Regulating the Power Sector in Nigeria: Opportunities, Challenges and Prospects

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I thank the Institute of Chartered Secretaries and Administrators of Nigeria (ICSAN) for the honour of being asked to deliver its annual lecture. I am delighted to be offered this distinguished platform. I will like to share my ideas about what is happening to the Nigerian power sector and our hopes for a better state of electricity in the near future.

1. **The Journey to the Reform:**

Nigeria has made a major transition from a vertically integrated publicly owned electricity network to a largely privately owned unbundled electricity network. This is a significant transition. It means that unlike 10 years ago when we had only the Nigeria Electric Power Authority (NEPA) being responsible for generating, transmitting and distributing electricity and also responsible for regulating itself, we now have different companies generating, transmitting and distributing electricity in Nigeria and an independent commission responsible for regulating the sector. The separation of the different segments of electricity business is what is called unbundling and was inspired worldwide by the examples of Margaret Thatcher in Great Britain in the late 80s and early 90s. This has become a fad across the world.

Another component of the transformation in the sector is that before November 2013, the 10 successor companies that send power to the grid and the 11 companies that sell power to consumers were all owned by the government. Today, these companies are privately owned and the transmission company is now under the management of the private sector. The liberalization and privatization of electricity sector in Nigeria marks the end of a phase in the reform of the power sector but it also marks the beginning of another phase. It ends the phase of structural transformation of the sector and marks the beginning of the phase of cultural and technical transformation. I want to say that this stage is the more important and challenging one.

This transition started in earnest in 2001 when the National Council on Privatization (NCP) issued the Nigeria Electric Power Policy (NEPP). The policy argued that the collapse of the electricity sector in Nigeria would only be cured with the liberalization of the sector so as to create a competitive and efficient electricity market that is characterized by the existence of an independent regulator, and utilities that are committed to cost efficiency and cost recovery. The NEPP is premised on ensuring sustainable improvement in electricity supply through enhanced commerciality. The objective is to create a new electricity industry that is based on rules that are enforced by an independent regulator. The regulator will be mandated to ensure that 'efficient operators recover prudent costs'. This cost recovery is hinged on efficiency.

The NEPP was encoded in legislation through the Electric Power Sector Reform Act 2005. With the EPSR Act, Nigerian power sector reform achieved institutionalization. The standard text in policy reform is that until the reform is codified in an Act of Parliament, the gains of the reform remain reversible. In the Nigerian experience, the institutionalization of proposals of the NEPP in an Act of Parliament secured the reform from the turbulence of politics. During the tenure of President Yar'adua when privatization was briefly stalled, the government could not completely reverse the power sector reform because it was fully established in an Act. For this reason, although the former commissioners of the Nigerian Electricity Regulatory Commission (NERC) were arbitrarily suspended, the commission continued to exist until revitalized by President Jonathan in December 2010.

2. **Some success stories since the creation of the EPSR Act, 2005:**

Since 2005 we have achieved so much in the power sector. NERC has licensed more than 20,000 megawatts of power that could potentially come to the grid in a few years. These licensees have failed to make real progress in executing their projects because up until 2012 the fundamental pieces of the reform were not in place. Independent power producers in the new Nigerian electricity market could not secure financing because of the lack of creditworthiness of the Nigerian electricity market. The creation of the Nigerian Bulk Electricity Trading Company (NBET) solved a major problem with bankability of electricity projects. Until the creation of NBET, project developers failed to convince investors and financial advisors to lend them money for project development. The simple reason for the refusal was that the Nigerian electricity industry was bankrupt with huge debts arising from unpaid services and very poor tariff collection. Therefore, it was very risky to lend to a Nigerian independent producer. Besides, until NERC unlocked the tariff policy from bureaucratic control, no substantial investment could come to the Nigerian power sector.

