

Overview of the Nigerian Electricity Industry (*Roles, Responsibilities, Structure, Expectation*)

Presentation at the Nigeria Power Sector Investment Forum - Lagos, Dubai, London, New York and Johannesburg

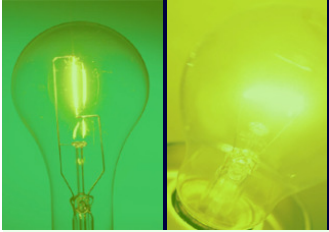
Bureau of Public Enterprises, Abuja, Nigeria



The power sector reform programme

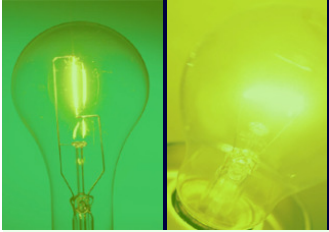


Building on reform ...
... for a brighter future



Outline

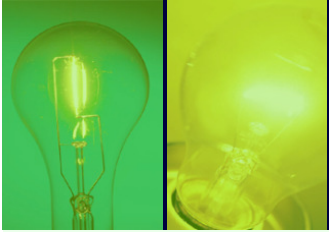
- **Introduction**
- **The context for sector reform**
 - Need for the reform
 - Aims of the reform
- **The power sector reform programme**
- **Roles & Responsibilities**
- **Market Structure**
- **Expectations**
- **Where We Are**



Introduction

- **Objectives today**

- To explain the reforms and policy thrust
- To set out the progress achieved
- To explain the roles of various entities in the new legal and regulatory environment
- Restate the reform targets



The Need for Reform

- Limited access to infrastructure, low connection rates
- Inadequate power generation capacity
- Inefficient usage of capacity
- Lack of capital for investment
- Ineffective regulation
- High technical losses and vandalism
- Insufficient transmission and distribution facilities
- Inefficient use of electricity by consumers
- Inappropriate industry and market structure
- Unclear delineation of roles and responsibilities

*Problems in
the power
sector
before the
reforms*



Aims of the Reforms

- **Improve efficiency and performance**
- **Ensure transparent and responsible management**
- **Limit political interference**
 - Eliminate government's involvement in utility management
- **Promote Private Sector Participation**
 - Management and technical operations
 - Encourage private investment in generation to address inadequate supply
 - Ensure level playing field for all investors
- **Release government funds to finance core activities**



OBJECTIVES OF POWER SECTOR REFORM

- **The overwhelming objective of the electric power policy statement is to ensure that Nigeria has an electricity supply industry (ESI) that can meet the needs of its citizens in the 21st Century;**
 - This requires a fundamental reform at all levels of the industry
- **Nigeria (ESI) must be such that is able:**
 - To meet all current and prospective economically justifiable demands for electricity throughout the country;
 - To modernize and expand its coverage; and
 - To support national economic and social development, including relations with neighbouring countries.
- **The priority is to create efficient market structures, within clear regulatory frameworks, that encourage more competitive markets for electricity generation and sales (marketing), which, at the same time, are able to attract private investors and ensure economically sound development of the system.**

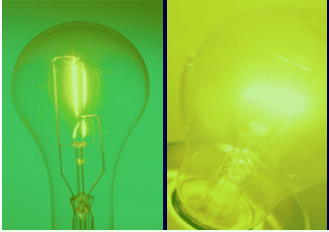
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Components of the Reform Programme

Restructuring - Two-pronged approach for sector revitalisation

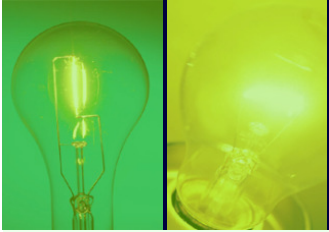
1. ***Holistic reform*** - structural, organisational, institutional issues

- Foster choice and competition
- Establish clear roles and responsibilities
 - Federal Government – policy direction, monitoring and evaluation of implementation and performance
 - Private sector - operations
 - Regulatory Commission - licensing, technical & economic regulation)



