www.pwc.com/ng

A privatised power sector
The pain and the glory

pwc

The roundtable

In December 2013, about 60 senior executives and stakeholders gathered at the Four Points by Sheraton Hotel, Victoria Island, Lagos for the third edition of PwC's power sector roundtable tagged - the pain and the glory. Participants were drawn from industries within the power, finance, telecommunications and manufacturing sectors.

Moderators and speakers at the event:

Ken Igbokwe	Country Senior Partner, PwC Nigeria
Angeli Hoekstra	Power & Utilities Leader, PwC Africa
Arvind Gujral	CEO of BYPL, India
George Oluwande	COO, Sahara Power
Ibrahim Baba Gana	Director, Bureau of Public Enterprises
Pedro Omontuemhen	Power & Utilities Leader, PwC West Africa
Sambitosh Mohapatra	Partner, PwC India
Abolade Kehinde	Director, Tax - PwC Nigeria
Ian Aruofor	Director, Deals - PwC Nigeria
Bimbola Banjo	Senior Manager, Power and Utilities - PwC Nigeria

Introduction

"By 2020, Nigeria seeks to become one of the 20 largest economies in the world, with a growth target of about $900bn in GDP and a per capita income of about $4,000 p/a. With an installed generating capacity of about 7500MW and operating capacity of 4000MW, electric power in Nigeria has been a major hindrance in economic diversification and growth. The rule of thumb for an industrial nation's power usage is - circa 1MW for every thousandth of its population. This puts Nigeria's energy need somewhere around 160,000 MW given its population of 160m people. "Nigeria's Vision 2020 Economic Transformation Blueprint".

The National Electric Power Policy (2001) and the Electric Power Sector Reform Act (2005)(EPSRA), constitute the framework under which power reforms in Nigeria were mandated. The process included: the dissolution of the National Electric Power Authority (NEPA); the creation of the Power Holding Company of Nigeria (PHCN) as an initial holding company; and the further creation of eighteen (18) Successor Companies (SC).

More recently, Nigeria's short term macroeconomic outlook was generally strong, with the likelihood of higher growth, lower inflation, and reserve accumulation dependent on favourable oil prices and weather conditions. This growth was predicted to present the Government an opportunity to make progress in key reforms and public investments associated with the Transformation Agenda for job creation, diversification, and more effective governance, as forecasted by the World Bank in its May 2013 Nigeria Economic Report (NER).

In the light of all, significant milestones and timelines laid out in the roadmap so far have been achieved largely driven by the Bureau for Public Enterprises (BPE). Some of these achievements include:

- Successful review and implementation of Nigeria's Multi-Year Tariff Order (MYTOII);
- Additional 1000 MW of power generation through the National Integrated Power Projects (NIPP);
- Successful sale of 5 of the 6 generation companies and 10 distribution companies and transfer of ownership to the new owners;
- The launch of the interim period to usher in the Transitional Electricity Market (TEM) - the threshold of a fully deregulated electricity market;
- Establishment of an independent Transmission company.

For Nigeria, these represent light at the end of the tunnel as the power sector has transitioned from an era of pain to a dynamic market of development and opportunities driven by reform and a disciplined governing system. However, record progress in the sector is not without its challenges as power sector investors grapple with various deep-etched problems. A proper assessment is being carried out by all the players in order to determine a base-line considering all the facts on ground so that challenges are tackled and productivity optimised.

To this end, PwC has a put together the 3rd edition of this forum for stakeholders to discuss the opportunities and the challenges in managing their newly acquired assets in an evolving power sector.

Generating electricity power in Nigeria: Current challenges and what the future holds

– Dr George Oluwande

Electricity production challenges and what the future holds

The future promises to be interesting and enabling, privatisation should result in decisions being taken based on technical and commercial merit divorced from political considerations.

There are a number of factors that plague electricity production in Nigeria. These factors include: insufficient capacity, inadequate fuel supply, lack of statistics and data, poor maintenance culture, inefficiencies and over-manning, inadequate training, ageing experienced workforce, a loss – making distribution sector, and transmission bottlenecks.

In addition, limited funding, evacuation constraints, high transmission and distribution losses at over 40%, "exuberant" sale prices of PHCN assets, and politicising of decisions were noted as part of the issues facing the sector.

Tariff pricing was identified for its need to stay competitive especially the commercial rates. Average national electricity prices:

Nigeria	18c/kwh
SA	10c/kwh
UK	20c/kwh
US	12c/kwh
Germany	35c/kwh

Thermal (gas fired) electricity generating companies account for over 80% of current electricity production; however, gas supply constraints had resulted in less than optimal production in recent times. There is a need for committed implementation of the Nigerian Gas Master Plan (NGMP), adequate processing and supply of dry gas, regulation of the Distribution System Operators (DSO) of upstream suppliers, adequate policy to govern the industry – Petroleum Industry Bill (PIB), better enablement of the industry to meet current challenges, and development of appropriate gas infrastructure. Urgent steps need to be taken for the development of a national gas grid .

Power sector future trends were forecasted in three phases; the immediate future of the industry is expected to be characterised by deregulation of gas prices, combined cycle is to be the standard technology deployed, consolidation of the industry with vertical integration of generation and distribution with consideration being given to the development of mini-hydro power plants, and implementation of feed-in-tariffs to attract and encourage private sector investment in coal-fired and solar-powered plants.

In addition, there is expected to be more development and investment in accurate and definitive system studies led by the Transmission Company of Nigeria (TCN) which will improve planning. The establishment of an Energy ministry would foster better collaboration between the gas and power sectors given the strong relationship between them, streamlining land access and way-leave compensation, the use of "Smarter" grids, greater emphasis on demand-side management and a more assertive Nigerian Electricity Regulatory Commission (NERC) with respect to supervising responsibilities and roles.

In the long term, there will be a greater level of automation and technology, closer integration into the West Africa Power Pool (WAPP) required in respect of import/export of power which will help minimise the threat of the River Niger being dammed. Also, there will be entry of major Power utilities investors to takeover companies and there will be an attraction of capital to long term funds into the sector i.e. Pension funds.

Conclusion

The future promises to be interesting and enabling, privatisation should result in decisions being taken based on technical and commercial merit divorced from political considerations. Major challenges identified can be overcome. Critical to this is having a consistency of approach in governmental decision-making and policy implementation. There is need for significant inestment in the sector.
Given the competitive nature of the global demand for infrastructure funding , there is a need for strong domestic banking support for the power and gas sector .