The obvious truth is that the reform in the power sector has produced many results and opportunities. First, it has opened the sector to more investment outside the country. One of the crises that the reform seeks to cure is the lack of sustainable investment in the sector which resulted in the collapse of the sector in the late 1980s. The crisis became most manifest with unavailability of electricity for most businesses. This led to massive de-industrialization. For more than two decades there was little no investment in increasing and reinforcing electricity networks in Nigeria. The result of this neglect is that today, Nigeria has one of lowest capita electricity consumption in Africa or even in the world. With a population of 165 million people and an average generation of about 3800MW, Nigeria has a lower per capita consumption of electricity than Ghana. Apart from meager generation capability, the distribution and transmission networks in Nigeria are weak so it is difficult to evacuate more than 5000MW today.

The collapse of the electricity industry in Nigeria led to the realization that reliance on public sector financing of sustainable improvement of the industry in Nigeria would be a pipedream. Besides, the huge burden of financing a huge infrastructural gap through public financing raised the urgency of privatization to attract private sector finance into infrastructural development, especially in boosting electricity services. Today, that expectation is realized. The recently completed privatization of PHCN successor companies yielded billions of Naira and the ongoing privatization of the Nigerian Integrated Power Plants (NIPP) will also yield billions of Naira in acquisition cost. More than that, many foreign and local financial institutions and investors are looking forward to investing billions to upgrade distribution and transmission networks.

The real change happening in the sector is financial viability. The lack of financial viability was the main reason why until the full implementation of the Presidential Roadmap on Power there was no substantial foreign investment in the electricity sector. The dramatic illustration of this malady is the fact that the African Finance Corporation (AFC) largely funded by Nigeria did not deem it fit to finance any electricity project in Nigeria. But immediately after the announcement of a cost reflective tariff in June 2012, the AFC has financed many independent power projects and acquisition of distribution assets in the new electricity market.

AFC and other financiers could turn to Nigerian electricity market because the regulatory landscape has changed because of the implementation of the reform. Before the reform, tariffs in the Nigerian electricity industry were depressed by government order. The old NEPA was barred by decree from increasing tariff even when the cost of supply of electricity had increased. The result was underproduction of electricity and the absence of investment in the network. Ultimately, it led to inevitable collapse of the system. Cost reflective tariff is critical to any sustainable success we may have with the power sector reform. But the idea of cost reflective is controversial and politically explosive.

If the EPSR Act 2005 did not wisely isolate the regulatory commission from the direct control of the government bureaucracy we would not have a cost reflective tariff and the traffic in foreign and local investment in the electricity market would not have happened. Because the regulatory commission is an independent commission and fixes the tariff after due process and consultation with all stakeholders; and because the tariff is a product of scientific and technical analysis and modeling, it is insulated from vagaries and anxieties of politics. The stability and credibility of the methodology for determining the Multi Year Tariff Order (MYTO) gives assurance to investors to continue to come to the Nigerian electricity market. As long as the regulatory landscape remains insulated from political determination and as long as the regulation of the Nigerian electricity market remains legitimate and credible, foreign and local private sector investment will continue to flow into the Nigerian electricity market.

Opportunities are abounding in the Nigerian electricity market as the new owners of distribution companies are committing themselves to better service delivery. Take for example the issue of metering. The committee on metering set up by NERC concluded that the metering gap in the market is very huge with about 50% of consumers, that is, about 2 million consumers without meters. This metering gap has been building over the years. The financial and commercial incentives in the old electricity market of publicly owned companies could not help to close the metering gap. Even when government provided public funds in the name of subsidies, the chief executives of the distribution companies could not meter customers, not even those who paid for meters.

Now with the coming of private electricity market the possibility of quickly bridging this huge gap is more realistic. Success will not come in a day. It will take time and huge financial investment to drastically reduce the number of unmetered consumers. But because metering is a crucial strategy for reducing financial losses the new private distribution companies will have the incentive to make appropriate investment to meter consumers. In a way, the financial interest of the private electricity company can tie with the public good of consumers. This is also reinforced by the regulatory intervention of NERC who could penalize the distribution companies for failure to reach their metering commitment. As part of acquiring the assets, the private owners committed to reduction of aggregate technical, commercial and collection (ATC&C) losses. In the regulatory environment of private ownership it is easier for the commission to more effectively enforce this commitment.

