Making the Power Sector Work In a Privatised Environment

18th September 2014

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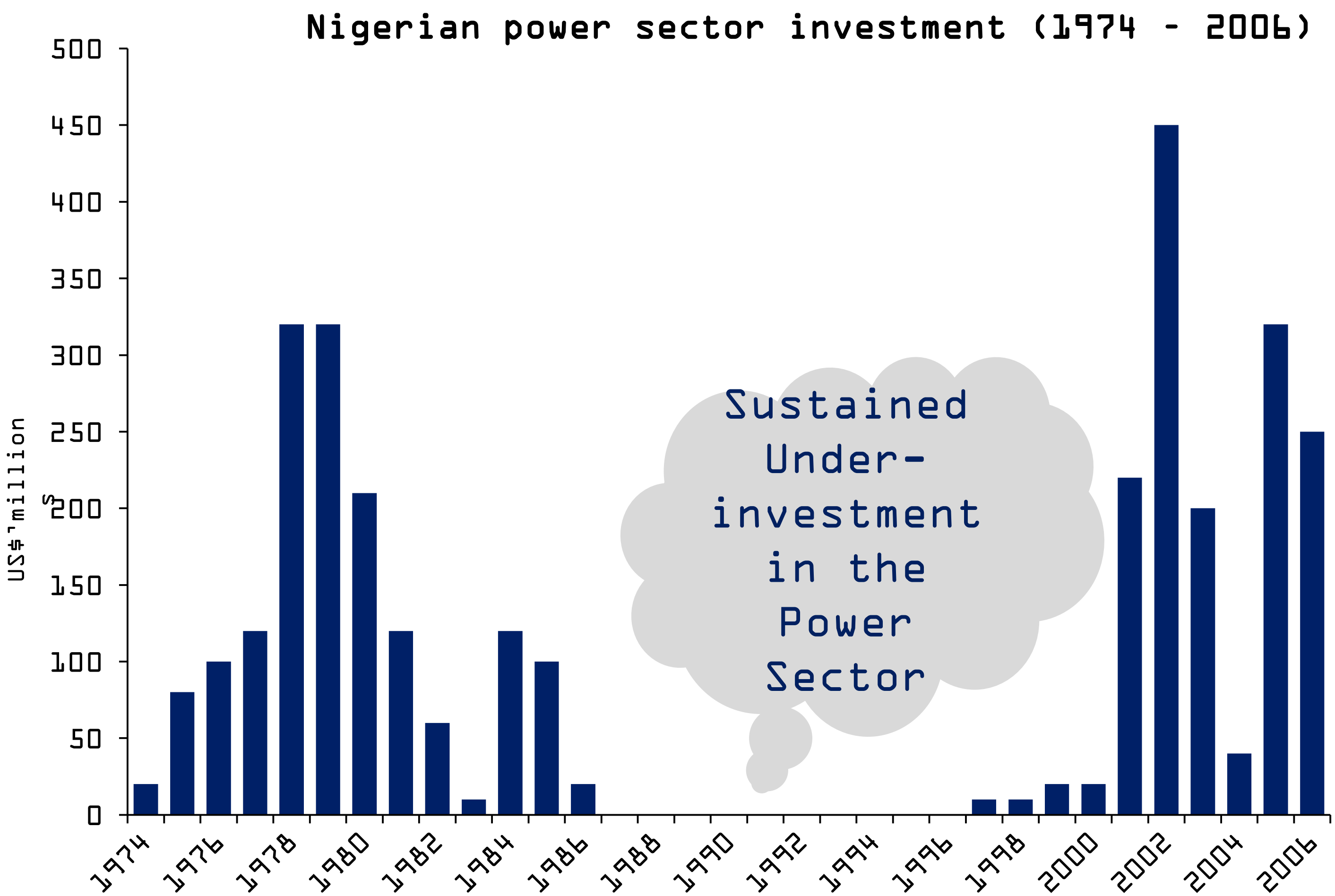
Outline

Overview of the Nigerian Power Sector

Sustained underinvestment in the Power Sector

- The Nigerian Power sector suffered a long period of under-investment and neglect during the 80's and 90's
- This led to severe infrastructure decay in the sector
- Also, most Gencos were operating below installed capacity while the Discos were operating in deficit as cash collected



Source: NEPA

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Overview of the Nigerian Power Sector

A historical perspective

Pre-Transitional era | Transitional era | Privatisation era

Pre-1950

- Power sector was uncoordinated
- Several players - including municipals, local and Federal Government

1950

- Electricity Corporation of Nigeria (ECN) ordinance was passed integrating all power sector activities under the ECN

1972

- ECN merged with Niger Dams Authority to form the National Electric Power Authority

2005/06

- Enactment of the EPSR Act
- Unbundling of NEPA into 11 Discos and 6 Gencos
- Creation of the National Electricity Regulatory Commission ("NERC")
- Commercialisation of the power sector

2010 - 12

- Introduction of the Multi Year Tariff Order ("MYTO")
- Launched the divestment process for the PHCN assets
- Selection of Manitoba Hydro of Canada for the management of the TCN

2013 - 14

- Completion of the privatisation exercise for Gencos and Discos
- Award of the management contract for the TCN to Manitoba Hydro
- Privatisation of NIPP power plants

