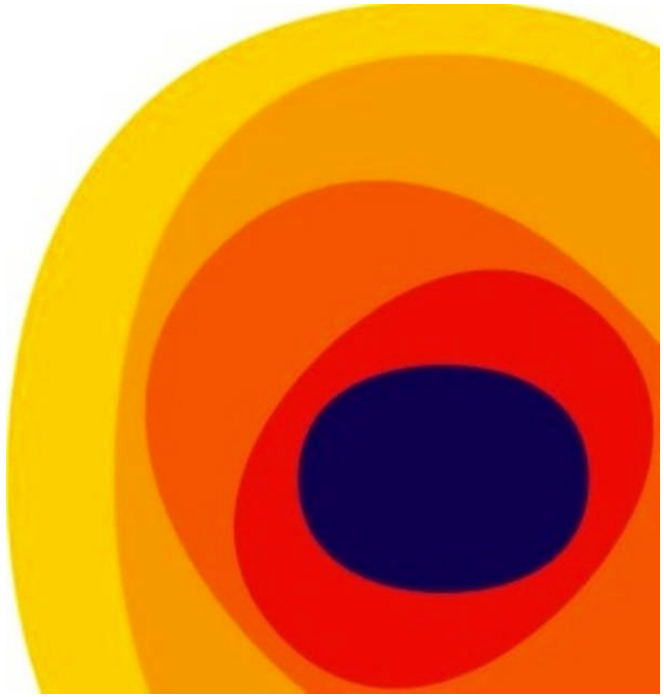
Meeting Nigeria's Power Demand

Bolaji Osunsanya
CEO Oando Gas & Power

U.S – Africa Infrastructure Conference
Washington D.C.

7 October 2008



Outline

1.0 Background

- Nigerian Electricity Supply Industry
- Reform

2.0 Current Realities / Challenges

- Government Intervention
- Funding and Infrastructural Issues

3.0 Practical Way Forward

- A suggested revised path

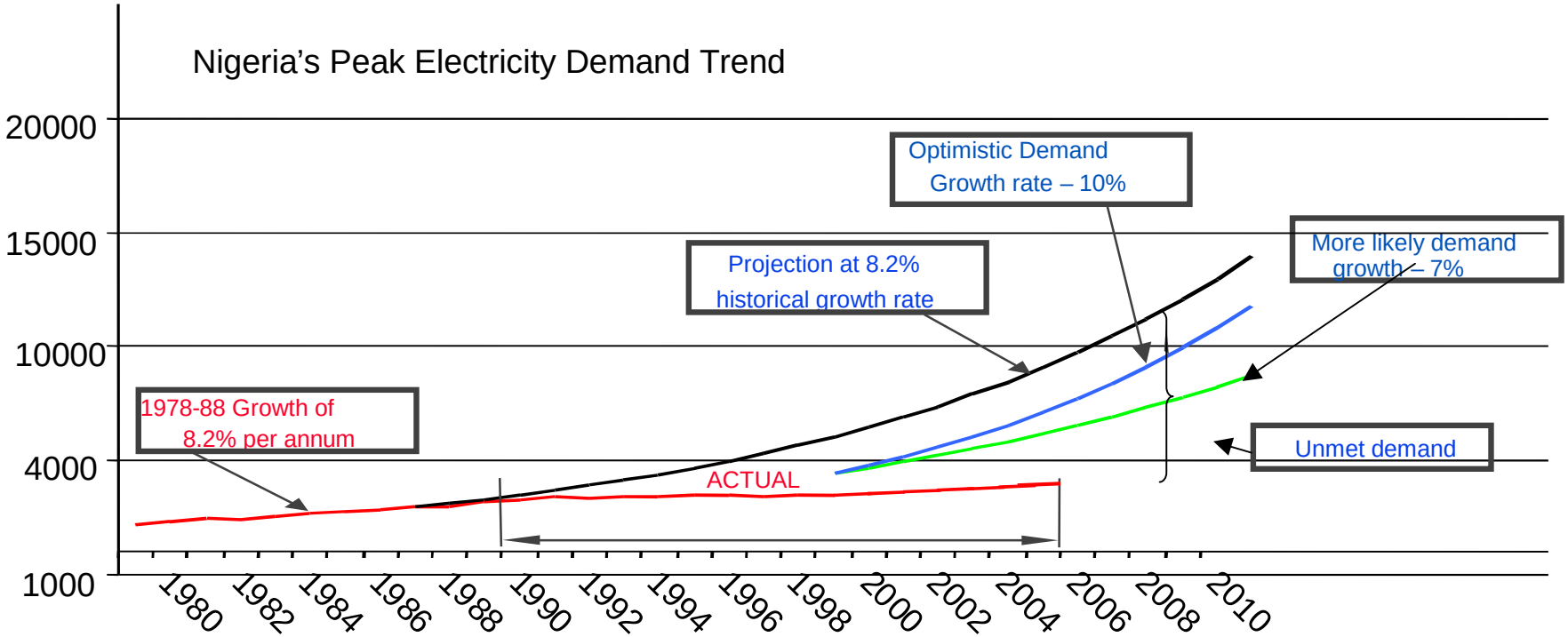
4.0 Role of private enterprise such as Oando