So, the reform of the electricity market creates opportunities for investment in all the value chains of electricity as recovery of cost becomes more guaranteed. With more power available to be sold to consumers because of the liberalization of generation ancillary services (technical and commercial) opportunities for participation will abound. Creative and innovative investors will also be empowered by this momentum to offer solutions to the needs of the sector. There will be a domino effect on allied industries. Already many professionals are gearing up to provide service in this revitalized sector. The regulator is helping to boost services in the Nigerian electricity market through the recent local content regulation. This regulation mandates increasing localization of technology, employment and professional services in the sector. From the evidence of success of local content in the oil and gas sector, we can expect a boom in the local economy as a result of the regulation.

3. **The Post- Privatization Era:**

I said at the beginning that November 2013 marks the end of an era and the beginning of another. It was the end of the era of structural transition. Structurally, the template of a competitive private electricity market is set. What remains to be done are mere decorations and beautification. A few phases remain. The sector will soon enter into the Transitional Electricity Market (TEM). This stage is the stage of full bilateral trading in electricity. Market participants will transact on the basis of their contract. Trading by contract will mark the formal beginning of a competitive electricity market. After the TEM the market moves to the Medium Term when hopefully there will be adequacy of supply in the market and the generation component of the market will be fully deregulated and prices will be on the basis of willing buyer willing seller.

The end of structural reform is the beginning of cultural reform. The problems that crippled the electricity industry are not just technical. There are also adaptive. They are partly problems of values and governance. If the old NEPA was well managed the network may not have collapsed and government may not have needed to resort to the bazaar sale as we witnessed. Before 2012 when the regulator commissioned an audit of the accounts of the unbundled PHCN companies, the accounts of the entire electricity industry in Nigeria had not been audited. The governance structure and values of the public agencies in Nigeria easily lend to inefficiency and corruption. That structure and those values contributed to the collapse of the sector.

The major challenge of the reform is to change the corporate governance of the industry. It is easier to change the structure of the industry than to change the operative principles and value system of the electricity industry. Without making this cultural change we may not get the full value of the structural changes that we have undertaken as part of the power sector reform. To accomplish this cultural change is the major challenge of the reform at this stage.

4. The Six Disciplines for Sustainable Transformation in the Electricity Sector:

In previous writings on the reform I advocated series of disciplines that the reform needs to inculcate in order to complete the restructuring. I identified 6 important disciplines that complete the structural change in the electricity industry to ensure sustainable transformation. These disciplines are as follows:

- The discipline of right pricing for electricity services;
- The discipline of independent and effective regulation;
- The discipline of prudent, transparent and regulated public sector funding of the network;
- The discipline of smart project management;
- The discipline of consistent policymaking; and
- The discipline of public participation in sector reform.

- ***The Discipline of Right Pricing for Electricity Services:***

The electricity industry in Nigeria collapsed largely because of the absence of the discipline of right pricing. The freezing of increase in electricity pricing even when cost escalation made it compelling, coupled with the failure of utilities to collect returns for electricity consumed deprived the industry of the needed finance to invest in network maintenance, upgrade and expansion. The most important objective of the NEPP is to recover the financial viability of the electricity industry by providing a framework of regulated pricing that allows utilities to charge fair and reasonable prices for electricity services that recover prudent costs and are affordable to consumers.

