute of Nigeria (NAPTIN), established in 2009, is quite important to the power sector; serious attention should be given to that institute to ensure quality training is being received by all students who attend. The power departments of various agencies, ministries, and departments, as well as the core and technical staff of Gencos, TCN, and Discos should be sponsored for training at this institute. Also, from time to time, the government can sponsor interested individuals to the institute so that we will continue to have competent hands within the sector.

Conclusion

It has been reported that the country needs over 100,000MW of power generation for full industrialization, but all through the administration of President Mohammadu Buhari, we have only gotten a total generated power maximum of between 5400 and 5800MW, out of the total 13,000MW installed capacity, meaning that a lot of work needs to be done to revive the power sector. Technological development needs to be taken seriously as all sections of the power system: Generation, Transmission and Distribution need to be operated and monitored with modern-day technology such as an improved SCADA system, Integrated Power Management System (IPMS), and many others.

It is believed that with the resilience and tenacity of the incoming administration, the country shall move forward and exceed the projected total power generation of 25000MW by Siemens–FG PPI.

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