Oando

The Nigerian Electricity Supply Industry (ESI)

- The Nigerian ESI is dominated by a state monopoly
- Only 36% of the populace are connected to the national grid
- Currently generating btw 2500MW – 3500MW of power out of an installed capacity of 5963MW
  - This is some improvement from 1999 performance of 1300MW
- About 2500MW of self generation from petrol & diesel power generating sets exist
- Transmission lines are poorly maintained and frequently vandalized
  - Result in transmission losses of over 25% of electricity produced
- Because of poor billing procedures less than 70% of what is received is actually paid for

The Industry is has been unable to meet growing demand

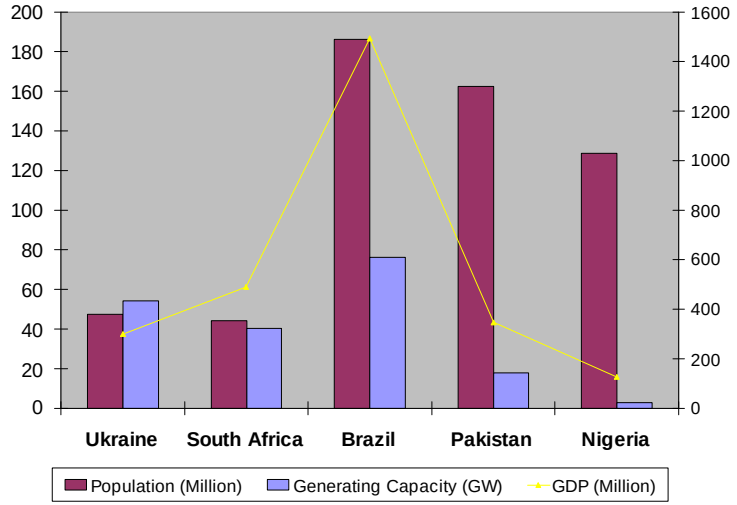


Source: FGN/NNPC/EM Nigerian Gas Utilization Study

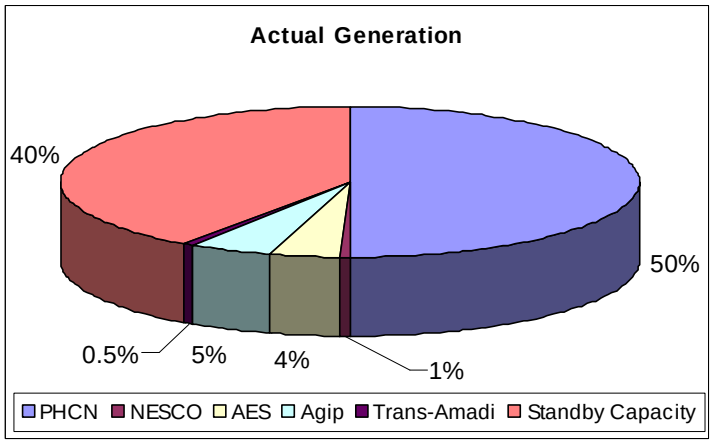
- Demand has grown at a rate of 8.2% per annum since 1984 against GDP growth of about 3-5%
- Optimistically looking at the increase in economic growth in Nigeria demand should grow at about 10% per annum
- Supply gap – projected demand ~12000MW vs. supply of 3600MW