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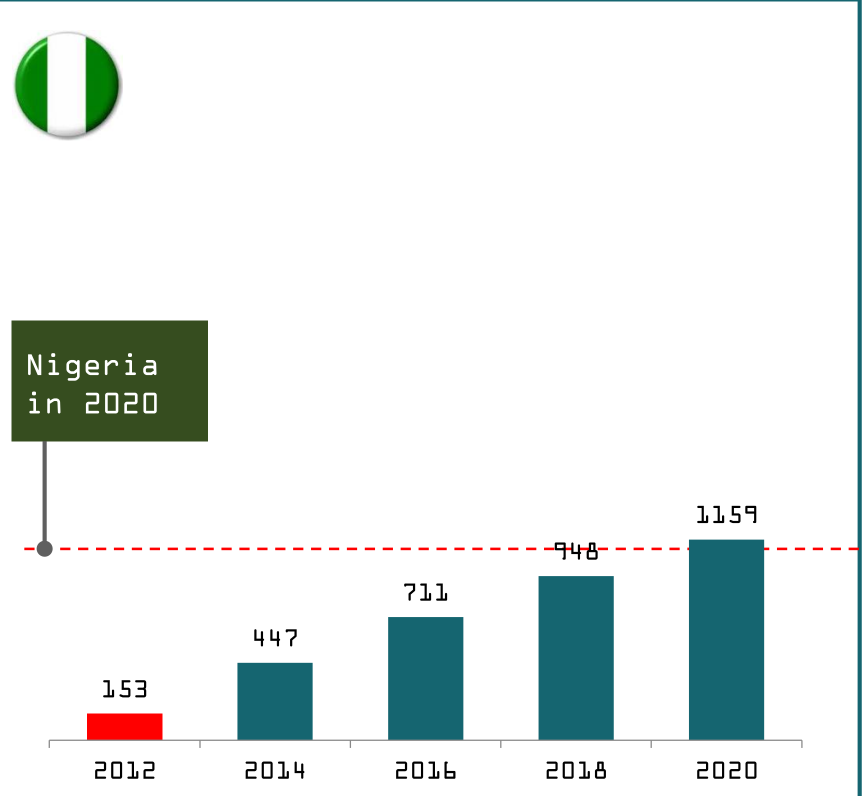
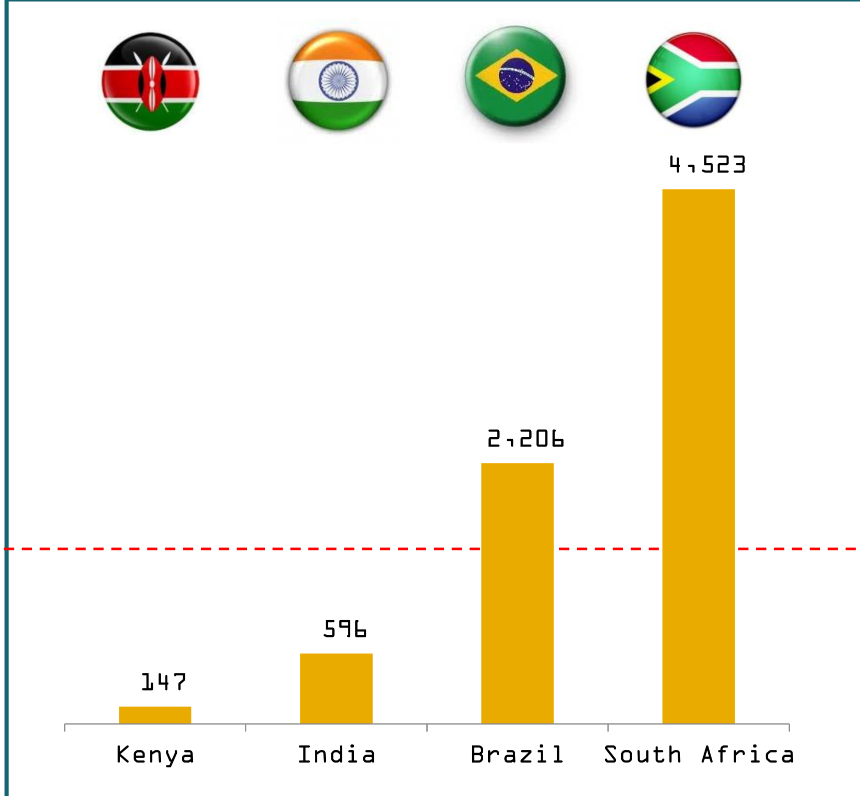
Overview of the Nigerian Power Sector