The emphasis is on 'right pricing'. What is right pricing? If an electricity market does not answer that question satisfactorily it compromises its sustainability. Pricing is a sensitive issue. But there are key principles that make a framework of electricity services pricing legitimate and acceptable. First, pricing must focus on recovering prudent costs. The work of regulation in a utility market where prices are still regulated is to conduct prudent review of the costs that the utility wants to recover. This prudency review is critical to right pricing. Unfortunately, the process of prudency review is arduous and requires skills that may not be readily available to regulators in emergent markets. Acquiring these skills as soon as possible is a pressing challenge for an effective regulator in an emergent market where prices are regulated. The other aspects of regulatory control of pricing are benchmarking and ensuring cost efficiency. The driver of high prices in utility markets is cost escalation. Benchmarking efficient cost is one sure way of ensuring that consumers pay reasonable and fair prices. This is the idea behind incentive-based regulation. The objective is to incentivize the utility to be more efficient in its production and share the gains of efficiency between it and its consumers.

But the most important component of fair pricing is that all the stakeholders- that is, providers and consumers are part of the process of price setting in the electricity market. This harks to the other discipline- the discipline of public participation. Primarily, as it relates to the discipline of right pricing, the regulator must mandate consultation with consumers before approving tariffs for the utilities. In the US jurisdiction this mandate take the form of quasi-judicial rate hearings where a public services commission mandated by law allows consumers and consumer groups to intensely interrogate the rate applications of utilities. In other less 'democratic' jurisdictions, participation of consumers in rate-making takes the form of administrative hearing or public hearing, or even written submission by consumer groups and epistemic communities.

The challenge of right pricing is now more urgent in the new Nigerian electricity market than we thought. As soon as the new owners took over the network they started demanding for tariff increase. The justification that was put forward is that the financial and technical benchmarks in the Multi Year Tariff Order (MYTO), i.e. the 15 year tariff path, are unrealistic. MYTO is based on benchmarks about the levels of technical, commercial and collection losses; projections of available capacity of energy to be sold in the market; the cost of gas and other feedstock; and the prediction of inflation and foreign exchange. If as it is today, the capacity projected by NERC is not attained (we projected about 7,000MW by December 2013 and we actually got average of 3600mws) and the losses levels are not credible, then the demand for rate review is justified. But the question is how to undertake a rate review at this stage in a legitimate and fair manner.

NERC's response to the challenge of right pricing is to initiate a fair process for reviewing and verifying the losses levels. The commission is also establishing a rate review regulation that provides clear and transparent process for rate petition. The regulation grants right of participation in the process to consumer groups and civil society organizations that want to intervene. This secures the legitimacy and credibility of the rate review process. Furthermore, the democratic quotient in the rate review process ensures that the utilities do not capture the regulator and get tariffs that are unreasonable and unfair. It is for this reason of high democratic quotient of rate review processes in the US jurisdictions that electricity tariffs in the US are reputed to be the lowest in the advanced markets. In Nigeria we need this discipline to make sure we achieve a real and lasting transformation of the sector.

- ***The Discipline* of independent and effective regulation*:***

The underwriter of the success of the private electricity market is an independent and effective regulator. The EPSR Act rightly established an independent regulator. NERC is independent of government and market operators. It can therefore inspire the confidence of stakeholders. The reason for creating independent regulators is to banish fears of excessive regulatory risks especially in countries with a history of government interference in business operations. Such regulatory risks amount to disincentive to investment. So, to secure an attractive investment environment government insulates the regulator from pressure from government bureaucracy.

But in real life what is on paper as law may be very different from what is experienced in the market. The temptations for a government ministry like the Ministry of Power, or even the Presidency, to feel compelled to interfere unduly in the decisions that the regulator makes regarding the working of the market is such that may be irresistible. But to resist this temptation is a critical discipline that determines whether the nascent electricity market in Nigeria will survive. Now note this. Independence does not mean recklessness or lack of accountability. Independence means that the regulator should be free to make the best decisions based on the evidence available to it. The regulator is independent to achieve the legislative mandate granted it by government. But the regulator is accountable to political authorities and the market. Accountability is even a more important feature of an effective regulator. A regulator is accountable to follow the laws establishing it and mandating its function. It is accountable to other political institutions that oversee its administrative and financial transactions. It is accountable to the ordinary jurisdiction of the court of justice, in the case of Nigeria, the Federal High Court, to review its decisions and interventions. The effective regulator is also accountable to operators and consumers to ensure that decisions are made after due process and through a consultative process.