Oando

Extremely low power generation relative to population continues to retard the real sector development



- Nigeria's per capita generation relative to other countries is extremely low
- Comparisons with GDP may indicate that the real sector development is slowed by this low generation

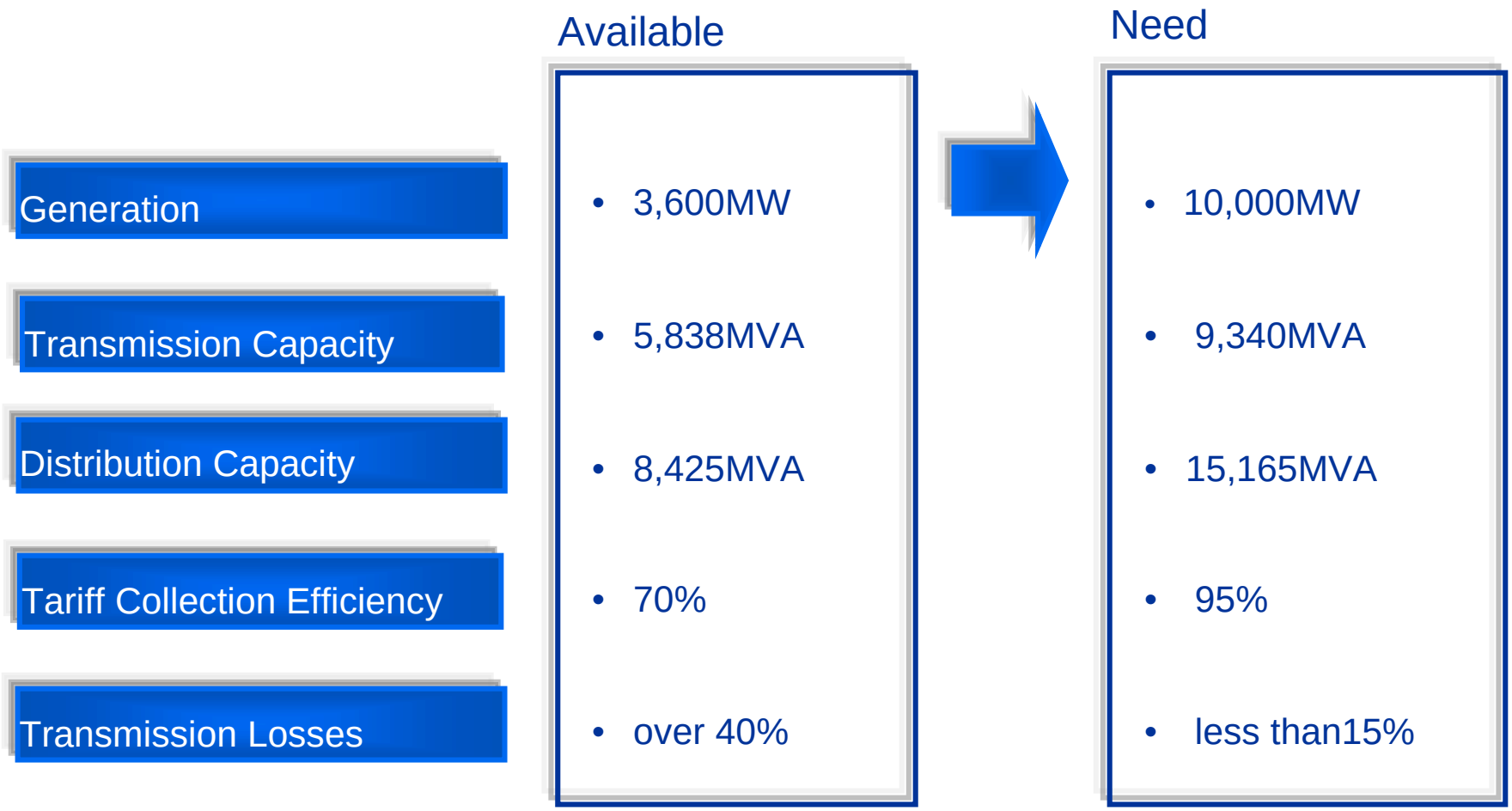


- Undersupply is underscored by the huge (40%) privately-owned alternative capacity (diesel/petrol generators)
- This alternative capacity is supplied at a premium of up to 400% of grid price
- Currently, industrial consumers (who can afford this) own the bulk of the alternative capacity