Electricity Distribution - buying a complex asset and transforming it into an efficiently run enterprise

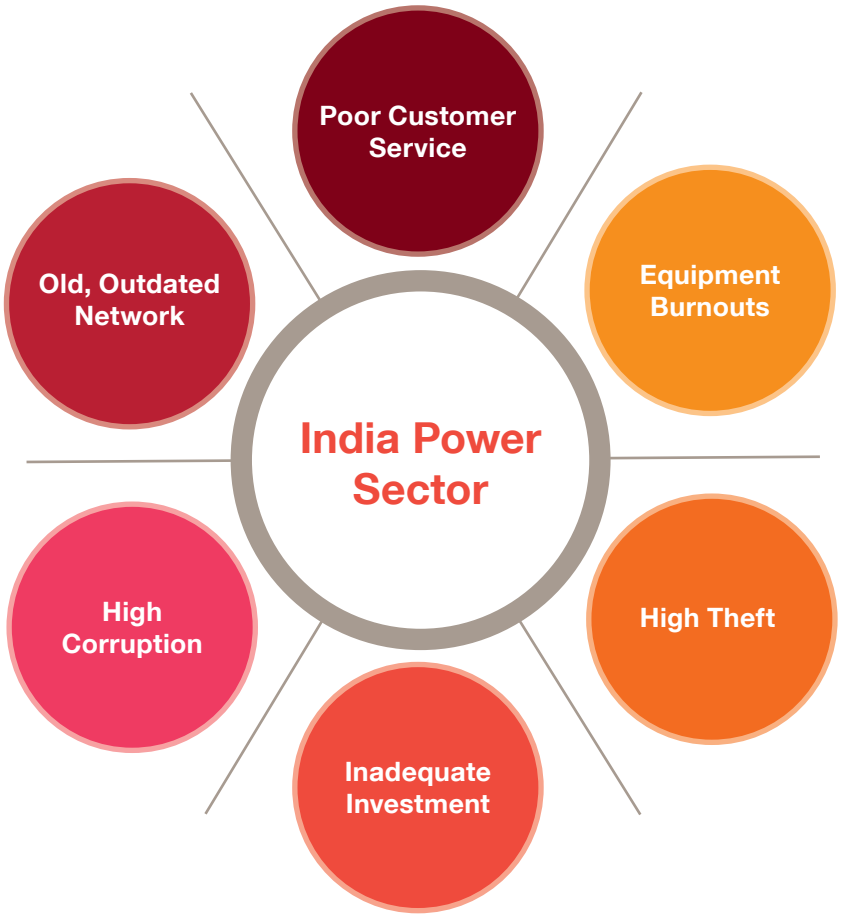
– Arvind Gujral

Legacy issues

The Indian Power sector was characterised by frequent equipment burn-outs, inadequate investment, outdated networks – infrastructure; poor customer service, high corruption, and theft.

This meant unreliable power supply with long delays and power fluctuations. Social safety was an issue, for example people had to live with the hazard of ill-lit street lights. Pollution was yet another hazard caused by bio-chemical emissions into the environment as a result of the continuous need to run generators. As if not enough, it was an ordeal for power consumers to pay bills as there were long queues at payment centres due to apparently non-existent customer care.

For BSES Yamuna Power Limited (BYPL) India, the transformation strategy deployed involved the identification of key interventions, implementation, integration, and operational excellence.



Strategy : Identification of key interventions

The identification of key interventions involved: carrying out an assessment in order to understand and meet the needs of all the stakeholders (including household consumer, government, the regulator, financial institutions, promoters, employees, and service providers).

Government

- Fair business approach
- Customer's interest
- Social responsibility
- Elimination of subsidy
- Sector growth

Customers

- Reliable supply
- Quality of power
- Tariffs
- Efficiency of services
- Ease of processes

Regulators

- Effective sector growth
- Process optimisation
- Tariff control

Promoters/ Investors

- Business opportunity
- Returns - tangible & intangible
- Legal / admin enablers
- Risk management
- Manage expectations of all stakeholders

Employees

- Continued employment
- Protection of compensation & benefits
- Career growth

Service Providers

- Demand planning
- Regular payment

Strategy : Implementation

Implementation centered around the provision of customer-centric strategies involving provision of reliable and quality power supply; accurate billing systems with the various billing options including meter downloads and multi-lingual internet billing platforms; internet payment options with receipts on SMS; and also strong complaint management policies.

SCADA: Supervisory Control And Data Acquisition
GIS: Geographic Information System
SSMS: SQL Server Management Studio (SQL refers to any database that implements the Structured Query Language)
APFC: Active Power Factor Correction
RMU: Remote Monitoring Unit
OMS: Operation and Maintenance System
EMS: Energy Management System
AMR: Automatic Meter Reader
MRI: Meter Reading Instrument
CMS: Complaints Management System
ISU: Industry Solutions Utilities
ECS: Electronic Clearing Service

Strategy : Integration

Integration across different functions and technologies involved the utilisation of BYPL's IT systems -which includes the utilisation of system operations, web/SAP based business software, smart prepaid metering systems which could easily be subject to energy audits, common services, efficient organisation and IT/communication to achieve customer-focused operations.

Strategy : Operational excellence

Operational excellence for BYPL was achieved through the reduction of Aggregate Technical and Commercial (AT&C) losses through system improvement and excellence in metering. The use of state-of-the-art technologies, efficient customer care, employee training programmes, optimum supply costs, and network management also helped BYPL achieve operational excellence.

AT&C loss reduction was achieved through having electronic meters with anti tamper features, memory and communication capability and also by having meters that served as a primary source of information in identifying areas with high loss which were subject to energy audits.