As we enter a private electricity market the government needs to go through a culture change. It has to realize that the market has to be governed through rules made and administered by the regulator. It has to learn to focus on policymaking and use other established methods to oversee the work of the regulator. If the government falls to the temptation of usurping the work of the regulator it increases the risks of the new market and truncates the reform.

- ***The Discipline of Transparent, Prudent and Regulated Public Sector Funding:***

Even as government has privatized the generation and distributions assets it still retains ownership of the transmission network. This is a wise decision because of the need to ensure that transmission is continuously funded. Being a public good the private sector may not adequately fund expansion of the critical network needed to wheel power to the grid. So, government will continue to make investments in the transmission. One reason this sector collapsed in the past is because of corruption ad waste in public investment in the networks. Government spent billions in electricity and yet, there is no electricity.

This waste would not have happened if public sector investments were subjected to the same degree of transparent review and regulation as private sector funding. This is a pressing challenge today as government is working hard to attract local and foreign investments into the Transmission Company of Nigeria (TCN). NERC is urging government to ensure that every naira or dollar spent on TCN is part of TCN's long-term investment plan and properly reviewed and approved by it. If investments are approved, this ensures that they are prudent and relevant because they should be recovered through the market. Government should learn to submit its investment to NERC's prudency review in order to avoid the mistakes of the past.

- ***The Discipline of Smart Project Management:***

Electricity projects demand smart management skills. The collapse of the electricity industry in the past is partly a function of the lack of project management skills. Network planning was not carried out properly. Until very recently, the Transmission Company of Nigeria (TCN) did not have a system plan for the electricity sector. Plans were not integrated. Project management cycles were dysfunctional. One of the major challenges in the new market is that if we hit 6000MW now, we don't have the capacity to transmit the power to distribution companies. Many projects started many years ago that could have given us such wheeling capability could not be finished because of poor project management. This weakness in project management has caused us infrastructural development. This malaise derives even from our method of budgeting for projects not based on project life cycle but based on envelopes to be spent yearly.

There is however a cure in sight for poor project management in the electricity market being constructed by NERC. First, there is a project management framework established by the licensing process which provides for monitoring all through the construction stage of the project. NERC is also empowered by law to issue or withhold approvals for project development and construction. This way, it can detect and deter project failure. Again, the recently approved Bulk Procurement Regulation stipulates a competitive bidding process for projects in the sector.

- ***The Discipline of Consistent Policymaking:***

Consistency in policy is a critical ingredient of the reform. Success is now being recorded with the consistent implementation of the reform policy and the provisions of the EPSR Act. It is important to keep this consistency so that we don't bring back the risks of the past. Foreign investors will not continue with investment in the sector if the policies are changed too often. This is why the present government has been exemplary in the management of the power sector reform. The government has kept faith with the policy on power sector reform. The lack of serious discontinuity in policy has given credibility to the reform and helped to make Nigerian electricity market attractive to foreign investment.

- ***The Discipline of Public Participation in Sector Reform:***

Public understanding and buy-in of the reform process is vital to the sustained success of the reform. The discipline of public participation projects the fact that those who will be affected by the consequences of a decision should, logically, be involved in the process leading up to that decision. This sort of participation is also termed "stakeholder engagement".

The regulator has enshrined these principles of consultative rule-making into its processes upon the strong conviction that where stakeholders are given the opportunity to make contributions in an open, transparent and rule-based process, they will also be committed to the obligation of abiding by any decision reached, even where it is different from that proposed by them.