Oando

The case for reform was clear…

The government has since set targets for improvement …

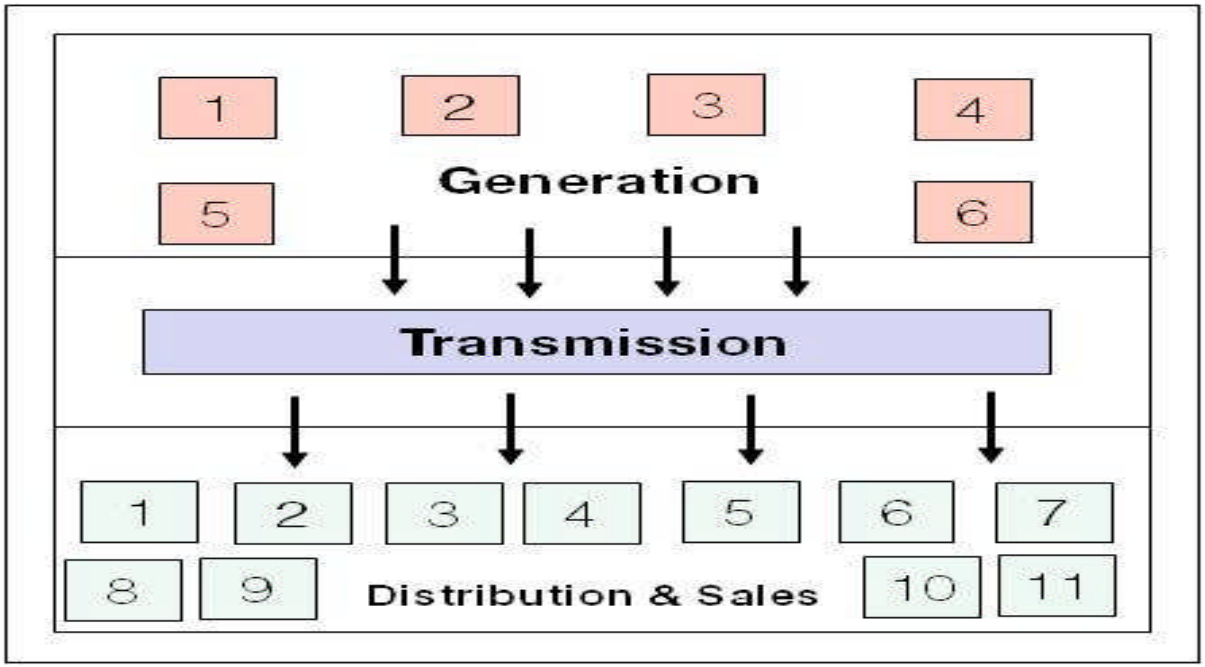


Source: NEEDS document

… and set out to actively court the private sector to carry out sustainable investment in the sector

Oando

In parallel the Government has also initiated structural and legal reforms in the Electricity Supply Industry through the Electric Power Sector Reform Act



… leading to the famous 6 – 1 – 11 model

And an independent body to regulate the industry

Reforms instituted by the government were to have created opportunities for the private sector to participate

	Generation	Transmission	Distribution	Sales & Marketing
Activities	Production of electrical power from various fuel sources (coal, hydro, nuclear, solar, gas) **Captive**: Single Customer (low regulation) **Non Captive** : Customer is the market and other eligible customers (highly regulated	Transportation of electricity produced from the plants through the high voltage lines (132KV and above) collectively referred to as the National Grid	Distribution of electricity through <132KV power lines and substations to the consumers	Residential Metering of consumption per kWh & payments
Opportunities	**Construction / acquisition of generating plants**	**Management contract to manage / upgrade transmission infrastructure**	**Acquisition of distribution companies**	**Metering, Billing & collection**

