



# THE NIGERIAN POWER SECTOR: MARKET STRUCTURE AND POST-PRIVATIZATION DEVELOPMENTS

**MAY 2021** 

# OUTLINE



# KEY PLAYERS IN THE NIGERIAN POWER SECTOR



THE NIGERIAN POWER MARKET STRUCTURE



CHALLENGES TO THE POWER MARKET DEVELOPMENT



**POST-PRIVATISATION DEVELOPMENTS** 

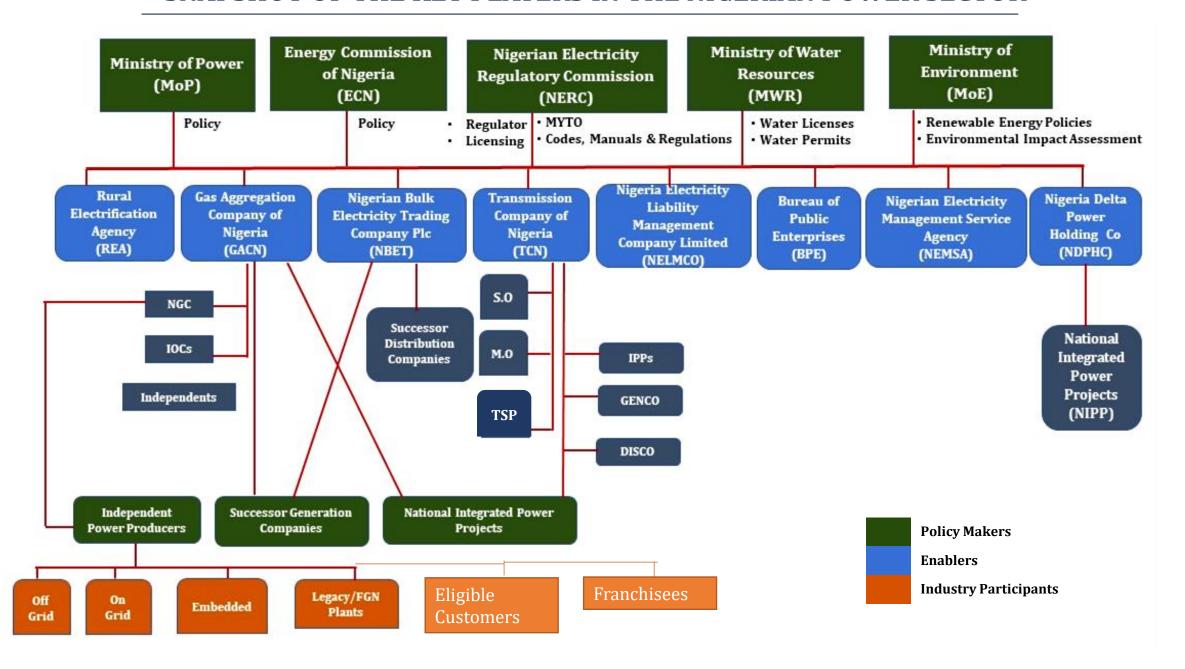


# **KEY PLAYERS IN THE NIGERIAN POWER SECTOR**





#### SNAPSHOT OF THE KEY PLAYERS IN THE NIGERIAN POWER SECTOR



Entities	Functions
Federal Ministry of Power	This is the policy making arm of the Federal Government, with the responsibility for formulating electric power policies in Nigeria. In discharging this mandate, the Ministry of Power is guided by provisions of the EPSRA and the Constitution of the Federal Republic of Nigeria ("CFRN") 1999 (as amended).
Energy Commission of Nigeria (ECN)	The Energy Commission of Nigeria established by the ECN Act (as amended by the ECN Amendment Act 1988) is the apex government organ empowered to carry out overall energy sector planning & policy implementation. The ECN's statutory mandate is the strategic planning and co-ordination of National Policies in the field of energy in all its ramifications.
Nigerian Electricity Regulatory Commission (NERC)	The independent regulator of the power sector established pursuant to Section 31 of the EPSRA with the mandate of promoting and ensuring efficient market structures and an investor-friendly industry to meet electricity needs. NERC's key regulatory functions include Licensing and the management of price regulation through the MYTO (Tariffs).  NERC is also mandated to:  a) Promote competition and private sector participation, when and where feasible  b) Licensing and regulating persons engaged in the generation, transmission, system operation, distribution and trading of electricity;  c) Monitor electricity market operations.
Federal Ministry of Environment	The Ministry of Environment, headed by the Minister for Environment is responsible for approving Environmental Impact Assessment (Environmental Impact Assessment Act). The Minister of Environment is appointed pursuant to the provision of Section 147 of the CFRN 1999 (as amended).
Federal Ministry of Water Resources	This is the policy making arm of the Federal Government (Section 147 of the CFRN, 1999) and is responsible for management of water resources in Nigeria (Water Resources Act 1993). With regard to power projects, the Ministry issues water permits/licences as required, for commercial use of water.