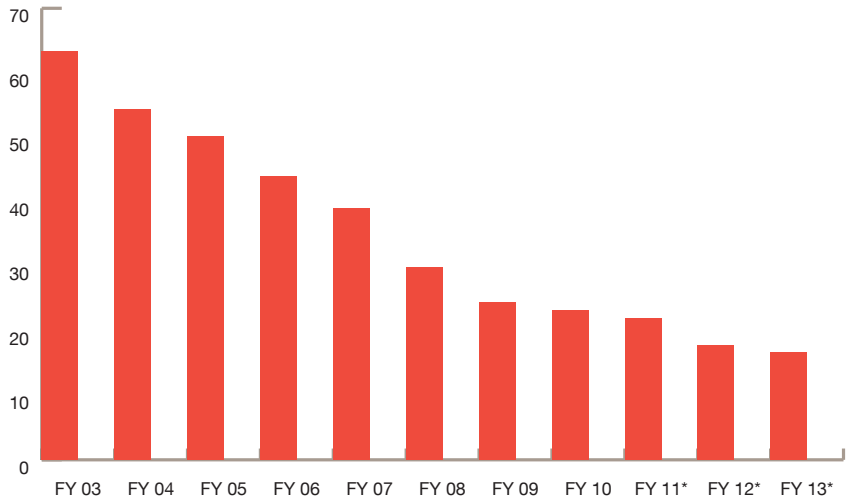
Also, AT&C loss reduction was achieved through system improvement which involved bare conductors being replaced with AB cables, replacement of distribution boxes with satellite connectors, the use of low loss distribution transformers, load balancing and reactive compensation at load centers.

Operational excellence was also achieved using state-of-the-art technologies including Supervisory Control and Data Acquisition (SCADA), real time system monitoring, remote operation and control, reduced response time, consumer tagging, energy audits, material management audits, and integrated billing

The benefits

The benefits of the transformation strategy are numerous, including reduction in AT&C losses from 63% as at the time of takeover to 16.7%, 24 hours a day, 7 days a week reliable and quality power supply, zero equipment failure and burnouts, multiple payment options for customers and online and door-step customer support services.

- 20% increase in AT&C loss during pre-privatisation era (FY 91 – FY 02)
- 63% AT&C loss at the time of takeover
- 47.4 % reduction in losses post takeover
- Operational excellence was also achieved using 24 hours a day, 7 days a week reliable & quality power supply
- No equipment failure/burnouts
- Reliability Index @ 99.98%



India - Delhi privatisation Learning from experience

– Sambitosh Mohapatra

The story so far

The past few years have witnessed increased performance improvement by Delhi Discoms through AT&C loss reduction with all three Discoms meeting set targets.

A tripartite agreement which guaranteed non-retrenchment of employees and continuance of service in the successor companies on the same terms and conditions prior to their transfer was for the success of India's Power sector privatisation. The liability for retirement benefits of existing Delhi Vinyut Board (DVB) employees & retirees were secured in a Pension Trust Fund.

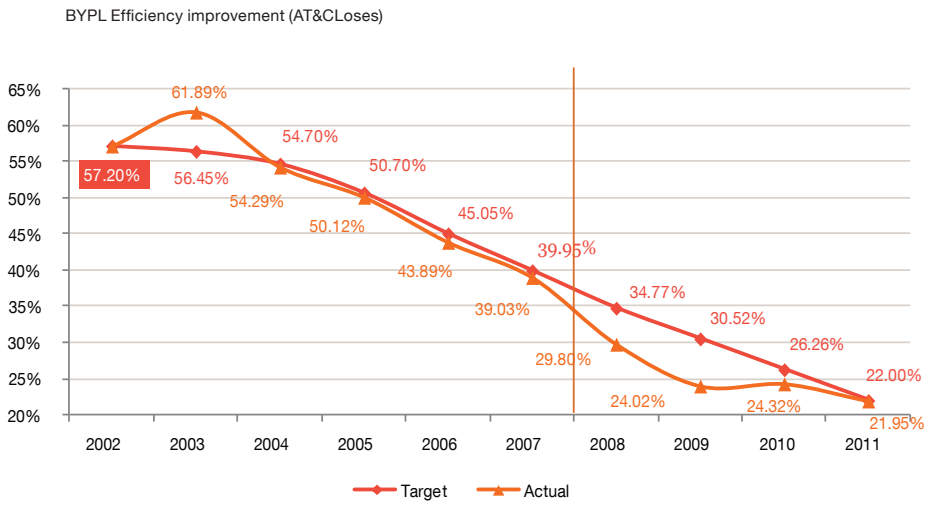
Another feature of the privatisation process was that all past liabilities and losses of DVB were not to be passed on to the successor companies. This ensured that restructured entities started with clean opening balance sheets. The Discoms were allowed a guaranteed ROE of 16% for 5 years till 2007.

There are a number of similarities between the Delhi and Nigerian privatisation framework. Among which are: the use of AT&C / ATC&C losses as the criteria for selection of the preferred bidder; the MYT framework also assured regulatory certainty for over a determined period; governments provided for transition period support/subsidy to cushion impact of tariff shocks; in Delhi, a loan of INR 34.5B [~N 103.5B] was given for the five-year period post privatisation, while the Nigerian government provided the Power & Airline Intervention Fund of N 300B, the offering of concessional loans at 7% for a 10-year period and five year exemption from all taxes. With regard to the extent of equity divested, in Delhi, 51% was divested while in Nigeria, 60% was divested.

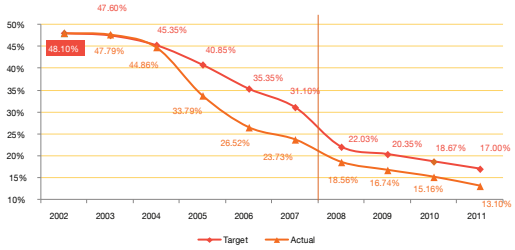
The protection of employment and service conditions was fundamental to the agreement to privatise in Delhi, while there was no obligation on employees to the new owners in Nigeria, all terminal liabilities went to the account of the State.

Performance improvement by Delhi Discoms AT&C loss reduction

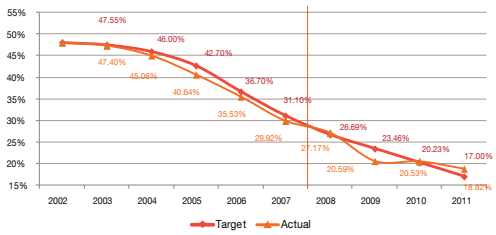
The past few years have witnessed increased performance improvement by Delhi Discoms through AT&C loss reduction with all three Discoms meeting set targets. The pace of reduction in losses has, however, tapered off in Multi – Year Tariff (MYT)period (2007-2012). No third party verification of AT&C losses of the Discoms is currently being conducted and in a check conducted in 2012, DERC found certain irregularities in the calculation of losses (which have been disputed by the Discoms).