Nigeria significantly lags other emerging markets in power consumption

Nigeria power consumption KWh/Capita (2012-2



Other emerging markets consumption kWh/Capit



Source: NERC, 2012

Overview of the Nigerian Power Sector

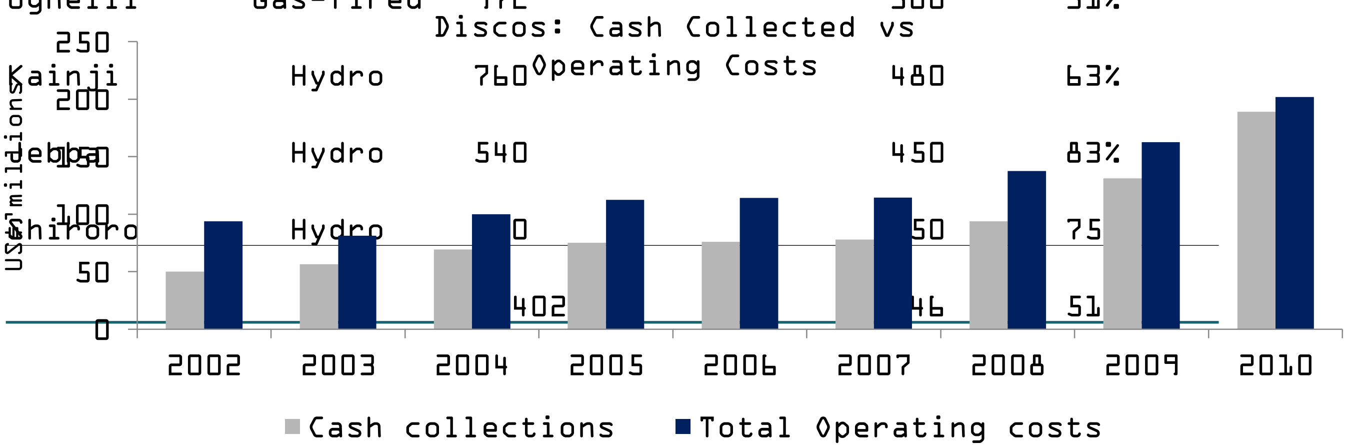
Status of the assets prior to privatisation

Prior to privatisation:

- Gencos operated at available capacity of 51% and even lower actual operating capacity;
- The Discos were unable to cover operating costs as a result of commercial and collection losses - poor metering, theft and pilferages

Gencos operating information prior to privatisation

Plants	Type	Installed capacity (MW)	Available capacity (MW)	Available capacity (%)
Afam	Gas-fired	776	90	12%
Egbin	Gas-fired	1,320	1,100	83%
Geregu	Gas-fired	414	276	67%
Sapele	Gas-fired	1,020	100	10%
Ughelli	Gas-fired	972	300	31%
Kainji	Hydro	760	480	63%
Jebba	Hydro	540	450	83%
Shiroro	Hydro	[illegible]0	[illegible]50	75[illegible]
[illegible]		[illegible]402	[illegible]46	51[illegible]



Source: PHCN

Outline

Update on the Privatisation Process

The Nigerian power sector has significantly evolved since the enactment of the EPSR Act in 2005

2005

The enactment of the EPSR Act in 2005:
- Unbundling of PHCN
- Establishment of NERC and REA
- Establishment of Niger Delta Power Holding Company Ltd as the vehicle for NIPP

2008

- Power was top of the 7-point agenda of President Yaradua in 2007
- 11-man Accelerated Power Infrastructure Committee was inaugurated in 2008
- Power sector master plan was adopted in 2008

2011

BPE commenced the sale of the PHCN assets to strategic investors
- EOIs were received for 11 Discos and 6 Gencos
- The Multi Year Tariff Order (MYTO II) was released

2012

- Manitoba Hydro of Canada was selected for the management of TCN
- New tariff for electricity came into force
- NCP released the list of preferred bidders for 10 Discos and 5 Gencos

2013/2014

- PHCN assets handed over
- NDPHC/BPE has announced the preferred bidders for NIPP assets
- PPP initiative for TCN announced

Update on the Privatisation Process

Well-managed process

- The ongoing privatisation has been hugely successful given the achievement of the following major milestones:
  - Completion of the Genco privatisation
  - Completion of the Disco privatisation
  - Award of TCN management contract to Manitoba
  - Commencement of the privatisation of the NIPP power plants
- The process attracted interest from local and international investors - over 331 EoIs were received;
- FGN raised about US$2.9 billion from the partial divestment of the Genco and Disco assets, while the Transmission Company of Nigeria (TCN) was awarded

Bid results				
Assets	Preferred bidder	% sold	Winning bid	Status
Discos				
Abuja	Kann Consortium	60%	$164m	Fully paid
Benin	Vigeo Power	60%	$129m	Fully paid
Eko	West Power	60%	$135m	Fully paid
Enugu	Interstate Electrics	60%	$126m	Fully paid
Ibadan	Integrated Energy	60%	$169m	Fully paid
Ikeja	KEPCO	60%	$131m	Fully paid
Jos	Aura Energy	60%	$82m	Fully paid
Kaduna	NorthWest Power	60%	$222.9m	Fully paid
Kano	Sahelian Power	60%	$137m	Fully paid
Port harcourt	4Power	60%	$124m	Fully paid
Yola	Integrated Energy	60%	$59m	Fully paid
Gencos				
Sapele	CMEC/ Eurafric	100%	$201m	Fully paid

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Update on the Privatisation Process

Evolution of the market

The privatisation process was based on a 4-stage evolution of the market as outlined below:

Pre-Transitional Stage/ Interim period	Transitional Stage	Medium Term Stage	Long Term Stage
Currently in force	Expected end-2014	TBD	TBD
Key features • Interim period between the completion of privatisation and the declaration of transitional market • Gencos sell power to the Bulk trader while Discos buy power from the Bulk trader • IPPs sell power to the Bulk trader • Existing power will be traded	**Key features** • Bulk trader gradually ceases to purchase power directly from Gencos • Gencos can sell power directly to Discos and eligible customers • Gencos can directly sell ancillary services to all other players • ☐Existing vesting contracts to remain in force • ☐Transparent and competitive	**Key features** • Complete phase-out of the Bulk trader • Flexibility in electricity trading arrangements as contracts can be negotiated freely and there can be derivative contracts based on power • Centralized Merit Order dispatch by the System Operator i.e. ranking of available	**Key features** • Similar to the medium term stage • Increase in competition and greater freedom by eligible consumers to choose suppliers

Update on the Privatisation Process

Progress so far. . .