Entities	Functions
Rural Electrification Agency (REA)	The Nigerian Rural Electrification Agency (REA) was created by Section 88 of the EPSRA. The agency exists to facilitate the provision of affordable power supply for residential, commercial, industrial and social activities in the rural and peri-urban areas of the country.
Gas Aggregation Company of Nigeria (GACN)	GACN, a private limited liability company incorporated under the Companies and Allied Matters Act, and acts on behalf of Gas producers by collecting the gas in commingled blocks and selling the gas to buyers. It was incorporated as the vehicle for the implementation of the Nigerian Gas Masterplan (NGMP) Commercial Framework.  GACN's obligations include  a) Demand management of gas;  b) Management of the aggregate price, payments to buyers and suppliers, escrow accounts and market settlement,  c) Network Administrator Role between Buyer, Seller and Transporter  d) Future Role of being a commercial gas trading platform when the market is mature.
Nigeria Bulk Electricity Trading Plc (NBET)	NBET was established pursuant to the Section 68(2) of the EPSRA as a trading licensee holding a bulk purchase and resale license to engage in the purchase and resale of electrical power and ancillary services from IPPs and from GENCOs for onward sale to the successor distribution companies (DisCos) and eligible customers.





Entities	Functions
Transmission Company of Nigeria (TCN)	TCN, incorporated under the Companies and Allied Matters Act, is one of the unbundled companies from the now defunct PHCN. Still 100% owned by the federal government, It is licenced to conduct electricity transmission and system operation. It is responsible for evacuating power generated by GENCOs and wheeling it to DISCOs.
	TCN functions under three Business Units:
	a) The Transmission System Provider (TSP) is responsible for the national inter-connected transmission system and providing open access transmission services. It is TSP's role to develop the Transmission Grid to new areas and maintain the Grid infrastructure; b) The System Operator (SO) is responsible for ensuring thorough planning; dispatch and control of the grid and maintaining technical stability in the electricity market; controlling grid frequency and voltage; procuring and managing ancillary services; coordinating all planned outages for the maintenance of the system equipment; and c) The Market Operator (MO) is responsible for the administration of the electricity market and implementing the Market Rules; administration of the commercial metering system by ensuring that each trading point has adequate metering systems; administration of the settlement system.
Nigeria Electricity Liability Management Company (NELMCO)	and stranded assets of the 18 PHCN successor companies.
	c) To hold the non-core assets of PHCN, sell or dispose of such assets



Entities	Functions
Bureau of Public Enterprise (BPE)	The BPE is established under Section 12 of the Public Enterprises (Privatisation and Commercialisation) Act and is responsible for the implementation of the privatization policies of the National Council on Privatization. BPE currently holds 40% shares in privatized Distribution Companies, has issued concession rights to the two Hydro plants, while also holding 20% in some thermal Generation Companies.
Nigerian Electricity Management Services Authority (NEMSA)	NEMSA was established as a technical regulatory authority pursuant to the Nigerian Electricity Management Services Authority Act 2015. NEMSA was established to take over the functions of the Electrical Inspectorate Services Department, under the Federal Ministry of Power. NEMSA is mandated to carry out inspectorate services for the NESI and ensures all major electrical materials and equipment used in Nigeria is of the right quality and standards.  NEMSA is among other functions specifically empowered to:  a) Enforce all quality standards for major electrical materials and equipment used in Nigeria;  b) Ensure power systems and networks projects are properly executed;  c) Specify technical standards for electrical plants, safety requirements for construction, operation and maintenance of electric power plants, transmission system, distribution networks and electric lines.
Niger Delta Power Holding Company (NDPHC)	NDPHC is incorporated under the Companies and Allied Matters Act as a private limited liability company with shareholding fully subscribed to by the Federal, State and Local Governments with a mandate to manage the power projects tagged 'National Integrated Power Projects (NIPP)