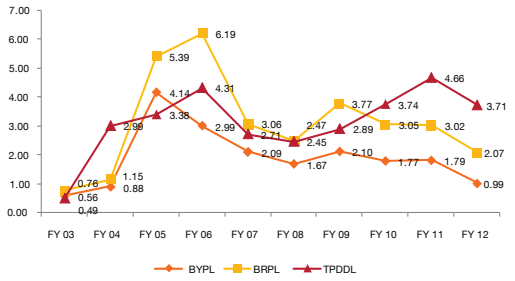
NDPL Efficiency Improvement (AT&C Losses)



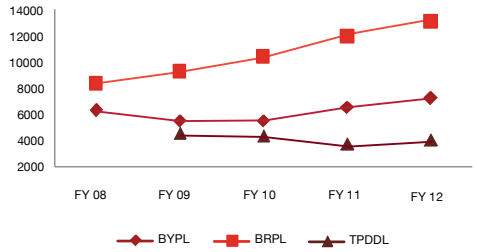
BRPL Efficiency improvement (AT%Loses)



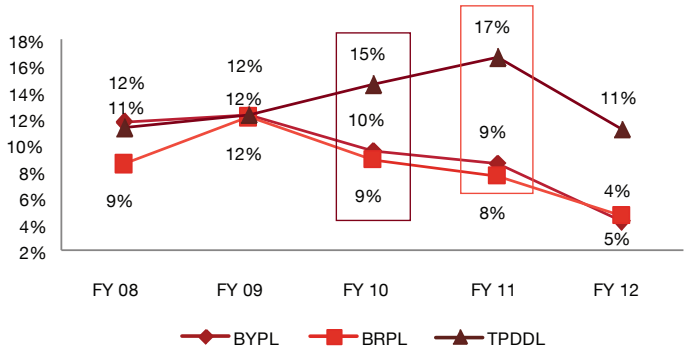
Capital investment in R Billion
(Conversion rate 1INR - 2.633 Naira)



Number of breakdowns



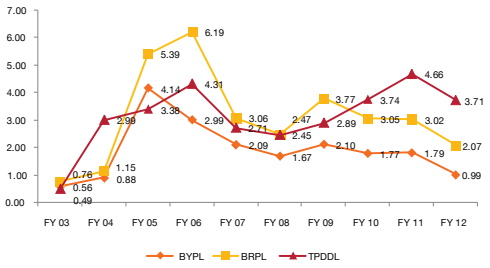
Capital investment as a % of annual revenue



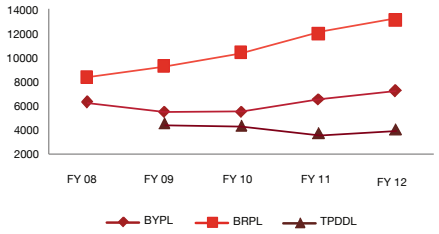
Capital expenditure by Discoms

The past few years have also witnessed increased capital expenditure by the Discoms, with the 3 Delhi Discoms investing more than INR 80B (~N 216.0Bn) over a 10-year period since privatisation. Capex as a % of revenue has decreased in case of the two Reliance Discoms during the MYT Control Period (2007-12). This reduction in capex has been concomitant with the decrease in the rate of reduction of AT&C losses observed for the two Discoms and deterioration in QoS parameters.

Capital investment in R Billion (Conversion rate 1INR - 2.633 Naira)



Number of breakdowns

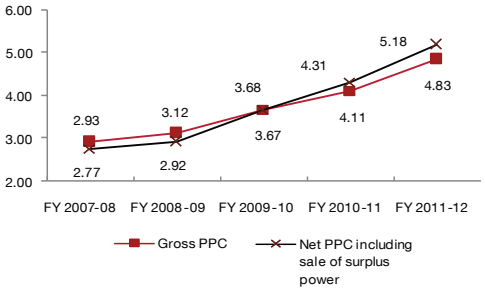


Performance improvement by Delhi Discoms

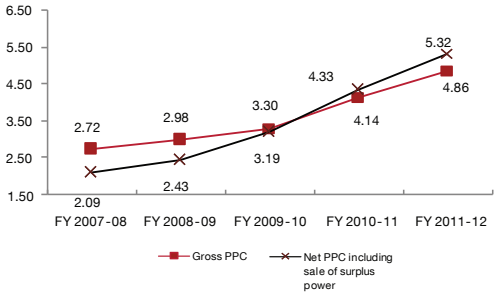
Power purchase management

Regarding the power purchase management, TRANSCO was responsible for power purchase on behalf of Discoms for five years after privatisation. Since 2007, Discoms have been responsible for the forecasting of power requirement & contracting capacity. The Power Purchase Cost (PPC) has increased sharply since 2009 with Discoms incurring losses on trading of power estimated at INR 9 Bn (~N 24.3bn) in FY12.

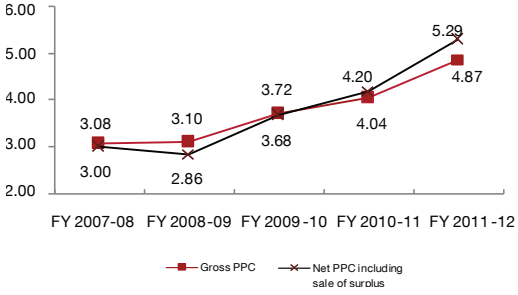
Power purchase (INR/kWh)