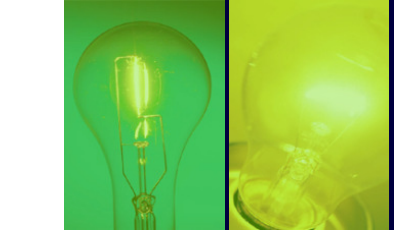
Market Development

- **National Electricity Power Policy (NEPP) & Electric Power Sector Reform Act 2005 (EPSR) provides for development of Nigeria Electricity Market**
- **Wholesale competition was recommended for Nigeria to assist in monopoly control & cost insensitivity**
- **Implementation of the Nigeria Electricity Market is through a gradual process of increasing competition designed as three market stages:**
 - **Transitional Market Stage:** Characterised mainly as competition for the market
 - **Medium-Term Market Stage:** Characterised by full wholesale competition for the market & in the market
 - **Final Market Stage:** Open to full wholesale competition and retail competition



Market Reform Model

- **Type of market**
 - Competitive wholesale market and retail competition in the long term.
 - Multi-buyer model - (hybrid during a transition period)
 - Private sector driven
 - Cost reflective market structure
 - Encourage full competition in the long term.
 - Market Operator to be a ring-fenced semi-autonomous entity during the transition
- **NEPP & EPSR Act: Provisions for development of market**
 - Competitive market guaranteed by Act, Policy and Market Rules.
 - Creation of an independent electricity regulator