Entities	Functions
Generation Company (GenCo)	This is a company generating power from any source (majorly thermal and Hydro) and sells electrical power to NBET via a Power purchase Agreement. A GenCo holds a generation licencse issued by NERC and is also required to enter into an agreement with its feedstock supplier. Examples include Egbin Power Plc, Shiroro Hydro Electric Power, and the NIPP Plants.
Distribution Company (DisCo)	This is also a successor company engaged in electricity distribution via a distribution licence issued by NERC. The DisCo purchases power from NBET for sale to its end-use customers, under a vesting contract with NBET. A DisCo also enters into a Connection Agreement with TCN for the transmission of electrical power from GenCos to the DisCo. Examples include Ikeja Electricity Distribution Company Plc and Eko Electricity Distribution Company Plc.
Independent Power Plants (IPPs)	These are entities that are privately owned or developed which hold a license issued pursuant to Section 64 of the EPSRA for the generation of power in accordance with the terms of their licences. IPPs include grid connected IPPs, embedded generators and off-grid IPPs. Examples are Shell Afam, Agip Okpai, Azura Power.
Eligible Customers	These are customers eligible to purchase power directly from GenCos and IPPs subject to the conditions set out in the Eligible Customer Regulations 2017. By the provisions of the Regulation, electricity customers who fall within any of the four eligibility categories in the Regulation would now be permitted to buy power directly from generation licensees and trading licensees.





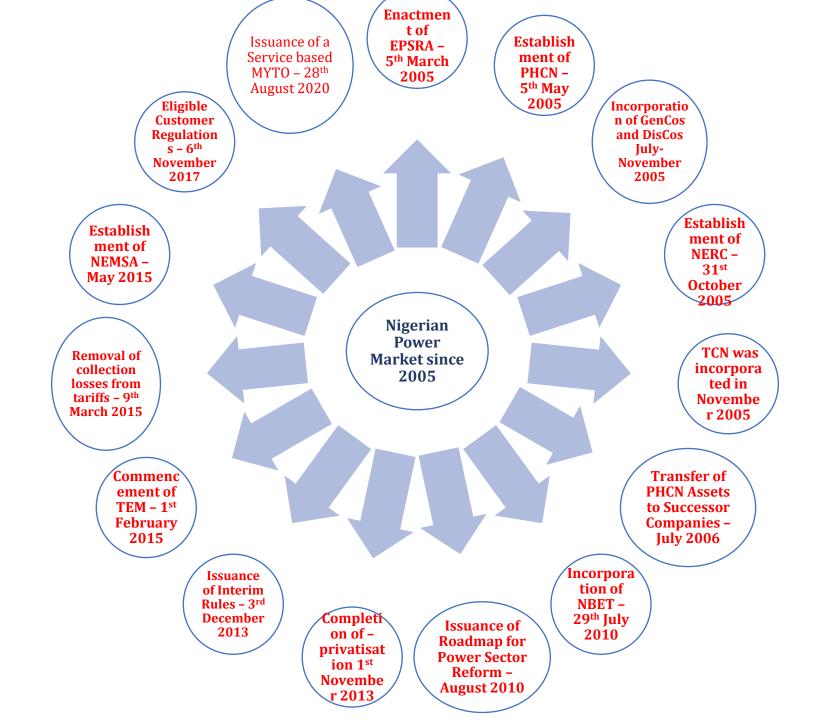
Entities	Functions
Franchisees	In order to facilitate an improvement in the quality-of-service delivery to end-user customers and address some of the operational and liquidity challenges in the NESI, NERC issued the Guidelines on Electricity Distribution Franchising in the Nigerian Electricity Supply Industry 2020 to enable DisCos grant sub franchise rights to operators and take advantage of evolving business models and technology for the purpose of providing adequate, safe and reliable services to end-use customers. Therefore, persons who enter into franchise arrangements are franchisees and become participants in the market.
Embedded Generators ("EG")	Embedded generators are holders of embedded generation licenses pursuant to the EPSRA and the NERC Embedded Generation Regulations 2012. EGs generate and evacuate electricity through a distribution system or an independent electricity distribution network ("IEDN"), for the benefit of a DisCo or an IEDN operator.