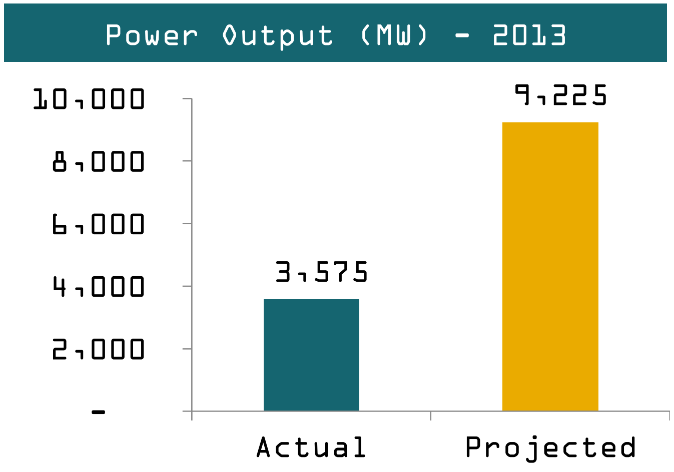
- The Power sector has continued to take practical steps to translate reform policies into reality since the conclusion of the privatisation exercise. Key milestone achievements include:

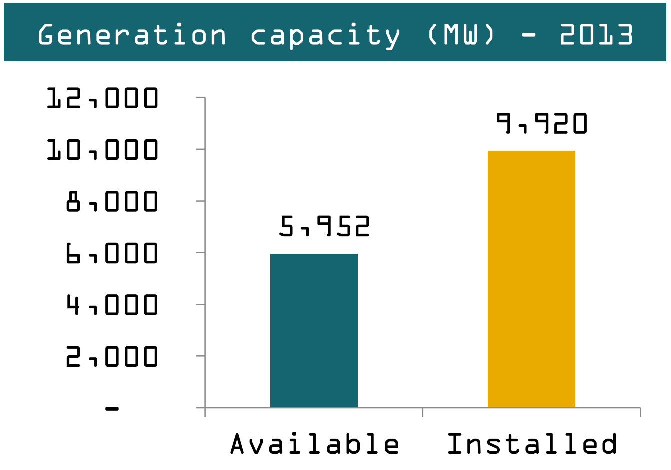
  - ✓ Settlement of staff liabilities - up to 95% paid as at June 2014;
  - ✓ NBET capitalised with US$312 million from the sale of Egbin and additional US$400 million from Eurobond proceeds;
  - ✓ FG secured World Bank Partial Risk Guarantee (PRG) of US$700 million;
  - ✓ Secured African Development Bank (AfDB) PRG of US$182 million;
  - ✓ Disbursement of US$200 million to the Nigeria Sovereign Investment Authority (NSIA) for gas-to-power projects;
  - ✓ Creation of N300 billion Power and Aviation Fund by the CBN;
  - ✓ Establishment of N200 billion Power Sector Intervention Fund by the CBN;
  - ✓ Approval of N1.9billion by the FGN for the supply of aluminum conductor composite core reinforced (ACCR) for the re-conduction of the Onitsha-New Haven 330kv transmission line;
  - ✓ Approval of new benchmark price of US$2.50 per scf for gas supply and US$0.80 per scf as transportation cost by the NERC - this has resulted in the announcement of a number of pipeline and gas projects by IOCs and Nigerian investors.

Update on the Privatisation Process

Power Sector performance

- Though with a modest increase over pre-privatisation levels, power output remains significantly lagging behind projected output while available capacity is only about 60% of the installed capacity
- Gas shortage is currently the biggest challenge in the sector underpinned by significant debt to gas suppliers despite the subsidised gas prices





Update on the Privatisation Process

Notable points from FBN Capital's Power experience

- Lending was based on the collateral of sponsors i.e. balance sheet from other businesses rather than on the cash flows from the assets;
- Restrictions on participation from parties who were not part of the original consortium;
- Financing was all US$-based implying an FX risk on the investors;
- Acquisition financing was mostly funded locally i.e. there was little or no contribution from foreign investors;
- Financing was short-tenored: 5 - 7 years at the most;
- Equity contribution by the sponsors was mostly funded by further personal leverage;
- Cash and revenue projections were based on guestimated ATC&C losses i.e. lack of reliable company and market information

Outlook in the Power Sector

1	**Regulation and Tariffs**	▪ Approval of the Multi-Year Tariff Order-2 (MYTO), which took effect in June 2012 represented a 50% average increase over the old tariffs ▪ The new structure, the 11 distribution companies - Discos - will charge different tariffs that reflect their peculiarities in terms of costs, location and customer profile. NERC will likely review tariffs again
2	**Extensive demand/supply gap**	▪ Expected to grow from 7% to 8% every year, with the country expected to spend about $2.5 billion every year for the next 26years to achieve its target of 40,000MW of capacity
3	**Government policy**	▪ The government has provided over US$750mn to NBET, which is likely to face financial obligations of up to US$2bn over the next 24 months as new IPPS come online and gen, capacity improves.
4	**Need to increase gas supply / feedstock**	▪ Huge deficit in gas transport infrastructure ▪ World Bank has provided guarantees to gas suppliers under the Nigeria Electricity and Gas Improvement Project (NEGIP) from $400 million to $600 million. However not all the gas-fired power plants are covered under the World Bank's partial risk guarantee
5	**Knowledge transfer**	▪ Very limited local R&D and technology; governments and owners/developers are looking to import expertise and technology