Key Features of the Contracting Framework

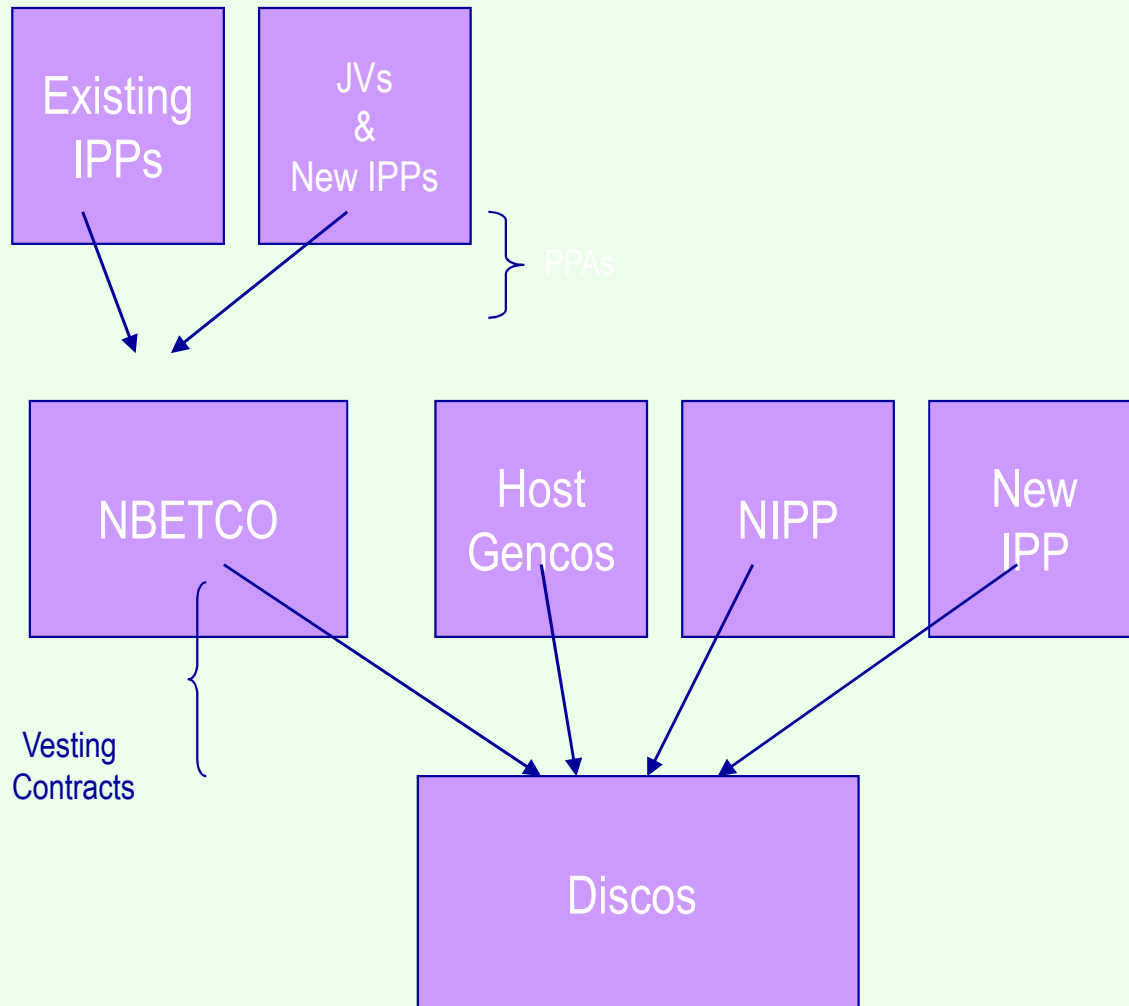
**During
transition**

- **Vesting contracts**
 - Intermediate step to move from integrated utility to fully competitive market
 - Designed to ensure an orderly transition

**As market
matures**

- **Bilateral contracts**
 - Only contractual tool used in buying and selling electricity

Trading Arrangements in Transition

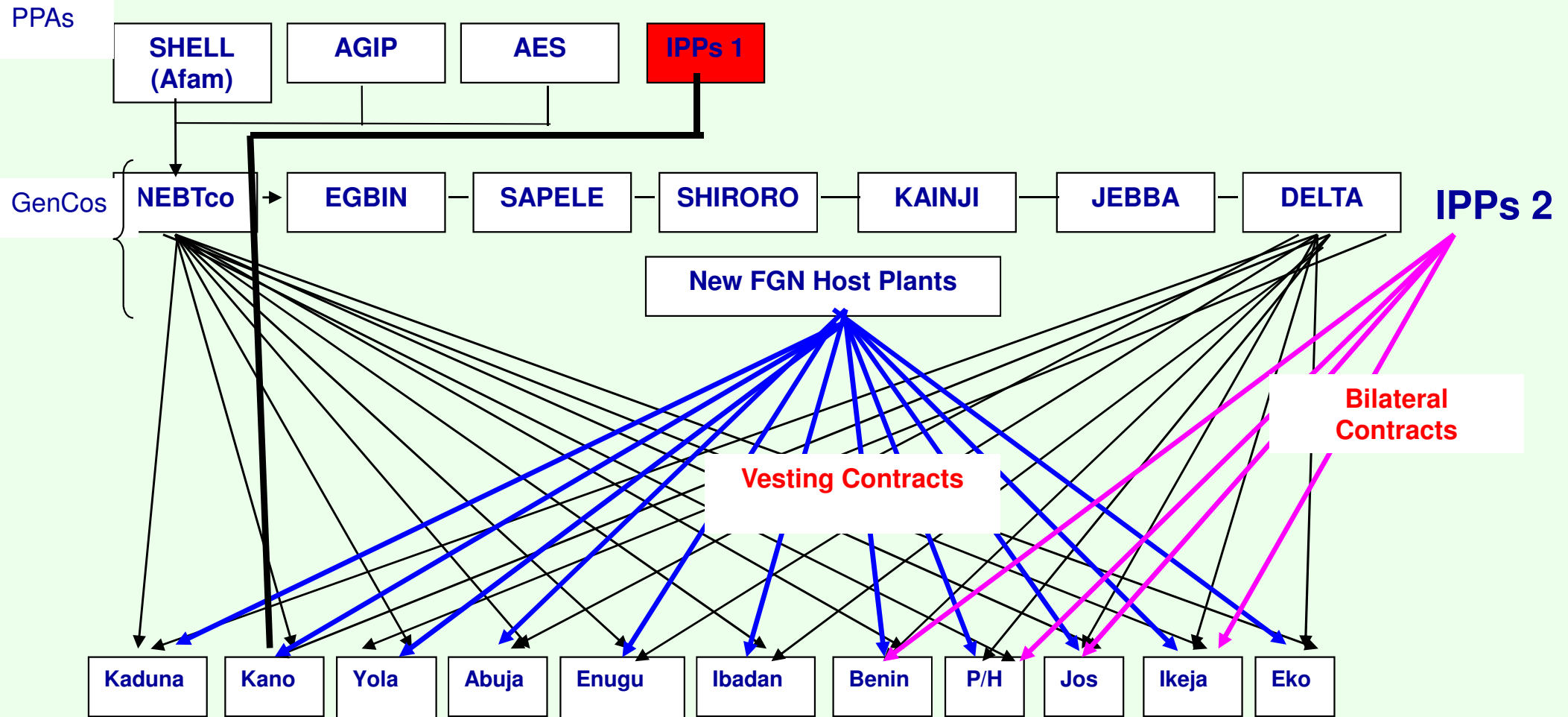


- All trading are through contracts

- NBETCO [ST] will assume existing IPPs and eventually sign new PPAs

- NBETCO and other Gencos will have vesting contracts with respective Discos. (These contracts will become Special Contracts on privatisation)