# THE NIGERIAN POWER MARKET STRUCTURE











#### MARKET STRUCTURE UNDER THE ELECTRIC POWER SECTOR REFORM ACT

This is an outline of the Nigerian power market structure as envisaged under the EPSRA.

#### **Pre-Privatization Stage**

- Unbundling and future privatization of the power sector
- Establishment of performance incentives for distribution and generation activities

#### **Post-Privatization Stage**

- Upon declaration of a more competitive market by the Minister under Section 24(3) of the EPSRA, the following arrangements shall apply:
- (a) the Bulk Trader (NBET) shall not enter into any further contract for purchase of power or ancillary services and shall begin the process of novating its existing rights and obligations to other licensees;
- (b) the successor GenCos shall sell power to DisCos and eligible customers;
- (c) the successor GenCos shall sell ancillary services to the transmission licensee or to the independent system operator
- (d) IPPs shall sell power to the bulk trader (until novation is completed) DisCos and Eligible Customers; and
- (e) IPPs shall sell ancillary services to transmission licensee (until novation to the independent system operator) or the independent system operator.
- Establishment of an independent system operator ("ISO") to which will be transferred the TCN's function of system operation on terms and conditions stipulated by NERC following the declaration of a substantially privatised market. (Section 26 (7) of EPSRA).





Establishment of an Initial Holding Company (Power Holding Company of Nigeria on 5<sup>th</sup> May 2005)

Licensing of the Initial Holding Company Formation of
Successor
Companies
(DisCos and
GenCos between
July to November
2005 and NBET
on 29th July
2010

Transfer of PHCN assets to Successor Companies Issuance of Interim Licenses to Successor Companies

Establishment of an Independent Regulator Commencement of Privatisation Process



The pre-privatization stage, also known as the pre-transitional stage, covers the preparatory conditions to be satisfied preceding the commencement of privatization of the Nigerian power sector. The relevant conditions include:

Condition and Applicable EPSRA provisions	Implementation Status
Establishment of an Initial Holding Company (Section 1 of EPSRA)  The National Council on Privatization ("NCP") was empowered under the EPSRA to establish an initial holding company (PHCN) to assume the assets and liabilities of the NEPA not later than six (6) months from commencement of the EPSRA (i.e. 11 <sup>th</sup> March 2005). Shares in PHCN were to be held by the Ministry of Finance Incorporated ("MOFI") and the Bureau of Public Enterprises ("BPE").	Power Holding Company of Nigeria ("PHCN") was established in May 2005 as the initial holding company. Section 22 (1) and (2) (a) of the EPSRA provides that the NCP, in its directive ordering the transfer of the Initial Holding Company's assets and liabilities to the successor companies, may provide for the cessation of any or all functions of the Initial Holding Company and its voluntary liquidation.  It is however unclear whether PHCN has ceased to exist. However, on 27th October 2015, the National Industrial Court gave a restraining order preventing the winding up of the PHCN, through an Ex-parte application made by the National Union of Electricity Employees.
Licensing the Initial Holding Company (Section 7 of EPSRA)  NERC was required to provide an interim license to the initial holding company to be valid for no longer than 18 months from the initial transfer date, which was the date specified in a written notice in a Gazette issued by NCP on which the assets and liabilities of National Electric Power Authority ("NEPA") shall be transferred to PHCN.	This condition was complied with.