A recent example is the consultative process towards the formulation of interim rules for the market which has been going through various stages of stakeholder engagement. As a result of this constant engagement, when a decision is finally reached by the Commission on the rules to govern the market during this interim period, the enforcement of these rules will be much easier as "ownership" of the rules and resultant obligations are taken by stakeholders.

5. ***Technical Aspects of Cultural Restructuring:***

After the handover of electricity assets to private sector operators, power supply has not improved as many expected. This raises another aspect of the challenges that the sector faces. We have changed the structure of the market. We need to also deal with technical challenges. Since November 2013 the generation capacity has not reached the 4,500MW we got in December 2012, the reason being that there is an inadequate supply of gas to power plants. At some point, generation capacity dropped as low as 2,500MW throwing the market into a minor crisis. The immediate reason for shortage of gas is pipeline vandalism. But the long-term reason is weak policy and commercial framework for gas supply to power plants. Due partly to the low tariff that power pays for gas, gas supplier are more inclined to supply gas to other industries and to export as LNG. There are also gas fields in the hands of persons who have low incentive to develop them. All these combine to undermine the efforts to grow generation capacity.

Government is thinking of diversifying the energy mix. There is a growing focus on renewables like solar, small hydro and wind energy. Coal is another area where load base is being built. At the moment gas fired plants contribute 80-85% of generation capacity. This percentage will grow up to 90% in next 5 years when some of the new independent power plants are commissioned. The looming tragedy is that if nothing drastic is done to revamp gas supply to power plants the market will witness severe stress. This may lead to the collapse of the sector. Fortunately, the government has realized this and is working hard to increase the supply of gas to power plants. But I advise that a national emergency should be declared on gas to power. For a start, government should direct gas from the export market to the domestic market to bridge the shortfall before new pipelines are constructed and more gas is processed for power plants. This is time for bold actions on gas to power.

6. ***Safeguarding the Reform:***

Many Nigerians have expressed disappointment that since after the handing over of the assets to private sector there has not been noticeable improvement. There is now a significant degree of disappointment with the state of power supply. Now this disappointment could be positive inducement for the regulator to push for quick improvement in power supply. This is what the regulator is already doing. But if this disappointment snowballs into deep skepticism about the value of the privatization and descends into uncharitable criticism of the power sector reform it could lead to an unfortunate regression of the success of the reform. We should not forget that policy reform is a contested and reversible social program. Because of the entrenched interests of those who benefit from the old order there is always a fight over the nature of the reform. The ancient regime is not finally vanquished. It will take advantage of deep disappointment to launch a rearguard attack on the reform. The Nigerian power sector reform is still fragile. It is still reversible. This put a challenge on both the regulator and operators to ensure quick wins to consolidate its successes. It also puts a responsibility on the consumers and the general public to manage expectations in order not to create a social environment that enables the defeated enemies of the reform seek to reverse the process and truncate the reform.

The challenge of reversibility therefore requires real thinking on the part of the new owners. The new owners have been more concerned with recovering their costs and paying the interests on the loans they used to acquire the assets. This has meant that they have not paid sufficient attention to service improvement in the short term. The widespread outcry against the drop in the quality of power by consumers is understandable. The privatization was sold on the basis of quick improvement by a more efficient and financially resourced private sector. The new owners also acquired the assets by demonstrating their technical and financial capabilities to reduce technical, commercial and collection losses and improve power supply and customer care. If they are now not doing so now it sustains the impression that the privatization was an attempt to sell off public assets to business cronies on sweet heart terms.

7. Conclusion:

After privatization the challenges of electricity regulation have not vanished overnight. They may have changed and taken new forms. It is true that the reform has changed the structure of the Nigerian electricity supply industry. We have erected the fundamentals of a competitive private sector electricity market. We have reversed the decline and instituted a regime of rules that ensure commerciality and financial viability. We have established a framework for sustainability in the sector. But we still need to meet the challenges of cultural and technical restructuring so that we can achieve the goal of adequate and reliable supply of electricity to Nigerian homes and businesses.

Thank you.