Trading Structure of NESI in Transition





Reform Institutions and Roles

- **Market operations**

- To oversee the market and commercial arrangements

- **System operations**

- Overseeing dispatch and grid control

- **Nigeria Electricity Liability Management Company**

- To manage legacy liabilities and stranded assets

- **Nigeria Electricity Bulk Trading Co Ltd**

- Created as a Special Trader with bulk purchase and resale licence

- Manage existing PPAs and new procurement of power in the transition



Reform Institutions and Roles

- **Electricity Management Services Ltd**
 - Carry out consulting services and provide shared services, such as logistics and meter testing.
- **National Power Training Institute of Nigeria**
 - Provide world class training to support the utilities manpower.
- **Overall broad policy formulation resides with the Federal Ministry of Power**
- **NERC carries out regulation and market surveillance**
- **NCP/BPE drives the reform and liberalization of the power sector.**

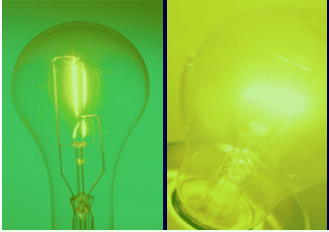


Power Sector Reforms



...How far we have already come





NESI Reform Model

- **Vertical and horizontal unbundling of NEPA [PHCN]**
 - Vertical unbundling – functional separation *generation, transmission and distribution/marketing*
 - Horizontal unbundling – PHCN successor companies
- **Creation of transition reform entities**
- **New industry structure**
 - System and market operators established
- **Preparatory work underway for privatisation of successor companies**
- **Development of industry contracts (Vesting contracts, TUoS, Ancillary services contracts etc)**
 - Transition step towards a fully competitive market



Principles Behind the Unbundling of PHCN

- **Across the world, countries are unbundling their ESI. Only the network elements of electricity transmission & distribution are natural monopolies. Both electricity generation and sales/marketing of electricity are potentially competitive activities.**
- **Technological developments**
 - Combined Cycle Gas Powered Generators: has increased the gains from introducing competition into generation;
 - Modern Computing: has brought improvements in transmission & system dispatch, which allows for the introduction of short-term and contract markets in bulk power:
 - Such markets encourage the introduction of private management methods and private investment as well as fostering the privatization of existing assets.
- **The intention is that the reforms would introduce these now widely applied developments to Nigeria.**



REFORM ELEMENTS

In order to introduce competition, functional segmentation of PHCN was crucial. This required:

- The separation of transmission and dispatch from generation;
- The establishment of a transmission company;
- The establishment of a number of competing, privately owned generation companies from existing PHCN generating facilities;
- The opening up of generation to new market entrants; and
- The establishment of a number of distribution and sales (marketing) companies which will also be privatized.
- Later, competition in wholesale and retail sales (marketing) will be developed, including the opening of trade in the sales (marketing) of electricity to generators and to other new market entrants.

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REFORM IMPLEMENTATION ACTIVITIES

- **Grid Code developed and issued.**
- **Market Rules developed and issued**
- **Distribution and Metering Codes issued.**
- **Process to engage TCN management contractor**
 - Well advanced
 - Will be a world class transmission company



EXPECTATIONS – SHORT TO LONG TERM

- To ensure a system of generation, transmission, distribution and marketing that is efficient, safe, affordable and cost-effective throughout the country;
- To ensure that the power sector attracts private investment both from Nigeria and from Overseas;
- To develop a transparent and effective regulatory framework for the power sector;
- To develop and enhance indigenous capacity in electric power sector technology;
- To participate effectively in international power sector activities in order to promote electric power development in Nigeria, meet the country's international obligations and derive maximum benefit from international cooperation in these areas;



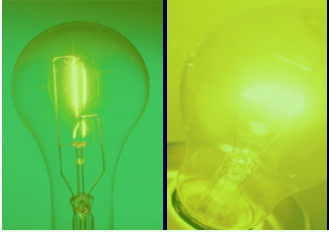
EXPECTATIONS – SHORT TO LONG TERM Cont.