BYPL

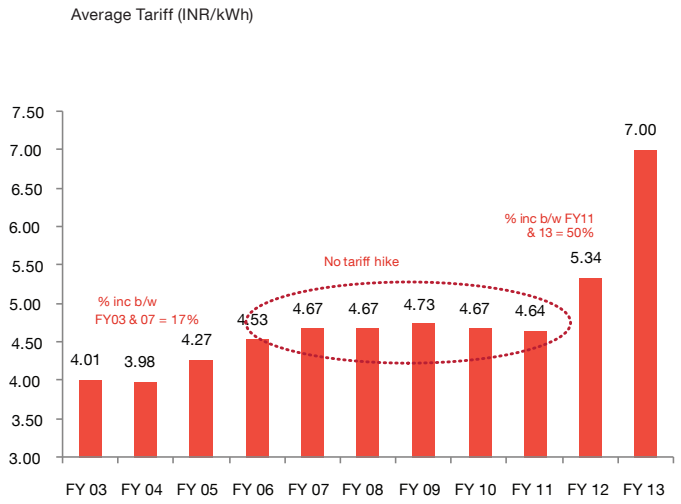


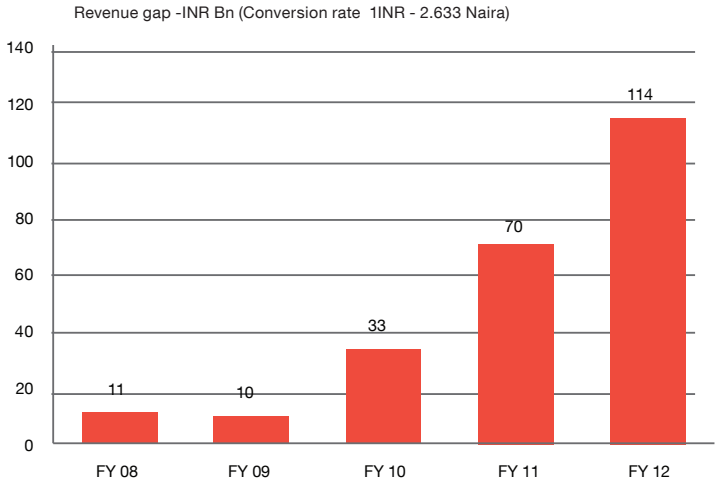
TPDDL



Current status

The three Discoms made book profits for the first time in FY 05 and posted profits up to FY 09, the Discoms have also witnessed significant increase in power purchase cost since FY 09. The regulator failed to factor in the anticipated hike in cost and there was only a marginal revision in tariff rates for between FY 07 & FY 12 without a corresponding increase in tarriff rates, as a result of which discoms have made losses each year since FY 10. The higher losses and under recoveries have eroded the balance sheet of the Discom. The Discoms have had negative net worth in all three years from FY 11 to FY 13 in spite of equity infusion in BYPL and BRPL in FY 12 and in TPDDL in FY 13.





Conclusion

Learning points from the Delhi privatisation experience include:

- Capex planning & approvals should be done. Also, Discoms' network expansion should be synchronised with the (Transmission System Operator) TSO . It was agreed that the review of capex by the regulator is necessary to ensure transparency.

- Retail supply competition is deemed to be essential in the long run to ensure efficiency in 'uncontrollable costs'; this step is yet to be taken in Delhi.

- Improvement in Quality of Supply (QoS) is essential for getting consumers 'buy in'; Delhi discoms have earned consumer support by bringing about sharp reduction in outages. The QoS should be monitored by the regulator and the improvement in QoS should be incentivised by linking tariffs with QoS.

- Methodology for calculation of AT&C losses should be clearly defined and third party audit of the loss levels should be routinely carried out. In addition, laws governing electricity theft need to be strengthened and framework for enforcement needs to be in place.

Key lessons of the privatisation of PHCN successor companies and investment opportunities in the power sector

– Ibrahim Baba Gana

Introduction

At the onset of the democratically elected civilian administration in 1999, the Nigerian Electricity Supply Industry (ESI) had reached the lowest point in its 100-year history. Of the 79 generation units largely owned by the vertically integrated publicly electric utility in the country, only 19 units were operational. Daily available generation capacity averaged only about 1,750 MW. Nigeria also had one of the lowest cost recovery with the tariff recovering only 30% of historical cost. The electricity sector was now moribund with no new electricity infrastructure built between 1989-1999. Also, the last set of generation plants were completed and commissioned in 1990 and the last transmission line built in 1987. In addition, of the 160 million Nigerians, over 90 million people were without access to national electricity transmission system.

Disco	Purchaser
Abuja	KANN Consortium Utility Ltd
Benin	VIGEO Holdings
Eko	West Power & Gas
Enugu	Interstate Electrics
Ibadan and Yola	Integrated Energy Distribution and Marketing
Ikeja	NEDC/KEPCO Consortium
Jos	Aura Energy Ltd
Kano	Sahelian Power SPV Ltd
Port Harcourt	4 Power Consortiums
BPE to have subsequent meetings with Preferred Bidders for Afam and Kaduna on 04 – 05 December 2013 in order to finalise the remaining transactions.	

Policy change

In 2006 the Nigerian government embarked on one of the most sweeping policy changes in the electricity sector in any African country. The new policy mandated the unbundling of the ESI into six gencos, a transco and eleven distribution/retail businesses. It also established a competitive wholesale electricity market to be phased, an independent electricity industry regulator, a cost reflective tariff and the introduction of a private management contractor Manitoba Hydro to manage the newly created Nigerian Transmission Company.

Genco	Purchaser / Concessionaire
Ughelli	Transcorp
Sapele	CMEC/Eurafric
Geregu	Amperion
Kainji	Mainstream Energy Solutions
Shiroro	North South Power
Purchasers/Concessionaires have paid in full for the transactions and the companies were handed over to them on 01 November 2013. However, Eurafric however has up to the end of January 2014 to balance up payment.	
Company	Preferred bidder
Afam (Genco)	Taleveras
Kaduna (Disco)	Northwest Consortium

Political support and resolution of legacy liabilities

The success of the privatisation exercise can also be attributed to the political support which came at the highest level with the President personally directing the reform through a Presidential Action Committee on Power and a Presidential Task Force. A passionate in-house team with clearly defined responsibilities and clear objectives also proved to be a key success factor with each member of the Power Team knowing exactly what was expected of them. Another key success factor was the cohesion and unity of purpose of the team and unfettered flow of information among team members.

The government had taken a decision to pay-off all 47,913 PHCN employees (severances and pension) so that the new owners were provided with a clean slate. The process required 14 months of negotiations with the unions before an agreement was reached and payment had been made to 42,910 PHCN staff as at December 2013. The remaining workers are in the process of being paid.