Condition and Applicable EPSRA provisions	Implementation Status
Formation of Successor Companies (Section 8 of EPSRA) The NCP was to, no later than eight (8) months after the formation of PHCN, take steps to incorporate such number of successor companies to be engaged in generation, transmission, trading, distribution and bulk supply and resale of electricity, to assume all the assets and liabilities of the Initial Holding Company.	Successor companies, DisCos and GenCos, were incorporated between July 2005 and November 2005.  NBET, the successor bulk purchase and resale company, was however not incorporated until 29 <sup>th</sup> July 2010.
Transfer of PHCN assets to Successor Companies (Section 10 of EPSRA)  NCP by virtue of the Electric Power Sector Reform (Transfer of Employees, Assets, Liabilities and other Obligations and Rights) Order fixed July 1st 2005 as the Initial Transfer Date.	The transfer of PHCN assets to the successor companies was effected in July 2006 thereby granting each successor company, operational autonomy.
Issuance of Interim Licenses to Successor Companies (Section 23 of EPSRA)  NERC was required to issue interim licenses to the successor companies, which were to be valid for a period not exceeding one year and regular licenses to be applied for within six (6) months of issuance of interim licenses.	This condition was complied with.





Condition and Applicable EPSRA provisions	Implementation Status
Establishment of an Independent Regulator (Section 31 of EPSRA)  NERC was established as the independent regulator for the power sector. It will, amongst others, be responsible for the issuance of licenses to companies operating in the NESI.	NERC was established as an independent regulator and was inaugurated on $31^{\rm st}$ October 2005.
Commencement of Privatization Process (Section 24 of EPSRA)  NCP may at any time commence the process of privatization of the successor companies engaged in generation, transmission and distribution of power.	This condition was effected and largely completed in 2013 except for Kaduna Disco and Afam which were subsequently privatized.



#### **INTERIM STAGE**

- Under the original plan for the market evolution of the NESI, it was expected under the Market Rules that at the completion of the privatization process (which occurred on 1st November 2013), the market would advance into the Transitional Electricity Market ("**TEM**") Stage, when contracts among participants become effective contracts. (*Section 6.1 of the Market Rules 2014*)
- However, following completion of the privatization process, the industry contracts were yet to be effective.
- One of the major reasons for this was the fact that there was no cost reflective tariff post hand-over of the Discos and Gencos and the Discos had a year to revalidate their Aggregate Technical Commercial and Collections ("ATC&C Losses"), customer numbers and other indices which would form the basis for a revised tariff.
- Consequently, recognizing that the conditions precedent for the commencement of TEM had not been satisfied and that the commencement of TEM would affect the development, efficiency and stability of the Nigerian electricity market, NERC on 3rd December 2013, issued the Rules for the Interim Period between completion of Privatisation and the start of the Transitional Electricity Market (TEM) (Regulation No: NERC-0113). ("Interim Rules")
- The Interim Rules, amongst other objectives, aims to establish a framework for the Interim Period and to manage the probable revenue shortfall in the industry by determining the revenue allowable to market participants and service providers (the Market Operator and System Operator) during the Interim Period. (*Section 6 of the Market Rules*). Section 5 of the Interim Rues defines Interim Period as the period between the completion of privatisation by handover of the successor companies to core investors and the start of TEM.





#### **INTERIM STAGE**

• During this Interim Period, successor GenCos and IPPs were required to continue with their existing (pre-TEM) arrangements whereby they would invoice the successor DisCos through the Market Operator for the power received from them while the DisCos would make payments to them through the Market Operator. The DisCos were also required to make payments to the Market Operator for regulatory charges due to the NERC as well as NBET and service providers' charges.



#### TRANSITIONAL ELECTRICITY MARKET STAGE

- This is also known as the TEM stage. TEM is described under the Market Rules as being characterized by contract based arrangements for electricity trading and the introduction of competition for entry into the market.
- Appendix 1 of the Market Rules sets out conditions precedent to the inception of TEM. In January 2015, NERC issued an order directing the commencement of TEM from 1<sup>st</sup> February 2015 (Order No. NERC/136) ("TEM Order"). The TEM Order was predicated on the fact that the conditions precedent to the inception of TEM had been fulfilled.
- It is observed that the list of conditions referred to in the TEM Order as having been fulfilled included additional conditions precedent in comparison with the list of CPs set out in the Market Rules. (Section 7 of the TEM Order) The table below is a combined list of the CPs for the TEM stage.