Oando

Outline

1.0 Background

- Nigerian Electricity Supply Industry
- Reform

2.0 Current Realities / Challenges

- Government Intervention
- Funding and Infrastructural Issues

3.0 Practical Way Forward

- A suggested revised path

4.0 Role of private enterprise such as Oando

The Government simultaneously embarked on spending aimed at improving the Industry's capabilities

- Implemented the National Integrated Power Project (NIPP) in December, 2004
  - Five Greenfield natural gas fired plants (2,250 MW total) in the Niger Delta region comprised of 18 GE gas turbines
  - One 2,600 MW hydroelectric power plant in Mambila, Taraba State;
  - 22 power transmission sub-projects including 17 new substations and expansion of 32 existing substations;
  - 250 power distribution projects
  - Several new gas pipelines and other related equipment and infrastructure
  - Total expenditure by the Federal Government on the projects is now estimated at $ 9-10 billion, financed from Nigeria's excess crude revenue account.
  - Coerced IOCs to invest in Power Generation Facilities

The NIPP projects have been fraught with challenges

Power **Stations / Location**	**Capacity (MW)**	**Status and Challenges**	Gas Requirement/ Infrastructure	**Status and Challenges**
Ihovbor Power Station Benin, Edo State	4 x 125MW	70% Complete Long Span Bridge on route to sight cannot accommodate heavy equipment	140 MMcfd 22 km gas pipeline	25% Complete Contract has been awarded for a spur line from the Escravos - Lagos Pipeline System
Calabar Power Station, Cross River State	5 x 125MW	65% Complete Boreholes dug on site yielded no water	175 MMcfd 107 km offshore and land gas pipeline	0% Complete Pipeline Construction Contractor has wound up its Nigeria Operations
Egbema Power Station, Imo State	3 x 125MW	22% Complete Original design partners to the EPC have withdrawn their services	100 MMcfd 26 km gas pipeline:	25% Complete Pipeline Construction awaiting sand filling at plant site
Gbarain Power Station, Yenagoa, Bayelsa State	2 x 125MW	11% Complete Work has been stalled on site due to Unrest in the immediate community	70MMcfd 5 km gas pipeline:	10% Complete
Sapele Power Station, Delta State	4 x 125MW	30% Complete Soil investigations revealed that the original site for power station was unsuitable to support the turbines	140 MMcfd 34 km gas pipeline	0% Complete Joint Venture Agreement between members of the Construction Consortium has been terminated

…all of the equipment consisting of 18 General Electric (GE) gas turbine generator packages (PG9171E) and associated equipment have been delivered, but none of the projects is on schedule.

...as well as Infrastructure & Funding Issues

- In 2007, the Revenue Mobilization Allocation and Fiscal Commission (RMAFC) obtained a court injunction restraining the FGN from utilizing the excess crude account on the ground that the account is jointly owned by the FGN, State governments, and local governments.
  - As a result, the 2008 Federal budget does not include any substantial planned spending on the NIPP project and the FGN has announced that it will seek alternate funding arrangements, primarily from the private sector.
  - In addition, the proposed power sector emergency has not been declared by the FEC due to regulatory constraints
- Gas producers have not been sufficiently incentivized to increase supply
- Transportation infrastructure is inadequate for the delivery of some turbines to their intended destination

There is no integrated infrastructure plan to harmonize the industry from gas gathering to power dispatch

The overall process has not lived up to its billing

- Post – unbundling, the PHCN is still a vertically integrated entity devoid of the intended competition
- The Industry is still subsidized by the government as the tariff structure cannot sustain the present organization
  - MYTO is being introduced cautiously with in-built government subsidy
- There is a lack of clarity of long-term natural gas pricing given the huge difference in commercial end user vs PHCN prices
- Lack of gas for the completed power projects
- Publicly funded NIPP projects have been poorly executed
- The uncertainty in the regulatory environment is hampering the participation of private investors

This has resulted in a dearth of truly independent private sector investment as potential participants adopt a wait and see attitude