The Federal government resorted to the World Bank PRG as against the typical Sovereign Guarantees and Implementation Agreements typical of privatisation in developing countries. The PRG provides risk cover to private lenders or investors against the risk of government default on its obligation. PRG in the sum of US$ 1 billion was provided for gas and generation

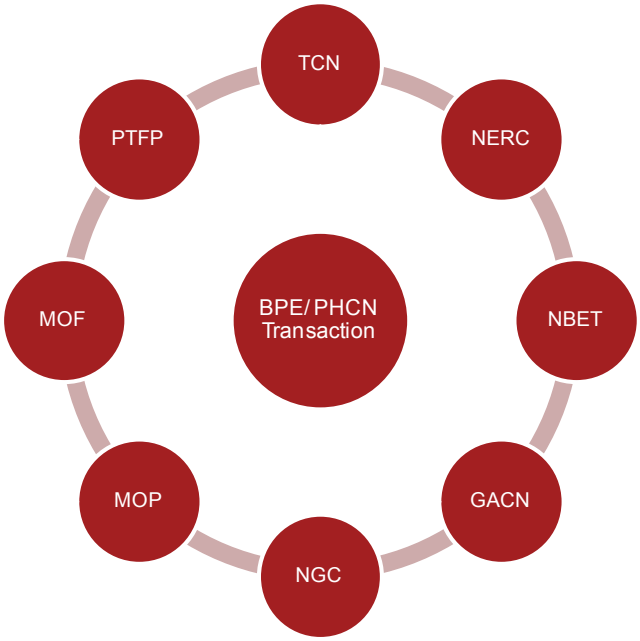
FGN also established the Nigeria Bulk Electricity Trading Company (NBET) as a transitional principal buyer (the PPAs have been established between NBET and the Gencos, and the Vesting Contract between the Disco and NBET, to give comfort to the embryonic market. The NBET has been secured with funding (including capital) amounting to US$ 800,000 so that it is in a position to honour the take and pay commitments in the PPA.

Input of stakeholders

The privatisation strategy was devised to secure consensus and support among all the stakeholders especially to accept the privatisation timetable and work towards its objectives.

Privatisation has opened up the power sector for further large scale investments by private financiers. The new genco owners are contractually obligated to rump up generation capacity of the acquired plants by about 5,000 MW over the next five years, the disco owners are also obligated to make significant reduction in Aggregate Technical and Commercial losses from the current high levels of over 50% in the next five years, as well as extend access to new customers.

Private investors have already expressed strong interest in acquiring 5,400MW of new gas-to-power generation plants being privatised by Niger Delta Power Holding Company (NDPHC). With the successful privatisation of PHCN, a conducive environment is set for new Independent Power Project (IPP) for at least 10,000 MW by 2015.



Investment opportunities

The investment to be made by the Discos must cover the commitments they have all made in metering (6.4 Million Meters over five years), health, safety and environmental practices, reduction in number of power interruptions i.e. due to network faults, new customer connections and network expansion, improvement of customer services and complaints handling procedures and a cost reflective tariff which has been introduced since 01 June 2012 and would be subject to six monthly minor revisions.

Challenges of the sector

Transmission has been seen by some private sector participants as the "weak link" in the value chain; the government, had therefore, brought on board, a reputable private management contractor (Manitoba Hydro of Canada) under a 3-year management contract for TCN to address this challenge.
Skilled manpower is a challenge plaguing the sector with serious shortages of skilled workers and engineers in the industry. In addition, domestic gas supply tariff is not cost reflective and hence does not attract investment from the oil majors; hence, though Nigeria is lucky to be blessed with one of the largest reserves of natural gas in the world, we still do not have the gas production capacity to supply enough gas to support the envisaged increased power generation capacity. Lastly, dynamic market challenges were also identified.

Given that over the next few years, the market will be moving through a period of rapid transformation, there will be market unpredictability. The market will need to adjust to working under a new commercial framework based on contracts. Market participants will need to show flexibility and adaptability to this fluid situation.

Conclusion

The expectation of the FGN is that a target of 20,000MW installed generation capacity will be in place by 2020. In addition, large investments will also have to be made in power transmission and distribution.

Furthermore, large investment will be needed in the distribution sector to realise the improved efficiency and to increase access especially to rural and agricultural areas of the country.

The successful privatisation of the successor companies and the National Integrated Power Project (NIPP) projects is one step in the overall electricity reform process.

Some will say the real job of creating a competitive market driven ESI has just begun and that our salvation is now in the hands of the private sector and the private financiers to bring light and power to Nigeria.

African and global trends in power and utilities

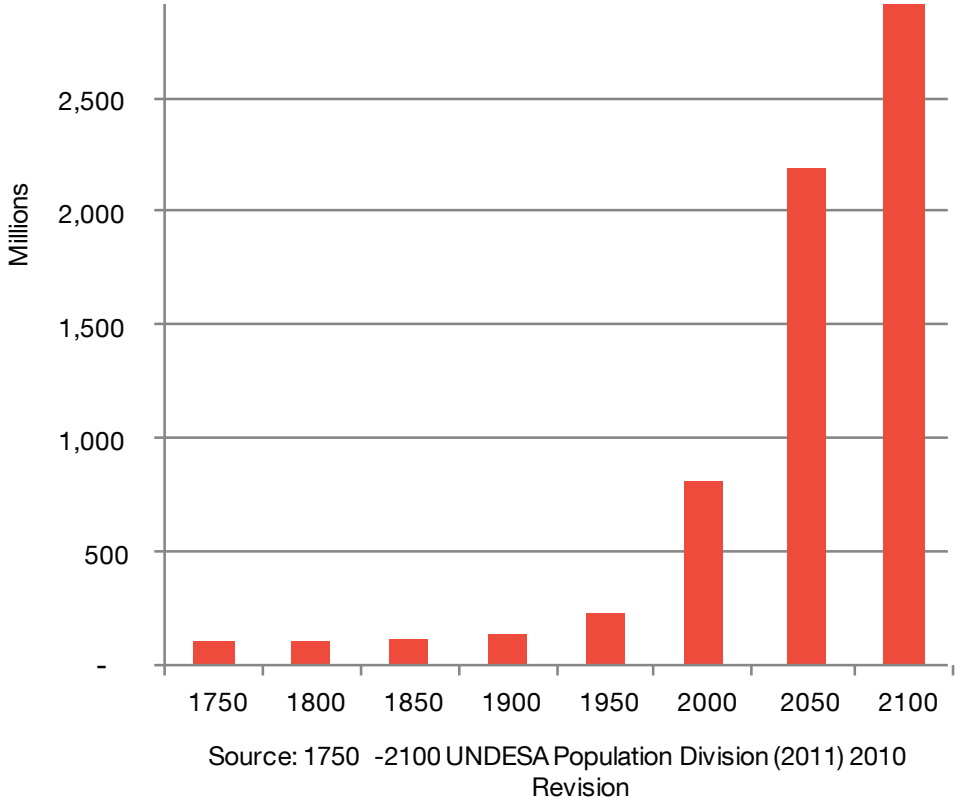
– Angeli Hoekstra

Electricity context

The demand for electricity is on the increase and Africa is the only continent in the world where the number of people without access to electricity is also increasing. In Africa there are big challenges facing electricity generation such as access to funding as well as adequate infrastructure which need to be maintained and upgraded. In some mega cities, the population is increasing and hence the need for electricity generation. In Europe, companies now generate electricity from coal because it is cheaper. There is a PwC survey which states that 64% of the CEOs agree that there is medium to high probability that more than 20% of the generation will be distributed by 2013.