- **To ensure that the government divests its interest in the state-owned entities and entrenches the key principles of restructuring and privatization in the electric power sector.**
- **To promote competition to meet growing demand through the full liberalization of the electricity market;**
- **To review and update electricity laws in conformity with the need to introduce private sector operation and competition into the sector.**



EXPECTATIONS – SHORT TO LONG TERM Cont.

- To provide a new regulatory environment that is sufficiently flexible to take into account new technological developments and the international trends in the power sector;
- To ensure that electricity supply is made more reliable, economically efficient and equitable so as to effectively support the socio-economic development of the country;
- To provide universal access to electricity, although not necessarily through the grid;
- To encourage domestic production of electrical equipment in Nigeria, and the development of related software and services;



EXPECTATIONS: – SHORT TO LONG TERM Cont.

- **To establish and meet aggressive targets for the rural electrification programme;**
- **To protect the integrity, and ensure the security, of the state and its citizens;**
- **To encourage Nigerian electric power sector operating companies to become global leaders in the industry;**
- **To ensure minimum adverse environmental impact;**
- **To create the enabling environment, including the provision of incentives, that will attract investors and resources to achieve the objectives earlier stated;**



EXPECTATIONS – SHORT TO LONG TERM Cont.

- **To ensure a leadership role for Nigeria in the development of the proposed West African Power Pool.**
- **To minimize government guarantees for privately funded investment; and**
- **To ensure that subsidies are efficiently targeted.**



EXPECTATIONS – For the Economy

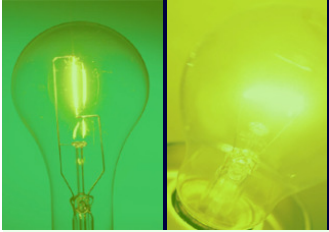
National Economy

- ❑ When demand is fully met, GDP growth in 10 years could be in two digits annually.
- ❑ Creation of more businesses and more jobs.
- ❑ FGN subsidies to PHCN will be re-channeled to other sectors like agriculture, health etc.
- ❑ Reduced risks to taxpayers.
- ❑ Reduced environmental impact.
- ❑ Stronger Naira against others currencies.
- ❑ Saving of estimated \$1bn losses annually.
- ❑ Increased foreign exchange earning as export of finished goods is enhanced.
- ❑ Re-direct spending to other critical social services.



EXPECTATIONS – For the Economy Cont.

- **Increased competition**
- **Lower prices**
- **Increased operational efficiency in generation and distribution**
- **Improved customer service/rural electrification**
- **Improved service standards**
- **Wider service provider choice**
- **Increased consumer protection via Nigerian Electricity Regulatory Commission (NERC)**
- **As the industry tariffs is stabilized over a periods , there would be tariff reduction in real terms. This happened in several countries including Spain**
- **Better standard of living and family life**



Where We Are

Experts suggest the following five major steps in implementing the reform of the power sector, in different orders of preference:

- Getting the investment framework right.
 - Deciding on the goals of restructuring and the ideal industry structure.
 - Preparing the players to participate in a competitive market.
 - Privatising existing and new assets
 - Ensuring that the competitive market is implemented properly.
-
- **Most of the tasks outlined above (Item Nos. 1 – 3) have been completed while Item Nos. 4 & 5 are in various stages.**



Where We Are – Cont.

S/N	Description	Status
1	Create an enabling legal and regulatory environment to support competitive markets in electricity.	Done
2	Unbundle power sector into separate generation, transmission, distribution and possibly retailing sectors to achieve the maximum benefits for customers.	Done
3	Privatisation should be a transparent process involving the sale of power distribution utilities as well as generation plants, and covering existing assets as well as new projects.	In Progress
4	Open access to transmission and distribution wires, and the ability to trade power between buyers and sellers in an open market, are critical to achieving a competitive framework.	Done



Where We Are – Cont.

SN	Description	Status
5	Operate the generation and retailing markets competitively, with a large number of generators selling into a wholesale electricity market at prices which balance demand and supply throughout the day.	In Progress
6	Operate the transmission network under a management contract, resulting from a competitive bidding process.	In progress
7	The independent regulator should oversee prices and incentives for transmission and distribution operations.	Done
8	Restructuring should proceed at a pace consistent with the development of a competitive and unbundled system.	Done

Bureau of Public Enterprises

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