Condition	Implementation Status
Development, implementation and testing by the System Operator, of the systems and procedures required to implement the Grid Code	This was stated by NERC to have been satisfactorily completed to commence TEM.
Operator, of the systems and procedures to implement the	This has been done. The first Market Rules were approved on the 15th of February 2010 and gazetted on 17th February 2010. An amended Market Rules was published in December 2014.





# TRANSITIONAL ELECTRICITY MARKET STAGE

Condition	Implementation Status
A commencement date for all the formal trading arrangements between the successor companies that will participate in the TEM that precedes, or is co-incident with, the Operational Date (i.e. February $1^{\rm st}$ 2015 – <i>Section 11 (c) of the TEM Order</i> and accommodation for all other Participants that is acceptable to NERC.	
Publication by NERC, of a list of the names and addresses of each Licensee	This has been done.
Publication of the valid and current Transmission Use of System Charge by the Transmitter which is approved by the Commission;	
Publication on the Website by the Market Operator of the initial the Settlement Calendar pursuant to Rule 31.7.7 of the Market Rules operative from the start of the Transitional Stage.	





# THE MEDIUM-TERM STAGE

This Market stage and will commence following the advancement of the market from the TEM stage and upon the fulfillment of the following conditions:

Condition	Status
Attainment of sufficient degree of privatization of participants.	A substantial part of the NESI has been privatized. The Federal Government however still holds interest in some DisCos and GenCos and fully owns and operates the transmission segment.
Presence on the power system of sufficient generation participants to achieve an adequate balance between installed generation capacity, reserve requirement and projected load demand and sufficient numbers of such generators to avoid the likelihood of an abuse of market power by generation participants.	
Presence in the wholesale electricity market of sufficient number of competitor credit worthy distribution participants no longer holding Vesting Contracts to avoid the likelihood of abuse of market power in any such participant.	



# **MEDIUM-TERM STAGE**

Condition	Status
necessary metering and information technology required to	Metering remains a major issue in the NESI, with millions of customers across the country still unmetered. Other information technology devices such as Supervisory Control and Data Acquisition (SCADA), which are needed to efficiently coordinate system operations are still largely unavailable.
Audit of the settlement software for the medium-term market by independent auditors competent to perform audits of such software, to determine its consistency with the Market Rules and the Grid Code.	
The satisfaction of such other conditions, if any, as are specified by NERC in relation to the commencement of the medium-term market.	•



# CHALLENGES TO THE POWER MARKET DEVELOPMENT





#### CHALLENGES TO THE POWER MARKET DEVELOPMENT

From the completion of the Pre-privatisation stage till date, there have been a number of challenges hindering the development of the Nigerian power market. Such challenges include the following:

- Lack of cost reflective tariffs
- 2. Lack of enforceable and effective contracts across the value chain
- 3. Insolvent power market caused by low remittances across the value chain (*As at December 2020, the DisCos owed NBET a total of N510.53 billion while NBET had incurred a debt of N144 billion in Q3 2020*)
- 4. Government interference in regulation of market participants.
- 5. Lack of institutional capacity of regulators like NERC, TCN and NBET
- 6. Low capacity of DisCos to collect revenues from power supplied by NBET and to reduce ATC&C losses
- 7. Lack of investment and Infrastructure deficit in the power sector, due to regulatory hurdles and other factors.
- 8. Large unmetered DisCo customer base









As a result of challenges faced in the Nigerian power market, the NESI has experienced certain developments which includes:

#### **EMBEDDED GENERATION ("EG")**

- EG is the generation of electricity that is connected to and evacuated through a distribution system (i.e. a DisCo's network). This electricity model allows an embedded generator generate power and distribute same through an existing distribution network whilst a distribution licensee is able to procure power.
- The NERC Embedded Generation Regulations 2012 ("**EG Regulations**") provides standard rules for embedded generation and the grant of an embedded generation license. One of the major provisions of the EG Regulations is the requirement of competitive procurement of power when procuring embedded generation.
- The requisite contractual arrangement for an EG is a Power Purchase Agreement between a DisCo/IEDN, customer and a developer. The developer either has an existing power plant or is required to construct one.

#### **ELECTRICITY DISTRIBUTION FRANCHISING ("EDF")**

- EDF is the delegation of a DisCo's obligation(s) to a third party. Such obligations include, metering, revenue collection, and refurbishment.
- A DisCo will usually enter into a Franchise Agreement with a third-party developer with the requisite expertise to provide for various terms such as grant of franchise rights, conditions precedents, performance security, and obligations of parties.