It is expected that instead of having consumers of electricity there would be 'prosumers' of electricity. This means that customers would actually be producing electricity by stepping up the capacity of their generators and feeding it back to the national grid. The grid, however, has to be properly managed as there will be huge fluctuations.

In Africa, the problem of education is also quite critical. There is need to sensitise the customer to be more efficient in the use of available electricity and to avoid wastage.



Source: 1750 -2100 UNDESA Population Division (2011) 2010 Revision

Conclusion

There is a long way to go in Africa, and it is hoped by predictions that there would be more people with electricity by 2020. Everyone has a role to play by working towards the solutions so that we have less people without electricity. A good government that leads from behind and that shows a good example is what Africa needs.

Q&A session

Q. What are the chances of success in the industry considering the retention of the ownership of Transmission Company with the PHCN and the Gencos and Discos gearing up to expand operations?

A. Ibrahim Baba Gana (Director, Bureau of Public Enterprises): In line with the road map, it was agreed that a management contractor should be put in place to run the transmission network with clearly defined targets; this was accepted as the strategy at the time in terms of making sure that managerially when private sector operators come in we would be able to have people who will answer to the yearnings and aspirations of the new private operators, that has been achieved. The Government in its last meeting agreed to put aside $1.6bn from the proceeds of the NIPP power plants which will be injected into the transmission network.Where the monies will be injected have already been identified.There are numerous donor fundings such as the world bank which want to inject $800million into the transmission network on the condition that there is someone who will be able to manage the procurement of these funds.

Q. What is the possibility of setting up a chamber of commerce for electricity where collective inputs of all stakeholders would be constantly addressed?

A. Ibrahim Baba Gana (Director, Bureau of Public Enterprises): To address the issue of putting up a structure that addresses the concerns of the industry is beyond the chambers of commerce from all indications. It needs a total overhaul of the firms that currently exist, where you have the ministry at the apex overseeing the affairs and not involved in the day to day running of the business. A strong unified body (champion) that would be able to review all these agencies is also needed. As of now, everyone has moved to their comfort zones which is not in the best interest of many. It is important that the critical stakeholders, government and private sector come together and address these issues, if not, many may see these loopholes and take advantage of them.

Q. Can the distribution companies have a framework for embedded generations so that it can have sub stations that can supply immediate communities rather than sending all the power generated to the grid?

A. Dr George Oluwande (COO, Sahara Power): Embedded generation has to be commercially viable for it to be considered. In other words, it has to be able to result in the realisation of profit. As an owner of the lines, there is an obligation to ensure that the lines are reinforced where necessary and that the transformers are repackaged when they ought to be. However, this has to be considered in totality.

The problem with distribution lines is that most of them cannot take more than 20-22 megawatts. The lines sometimes melt when the megawatts are exceeded.

There are many companies that have excess capacity, sometimes even triple redundancy because they cannot afford to go down. However, it is likely that as the market grows, such companies would be able to sell the excess capacity into the grid.

Q. With the suspension of guarantees per the NERC interim rules, what guarantees are in place for the system in the interim?

A. Dr George Oluwande (COO, Sahara Power): The interim rules are not permanent. Income is only deferred till a later date.

Q. What is the update on the World Bank PRG, since currently, none of the power plants or assets have not been nominated hence the need for SO arrangement?

A. Ibrahim Baba Gana (Director, Bureau of Public Enterprises): In terms of the World Bank PRG, some interactions have been made with the owners and partial is possible although entitlement would be on a case by case basis. Despite this, it has been recognised that the World Bank has gone ahead to acquire some of these

companies for its own revenue realisation. These obstacles cannot be overcome if we do not unite to salvage the situation.

Q. What is the role of the BPE particularly in this interim market phase? It is important to know because it would help to manage the expectations of stakeholders.

A. Ibrahim Baba Gana (Director, Bureau of Public Enterprises): Businesses ought to be managed for at least four-five years to ensure the performance is satisfactory by the BPE. The BPE serves on the board of all the distribution companies and its role is to monitor that the business plans of the investors are being implemented as planned. In addition, in terms of issues which have to do with the transmission market, the aspiration is to declare term by 01 March and by that time all issues that would have been resolved, and then, the market can run strictly along the private sector line.

Q. Is there the possibility of an Energy ministry in Nigeria?

A. Ibrahim Baba Gana (Director, Bureau of Public Enterprises): If there is an Energy ministry and the actors remain the same, then nothing will happen. The solution is to have more practitioners involved in driving the post privatisation era. There needs to be a framework in place that is pro-reform. Privatisation does not mean we have reached the promise land. All hands have to be on deck if success is to be made.

Q Giving where the industry is and considering that the new owners are looking for funds, how did the distribution companies in India creatively poll funds in addition to subsidies provided by government and what ideas can they share with Nigerians?

A. Dr Sambitosh Mohapatra (Partner, PwC India): The business environment in India is different from Nigeria because in India, distribution has been privatised but 70-80% of gencos are still government owned, so while they are taking support from commercial banks, most of the distribution privatised companies have huge outstanding payables to the generating companies. In Nigeria, however, all the gencos are privately owned and if you don't pay for a month, power will be cut off.

Q. Considering that Germany used wind and solar to produce about 72GW of power, are renewable energy sources not a viable option?

A. Dr George Oluwande (COO, Sahara Power): Giving the intermittent nature of renewables, subsidizing renewables at the expense of making the base loaders not being viable means that one is ready to accept 30% of the time with electricity and 70% without electricity even with the subsidies. In Nigeria, we are already used to no electricity so we can go that way, but we don't have the wind for generation. Renewable option is actually more expensive in Nigeria and will not be affordable.

Q. Considering the shifting of goal post by the regulators and the use of interim rules, which is supposed to guide the market and as a result of which, all the industry agreements have been suspended, has this not created fear in the mind of those who have invested in the market?