Outline

Ongoing Challenges Post-Privatisation

Operational issues

Key Operational Issues in Nigeria Power Sector	
1 Power Generation	• Low investment in gas monetisation due to unattractive gas pricing policy • Inadequate gas infrastructure • Gencos are not adequately covered for gas risk • Gencos require huge capex to revamp and expand plants
2 Transmission	• The national grid capacity is grossly inadequate • Intermittent down time due to poor maintenance • Huge capex requirements
3 Distribution	• Acquisition costs were based on ATC&C loss estimates which turned out in some cases to be gross underestimation • Cash collections are far below estimates leading to inability of Discos to cover operating costs and cash obligations • Significant capex requirements to achieve set targets

Cash shortages and growing industry trade payables and receivables

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Ongoing Challenges Post-Privatisation

Interim rules put in place to manage sector-wide cash shortages

- The interim rules were put in place by the NERC to govern the sale and purchase of power during the intervening period before the Transitional electricity market;
- According to the rules, the Market Operator obtains payments for power from all Discos and distributes to the Gencos and other market players in line with an agreed formula;
- Discos are allowed to pay a baseline remittance percentage of their monthly bills while the balance is treated as loan to the Disco;
- The shortfall in Disco payments creates a gap between Gencos' expected revenue and cash received, which are being aggregated as industry debt against each Disco;
- Gas suppliers are also unable to get paid for products supplied to Gencos thus creating a growing vicious cycle of debt and illiquidity;
- Though no official figures have been released, we understand that the industry debt is over ₦200 billion as at September

Interim rules - Baseline remittance

Assets	% of market bills
Discos	
Abuja	65.13%
Benin	53.12%
Eko	98.24%
Enugu	55.93%
Ibadan	74.13%
Ikeja	90.66%
Jos	40.53%
Kaduna	49.87%
Kano	72.23%
Port Harcourt	60.59%
Yola	25.00%
Non-Hydro Gencos	
Energy charge	100%
Capacity charge	60%
Hydro Gencos	
Energy charge	60%
Capacity charge	100%

Source: Interim Rules, NERC

Ongoing Challenges Post-Privatisation

Industry debt overhang

Acquisition debt

It is estimated that the acquisition cost was 75% financed by debt:

- Financed at LIBOR plus about 850 to 900 basis points
- Valued at about US$2.2 billion*
- Accumulated interest to date of about US$200 million

* Excludes the portion of equity contribution also financed by loans taken out by sponsors

Industry debt

Estimated at over ₦200 billion (US$1.25 billion) as at September 2014:

- Interim rules specify penalty of NIBOR plus 7.5% interest rate per annum on shortfall;
- Shortfall is growing month on month as ATC&C losses are yet to subside;
- Proposed increase in tariff (MYTO

Capex debt

Estimated capex requirements for PHCN assets totalled US$6 billion:

- Up to US$1.8 billion required for Discos;
- Up to US$4.2 billion required for the Gencos;
- Although the bulk of this is yet to be incurred, it indicates future expected spending of the industry

We estimate that the bulk of the acquisition financing debt was provided by domestic banks

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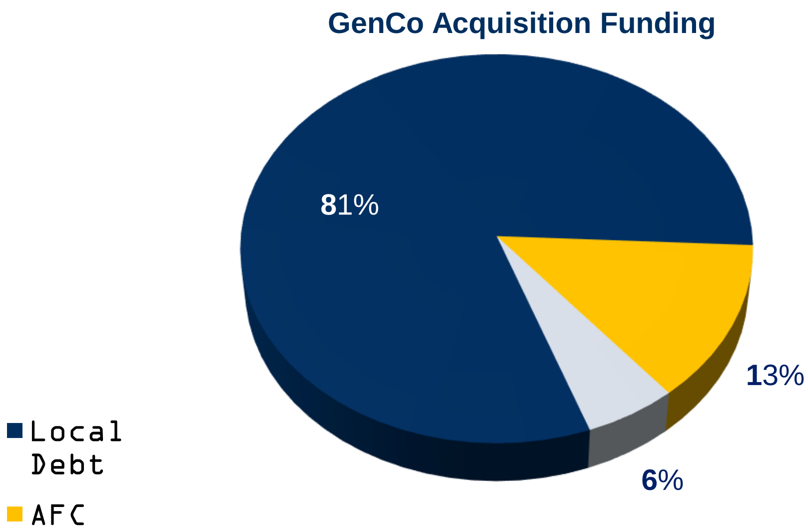
Ongoing Challenges Post-Privatisation

Acquisition Finance Sources

Local Banks have largely dominated the Nigerian power sector financing space since the Power Reform commenced. However, some banks are now constrained due to sector limits.