- NERC issued the Guideline on Electricity Distribution Franchising in the Nigerian Electricity Supply Industry ("Franchising Guidelines") in June 2020 which provides the framework for approving franchise arrangements of DisCos. The Franchising Guidelines sets out requirements that must be fulfilled before approval of a franchise arrangement by NERC.
- Currently, only four (4) franchising models are recognized under the Franchising Guidelines. NERC is however empowered
  to consider and review other innovative models. The franchising models are:
  - (a) Metering, billing and collection
  - (b) Total management of electricity distribution in ring-fenced area
  - (c) Total management of distribution feeders including billing and collection; and
  - (d) Loss reduction and provision of embedded generation (*This may also be considered as a premium grid model*)

#### **ELIGIBLE CUSTOMERS**

- An eligible customer is a customer permitted to buy power from a licensee other than a distribution licensee. (*Section 100 of EPSRA*). Section 27 of the EPSRA provides for the issuance of a directive by the Minister of Power to NERC specifying a class or classes of end-use customers as eligible customers.
- Pursuant to the above provision, NERC issued the Eligible Customer Regulations 2017 ("EC Regulations") pursuant to a
  directive issued by the Minister of Power declaring eligibility criteria for eligible customer status.



- An end-use customer or group of end-use customers can be granted eligible customer status by NERC if:
  - (a) Its or their consumption is more than 2MWh/h monthly and is connected to a metered 11kV or 33kV delivery point on the network of a distribution licensee
  - (b) It is or they are connected directly to a metered 132kV or 330kV delivery point on the transmission network
  - (c) Its or their consumption is more than 2MWh/h monthly and is connected directly to a metered 33kV delivery point on the transmission network and has entered into a bilateral agreement for construction, installation and operation of the network of a distribution licensee, used to connect to the 33kV delivery point
  - (d) Its or their consumption is more than 2MWh/h monthly and is directly connected through a metered delivery point to the generation facility of a generation licensee and has entered into a bilateral agreement for construction, installation and operation of the network of a distribution licensee, used to connect to the generation facility
- In a bid to ensure that the licensees which suffer losses as a result of some customers becoming eligible customers, are compensated, such licensees are permitted to impose competition transition charges ("CTCs") on such customers subject to NERC's approval. ( Section 28 of EPSRA) NERC has issued the Guideline on Filing Applications for Competition Transition Charge by Electricity Distribution and Trading Licensees 2020 ("CTC Guidelines") which provides rules for applications for CTCs and mode of computation.





#### **METER ASSET PROVIDERS ("MAPs")**

- A MAP is a person that is granted a permit by NERC to provide metering services which includes meter financing, procurement, supply, installation, maintenance and replacement. The role of a MAP is to assist distribution licensees to meet their metering targets as set by NERC. Notwithstanding, eligible customers are permitted to engage MAPS to ensure proper energy accounting.
- Any engagement of a MAP by a distribution licensee must be in accordance with the NERC Meter Asset Provider Regulations 2018 ("MAP Regulations"). The MAP Regulations was passed to bridge the metering gap in the NESI and stipulates the application requirements, obligations of a MAP, distribution licensees and customers, and other matters.
- A MAP is required to enter into:
  - (a) a Metering Service Agreement with a distribution licensee to state particulars of meters to be provided, recovering of meter assets, payment security and so on; and
  - (b) a Service Level Agreement with a distribution licensee to provide for timeframe for meter installations, installation standards, replacements, maintenance, key performance indicators, and so on. (Section 19 of the MAP Regulations)
- To facilitate the increase of the metering rate in Nigeria, the Federal Government of Nigeria issued the National Mass Metering Programme, pursuant to which the Central Bank of Nigeria ("CBN") issued the Framework for Financing of the National Mass Metering Programme, for the provision of finance to DisCos and local meter providers for the procurement and manufacture of meter assets, respectively.





# **QUESTIONS?**



# **Thank You!**

# DOLAPO KUKOYI PARTNER DETAIL COMMERCIAL SOLICITORS