Current Administration

- Alternative funding from various tiers of government for existing NIPP projects
- Seeming reversal of unbundling of PHCN
- Planned government-led spending for distribution system
- Welcoming proposals from the private sector to invest in new power projects albeit at a slow pace

Outline

1.0 Background

- Nigerian Electricity Supply Industry
- Reform

2.0 Current Realities / Challenges

- Government Intervention
- Funding and Infrastructural Issues

3.0 Practical Way Forward

- A suggested revised path

4.0 Role of private enterprise such as Oando

Oando

Implement the Power Policy as enshrined in the Electric Power Sector Reform Act

- Provide comfort to interested private sector players regarding the ability of the system to ensure that participants will get paid in either of the following ways
  - Determine the short term subsidy level required for the industry and set up a transitional fund to pay it
  - Fast track the MYTO as put forward by the NERC to implement a cost-recoverable end-user tariff structure for the purchase of Electricity
- Develop, in partnership with the private sector, a concession plan for the distribution sector as a first step to eventual privatisation
  - This allows the private sector to create the demand
  - Must involve a commitment to carry out upgrades and capital investment in the area to reduce distribution losses and enhance billing and collection
  - This should also encourage Independent Power Plants who can execute bi-lateral agreements with the concessionaires

Re-deploy Existing NIPP Equipment to New Private Sector-led Projects

- Transfer / Lease any number of 125MW turbines and relocate to an economically viable area with established fuel supply capability
  - Will involve Construction and Operation of the Plant to sell electricity to an identified area
  - This allows for Power to be quickly generated to relieve the national pressure and free capacity to other parts of Nigeria with no existing gas infrastructure
  - Leverages proximity and access to existing infrastructure (Gas Supply and Transmission Infrastructure) with cost effective options to increase infrastructure capacity where necessary
- Sale / Concession of planned NIPP Power Plants
  - Will Involve the concession of the existing NIPP projects to the private sector who will subsequently fund and complete the projects.
  - Leverages the project work to date in order to complete project on a fast track basis
  - Eliminates the risk to the government of stranded assets and investments

Get the Infrastructure and Pricing Right (luckily we now have a blue print of sorts)

- Prompt Execution of the Gas Pricing Regulation
  - Aggregator (suggest a nominee of the foreign & local gas supply companies)
  - Aggregate price
- Execute Infrastructure Blueprint via Private Sector Participation
  - Allocate segments of the network system to capable consortia that can finance & develop the projects within the next 2 – 4 years (includes: pipelines, CPFs, Compressors …)
- Proactively put in place fiscal incentives for Private Sector developers

Outline

1.0 Background

- Nigerian Electricity Supply Industry
- Reform

2.0 Current Realities / Challenges

- Government Intervention
- Funding and Infrastructural Issues

3.0 Practical Way Forward

- A suggested revised path

4.0 Role of private enterprise such as Oando

Oando is taking measured steps in the supporting the power sector development and investing in complementary assets…

Exploration and Production

- OML 236 has considerable gas reserves being exploited for domestic distribution

Gas Transmission and Distribution

- Investment in 2 gas transmission / distribution systems in different parts of the country much of which is used for industrial power generation
- Signified intention to participate in North – South pipeline & related facilities

Power

- Presently Investing in small captive power plants.
- Signified interest in NIPP resuscitation

Oando…the future

Oando

Marketing	Supply & Trading	Gas & Power		Energy services	Exploration & Production	Refinery
No. 1 marketer of Petroleum Products	• Dominant local player • Expansion into other West African Markets	The dominant player in gas supply – powering Nigeria's manufacturing base	A Significant Opportunity for Oando	Offering Product Service Lines through Strategic alliances (e.g. Baker)	Evolving into a leading player in the upstream	Seeking opportunities to ensure product availability

…exploiting synergies between subsidiaries

Domestic gas utilization is receiving major focus and this sector remains a growth platform for the group

Concluding...

- The Reform program sets a good Platform
- We have lost time and resources procrastinating and choosing a government led development in preference to the advocated private sector led one
- However, all is not lost.
- Government must Fast-track the policy blueprint by putting in a place the necessary impetus for the private sector to take charge of the much required rapid development of the sector

Thank You

http://www.oandoplc.com