	Local Banks	AFC	Afrexim
Egbin	303		
Geregu	101		
Kainji	102	68	
Sapele	90		51
Ughelli	160	55	
Shiroro	112		
Totals	868	123	51

Source : FBN Capital Research

**Afam has not yet been completed*

- Funding dominated by Nigerian banks; Most of the funding advanced in USD
- It is estimated that Nigerian banks have committed up to N750 Billion in Acquisition Financing
- Local Banks are now faced with sectoral limit constraints
- Nigerian Power Sector requires offshore financing

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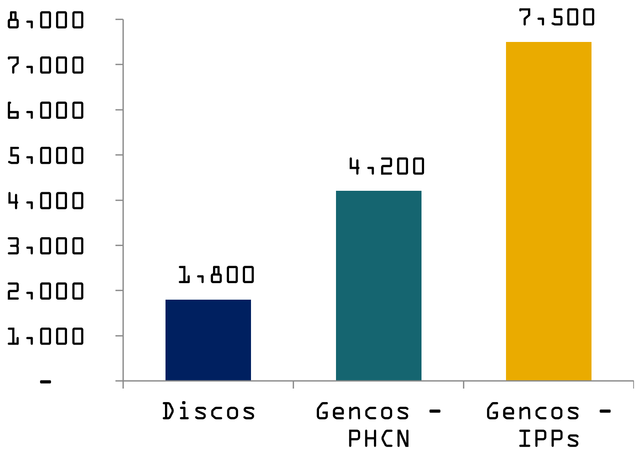
Ongoing Challenges Post-Privatisation

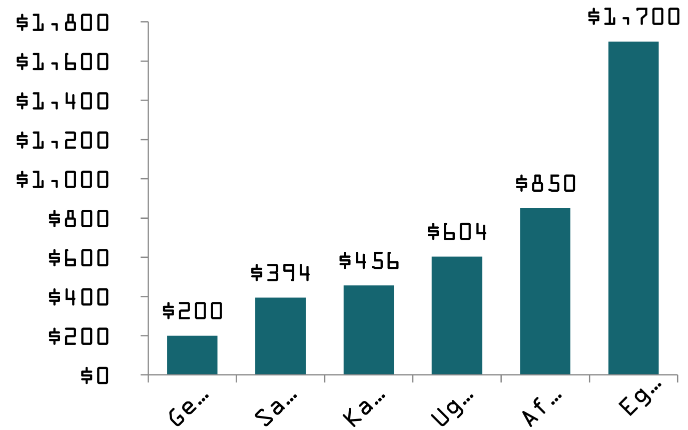
Lingering requirement for capex to fix critical issues

About US$10 billion is required for the Power Sector over the next 5 years:

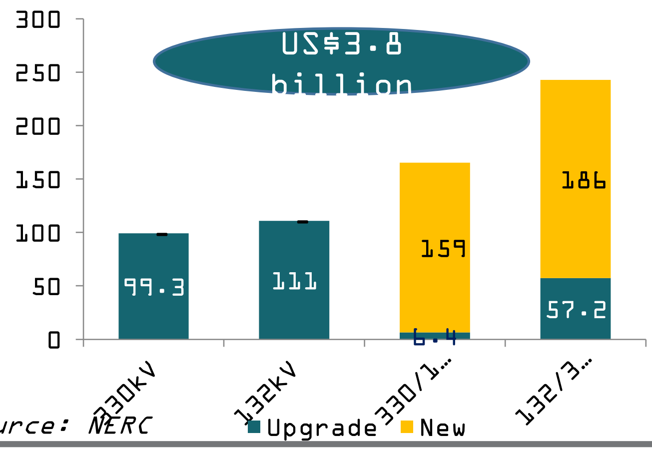
- PHCN Gencos require up to US$4.2 billion to refurbish plants and increase output
- The Discos require up to US$1.8 billion to improve distribution efficiency and minimise ATC&C losses
- The TCN requires about NGN618 billion (US$3.8 billion) to upgrade existing infrastructure

Genco & Disco capex requirements (US'm)





TCN capex requirement (NGN'b)



Source: NERC

Gas capex requirement (NGN'b)

US$7.5 billion required over the next 5 years

Sector Funding Requirements

Significant funding required across the entire value chain

	Gas Supply	Power Generation	Power Transmission	Power Distribution
				
Players	▪ E & P Companies ▪ Refining, Transmitting and Processing Companies ▪ Storage and Distribution Companies	▪ Independent Power Plants ▪ PHCN Successor Companies ▪ NIPP Assets ▪ Embedded Power Plants ▪ Captive Power Plants	▪ Transmission Company of Nigeria ○ Market Operator ○ System Operator	▪ 11 Discos ▪ Independent Electricity Distribution Companies
Funding needs	▪ Acquisition finance ▪ Expansion finance ▪ Working capital finance ▪ Project Finance	▪ Acquisition finance ▪ Expansion finance ▪ Working capital finance ▪ Project Finance	▪ Expansion finance ▪ Working capital finance	▪ Acquisition finance ▪ Expansion finance ▪ Working capital finance
Funding options	▪ ECA finance ▪ Supplier credit ▪ Bank lending / Islamic Finance ▪ Private placement ▪ IPO ▪ Bond Issue	▪ ECA finance ▪ Supplier credit ▪ Bank lending / Islamic Finance ▪ Private placement ▪ IPO ▪ Bond Issue	▪ Contractor finance ▪ Infrastructure bonds ▪ Pension funds ▪ Multilateral Agencies ▪ Infrastructure Bond / Securitization	▪ Supplier credit ▪ Bank/Islamic Finance ▪ Pension funds ▪ Private placement ▪ IPO ▪ Bond Issue

Outline

Expanding available Funding Sources

Although existing funding sources have been limited to local bank debt, the following sources are potentially available but will require extensive due diligence over and above what is typically obtained in the industry now.