A. Dr. George Oluwande (COO, Sahara Power): The interim rules are a more pragmatic way of dealing with the AT&C losses that make the Discos unable to meet their costs. NERC seems to have sleepwalked into privatisation and did not think it will actually become a reality.

Q There doesn't seem to be a holistic view on the privatisation process as people talk about gas to power, transmission lines and the risk around them, but there is no clear mitigation for these risks. People have invested millions into these power plants without any gas supply being put in place and this leads to the plant being dormant for close to two years. Does the government have any holistic view to make provision for gas?

A. Ibrahim Baba Gana (Director, Bureau of Public Enterprises): There ought to have been proper planning but some progress has been made in recent times with the power sector reforms. We have learnt from past mistakes and going forward, relevant issues will be addressed

Q. What alternatives are in place for the transmission lines which have not been funded by TCN because TCN does not have the funds to do so. What is the legal and regulatory framework for those who want to set up transmission lines in the country?

A. Ibrahim Baba Gana (Director, Bureau of Public Enterprises): Some contracts were issued 10 years ago but are still in the books of TCN; some of which are politically motivated contracts that do not add value to the stabilisation of the network. It has been noted that the privatisation process has been a gradual one and that these issues would be addressed.

Appendix

Abbreviations	Description
ABR	Average Billing Rate
ADR	Alternative Dispute Resolution
AGM	Assistant General Manager
AMI	Advanced Metering Infrastructure
AMR	Automatic Meter Reading
ARR	Average Revenue Requirement
AT&C	Aggregate Technical & Commercial Losses
BCS	Base Computer Software
BIA	Business Impact Analysis
BOM	Bill of Material
BPE	Bureau of Public Enterprises
BU	Business Unit
CAIDI	Customer Average Interruption Duration Index
CAIFI	Customer Average Interruption Frequency Index
Capex	Capital Expenditure
CCC	Customer Call Center
CCU	Customer Care Unit
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CIS	Customer Information System
CIT	Corporate Income Tax
CM	Contract Management
CMRI	Common Meter Reading Instrument
COBIT	Control Objectives for Information and Related Technologies
CR	Change Request
CRM	Customer Relation Management
CSS	Customer Satisfaction Survey
CT	Current Transformer
CTO	Chief Technical Officer
CUG	Corporate User Group
Discom	Distribution Company
DMS	Data Management System
DSM	Demand Side Management
DT	Distribution Transformer
DUOS	Distribution Use of Service

Abbreviations	Description
EA	Energy Audit
EPC	Engineering, Procurement and Construction
ERP	Enterprise Resource Planning
ESCO	Energy Services Company
FGN	Federal Government of Nigeria
FI	Financial Institution
Forex	Foreign Exchange
FRCN	Federal Reporting Council of Nigeria
GAAP	Generally Accepted Accounting Principles
GIS	Geographic Information System
GL	General Ledger
GPRS	General Packet Radio Service
GPS	Global Positioning System
GSM	Global System for Mobile Communication
H & S	Health and Safety
HR	Human Resource
HT	High Tension
HV	High Voltage
ID	Identity Number
IFC	International Financial Corporation
IFRS	International Financial Reporting Structure
IKEDC	Ikeja Electricity Distribution Company
IP	Internet Protocol
IPP	Independent Power Producer
IS	Information Systems
ISO	International Standards Organization
IT	Information Technology
ITIL	Information Technology Infrastructure library
JE	Journal Entry
KPI	Key Performance Indicator
kV	Kilo Volt
kWh	Kilo-Watt Hour
L & D	Learning and Development
LAN	Local Area Network

Abbreviations	Description
LoI	Letter of Intent
LT	Low Tension
LV	Low Voltage
MCB	Miniature Circuit Breaker
MD	Managing Director
MF	Multiplication Factor
MIS	Management Information System
MO	Market Operator
MRBICOL	Meter Reading, Billing and collection cycle
MS	Microsoft
MYTO	Multi Year Tariff Order
NEDC	New Electricity Distribution Company
NERC	Nigeria Electricity Regulatory Commission
NMD	Non Maximum Demand Customers
O&M	Operation & Maintenance
OH&S	Occupational Health and Safety
Opex	Operational Expenditure
PAYE	Pay As You Earn Tax
PCAF	Power Consumer Assistance Fund
PF	Procurement Function
PF(RCM)	Power Factor
POS	Point of Service
PPA	Power Purchase Agreement
PPM	Pre Payment Meter

Abbreviations	Description
PT	Potential Transformer
R&M	Repair & Maintenance
R1	Residential 1 tariff category
R2	Residential 2 tariff category
RAID	Redundant Array of Independent Disks
RCM	Revenue Cycle Management
RFC	Request For Change
RFP	Request For Proposal
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SCADA	Supervisor Control and Data Acquisition
SLA	Service Level Agreement
SLD	Single Line Diagram
SoP	Standards of Performance
SS	Sub Station
T&C	Terms & Conditions
T&D	Transmission & Distribution
TCN	Transmission Company of Nigeria
TEM	Transition Electricity Market
UPS	Uninterruptible Power Supply
VAT	Value Added Tax
WHT	Withholding Tax
WIP	Work in Progress

Contacts

Uyi Akpata
Country Senior Partner
uyi.n.akpata@ng.pwc.com

Pedro Omontuemhen
Partner - Power and Utilities Leader
pedro.omontuemhen@ng.pwc.com

Abolade Kehinde
Director - Tax
abolade.kehinde@ng.pwc.com

Ian Aruofor
Director - Deals
ian.aruofor@ng.pwc.com

Bimbola Banjo
Senior Manager - Power and Utilities
abimbola.banjo@ng.pwc.com

PwC Nigeria offices

Lagos
Head office
252E Muri Okunola Street
Victoria Island
P.O. Box 2419, Lagos

Abuja
5th Floor Katsina House
Plot 78, Ralph Sodeinde Street
Central Business District, Abuja
T: +234 (9) 291 4588
F: +234 (9) 4613747

Annexe
17 Chief Yesufu Abiodun Way
Oniru Estate, Victoria Island, Lagos
T: +234 (1) 271 1700
F: +234 (1) 270 3108

Port Harcourt
35 Woji Road
GRA Phase II
Port Harcourt, Rivers
T: +234 (84) 571513
F: +234 (84) 237959

Email: enquiry@ng.pwc.com

Website: www.pwc.com/ng