	TYPICAL SOURCES	REQUIREMENTS
Development Finance Institutions (DFI's)	• Proparco • FMO (Netherlands Development Finance Company) • DEG (Entrepreneurial Development Cooperation) • DBSA (Development Bank of South Africa) • IDC (Industrial Development Corporation	• High level of due diligence (particularly environmental due diligence) required • Preference is for deals with direct development impact • Long tenors in excess of ten years • Would typically offer attractive margins
Multilateral Agencies	• AfDB (African Development Bank) • EIB (European Investment Bank) • ADB (Asian Development Bank)	• Usually region focused • Extensive due diligence requirements • Long tenors
Export Credit Agencies	• US EXIM • SINOSURE (China Export and Credit Insurance Corporation) • JBIC (Japan Bank for International Cooperation)	• Mainly Finance up to 60% of equipments cost • Mainly available for Project Finance type debt

Expanding available Funding Sources (2 of 2)

	TYPICAL SOURCES	REQUIREMENTS
Islamic Finance Solutions	• Qatar Islamic Bank • Islamic Bank of Britain • Islamic Development Bank	• High level of due diligence required • Preference for deals with lease or profit and loss sharing structures since interest is prohibited • Potentially long tenors in excess of ten years
Chinese Funding	• CAD Fund (China – Africa Development Fund) • China Construction Bank • ICBC (Industrial and Commercial Bank of China) • Bank of China	• Mainly Finance equipments cost • Finance Chinese EPC contractors • Fits Nigeria story as part of its reserves are now in Yuan; • Tenors up to 20 years possible with all-in cost of less than 3% achievable;
Offshore Commercial Banks	• Standard Chartered Bank • Standard Bank • BNP Paribas, etc	• High level of due diligence (particularly environmental due diligence) required • Preference for Capex Financing and NOT acquisition financing • Preference for deals where ALL risks are well and satisfactorily mitigated

Outline

A number of issues for consideration…

Interim Rules	▪ Non Declaration of the Transitional Electricity Market ▪ Gencos are receiving only 45%-60% of capacity charge, investors therefore struggling with debt service to their Lenders ▪ Growing receivables due to Genco's. Unclear how and when this would be settled
Gas	▪ Although gas prices have now been increased to US$ 3.30 to attract investment, it is still not at the required level. ▪ Inadequate gas processing and transportation infrastructure ▪ Regulatory Concerns: Lack of robust legislation that effectively regulates the Nigerian Gas Sector. The long awaited PIB?
NBET's liquidity	▪ Although NBET has been funded, concern remains as to the adequacy of funds to meet Genco's maturing obligations in the event of default by Discos ▪ By extension, commercial and technical losses at the Disco level remains a concern ▪ The Disco's are therefore comfortable with the Interim Rules as they are not under intense pressure to meet obligations and ATC&C commitments.
Power Transmission	▪ Incapacity of the grid to wheel bulk of the power generated ▪ Lack of clarity on Government's intervention to increase wheeling capacity: ▪ TCN privatized imminent? Structure? Concession, PPP or Share Sale?

A number of issues for consideration…

Structural Considerations

- Financial assistance rules limit scope of acquisition financing. International Banks would be more keen on asset sale than share sale acquisition structure
- Tight structuring required to attract International Financing i.e Currency mix, Gearing, transaction accounts (DSRA & MMRA), Dividend locks etc
- Constraint on diluting shares limits IPO and Bond issue post acquisition financing

Due Diligence Considerations

- DFI's would require extensive due diligence including technical, environmental and legal before investing in power transactions
- Some of the power generation assets may not pass the strict due diligence requirements of DFIs e.g valuation, technical, environmental
- Funding timetable is usually too aggressive for DFI's who typically take some time to navigate through DD

World Bank PRG

- Most be secured on a deal by deal basis
- Some assets and promoters may not meet the due diligence requirements of the World Bank
- Environmental management plan and Environmental Impact are key considerations

Political Risk Considerations

- NIPPs may be delayed pending 2015 general elections
- Uncertainty of Government policies after financing e.g suspension of project documents/capacity charge reduction after private sector investment in the PHCN assets
- Policy considerations i.e MYTO tariff increase before 2015 elections?

Way Forward

A number of these solutions are currently being implemented or considered….

Possible solutions

Revised ATC&C loss projections and raise tariffs

- Revise the MYTO to determine tariffs which reflect realistic ATC&C losses
- Enforce new ATC&C loss commitments made by Discos and Gencos
- Introduce flexibility through tariff management within Disco

Long term funding

- Allow Pension Funds to invest in Power through robust financing instruments and settlement framework that minimises the risks.
- Create a special purpose power sector stabilisation fund to refinance the existing acquisition debt into long term debt at concessional rates in local currency

Gas supply and infrastructure

- Transition to market-driven gas prices. Recent increase in tariff to be reflect in MYTO 2.1
- Government to provide financial and non-financial incentives for the development of gas infrastructure

Roadmap for the TCN

- Gradually privatise the TCN. Multiple grid system with supergrid and failsafe measures
- Explore Public Private Partnership options for the operation of the TCN
- Long-term FGN commitment to TCN revenue to enable matching financing instrument

Disco Early Warning and Problem Resolution

- Early warning triggers and escalating interim measures (Eletricity Business Continuity Regulation proposal)
- Disco management intervention and problem resolution plan

Outline

About FBN Capital Limited

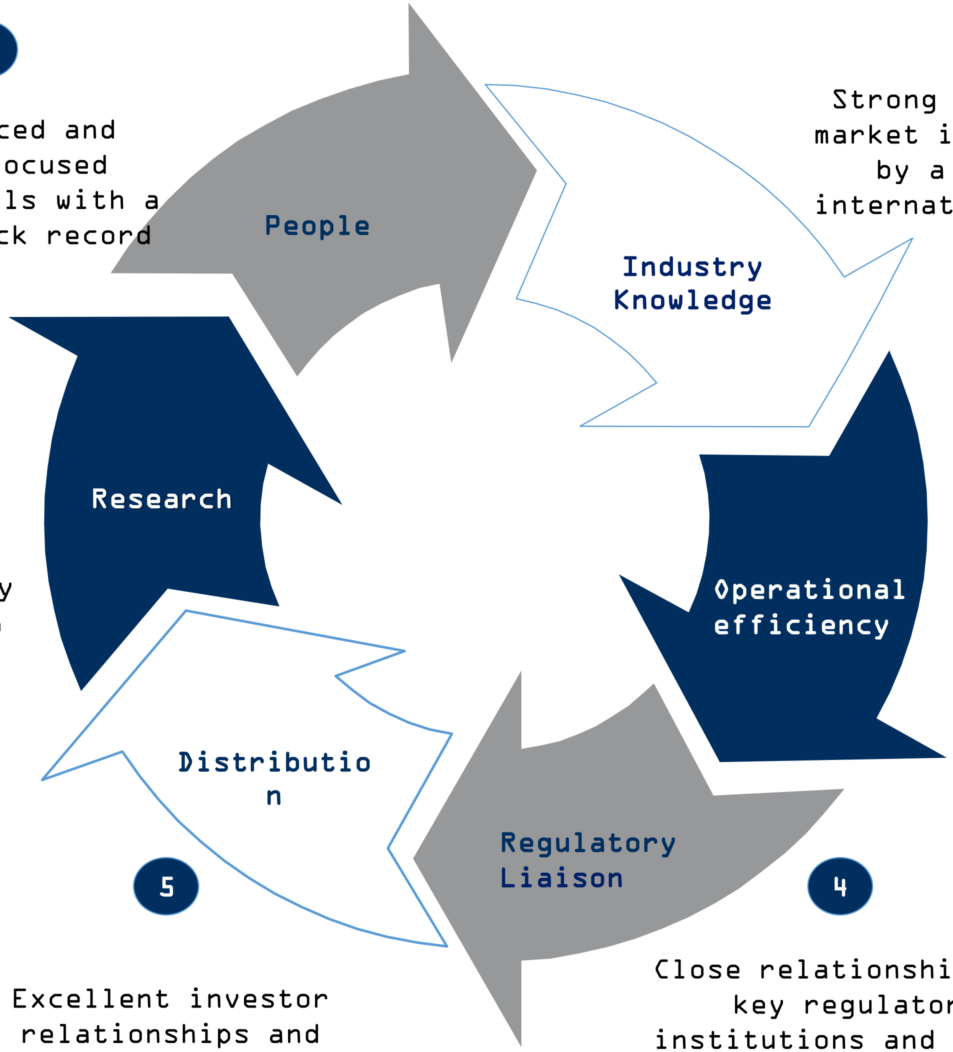
Our value proposition

1

Experienced and client-focused professionals with a proven track record

2

Strong industry and market insight backed by a local and international network



3

Operational efficiency through processes, people and technology

6

Differentiating research capability in macro-economic, fixed income and equities

5

Excellent investor relationships and distribution capabilities

4

Close relationship with key regulatory institutions and a keen understanding of the local market

About FBN Capital Limited

Our Gas and Power transaction experience

Bid Advisory

Acquisition of a 80% in three NIPP power plants

US$2.1 Billion

2014

Bid Advisory

Acquisition of a 80% in Omoku Power Plant

US$319 Million

2014

Equity Raise

Acquisition of a minority interest by Africinvest Fund

US$20 Million

2013

Share Capital Restructuring
Lead Financial Adviser

$469 Million

2013

Medium Term Acquisition Finance Facilities for 70% in Egbin Power Plc

US$303 Million

Ongoing (2013)

Medium Term Acquisition Finance Facilities for 51% in Geregu Power

US$132 Million

August 2013

Financial Adviser to Eurafric on the acquisition of 100% shareholding in Sapele Power Plc

US$201 Million

August 2013

Equity raise for the acquisition of the Benin electricity distribution company

US$70 Million

September (2013)

Accugas gas pipeline refinancing and expansion project

US$225 Million
2013

Acquisition of East Horizon Gas Company Limited

US$170 Million
2014

Medium term credit facility

US$225 Million
2013

Rights Issue

N54.5 Million
2013

Questions