

NIGERIAN
ELECTRICITY
REGULATORY
COMMISSION



Electricity on Demand

QUARTERLY REPORT

FOURTH QUARTER 2022

NIGERIAN ELECTRICITY REGULATORY COMMISSION

PLOT 1387 | CADASTRAL ZONE A00 | CENTRAL BUSINESS DISTRICT |
P.M.B. 136 | GARKI | ABUJA

www.nerc.gov.ng

NERC©2023

The Nigerian Electricity Regulatory Commission (NERC) quarterly report is prepared in compliance with Section 55(3) of the Electric Power Sector Reform Act (EPSRA) 2004, which mandates the Commission to submit quarterly reports of its activities to the President and the National Assembly. The report analyses the state of the Nigerian Electricity Supply Industry (NESI) covering the operational and commercial performance, regulatory functions, consumer affairs as well as the Commission's finances and staff development. The report is directed at a wide spectrum of readers including energy economists, engineers, financial and market analysts, potential investors, government officials and institutions, the private sector as well as general readers. NERC quarterly report is freely available to stakeholders of NESI, government agencies and corporations. Individuals can also access any particular issue freely from the Commission's Website: www.nerc.gov.ng

Please direct all inquiries, comments and suggestions on the report to:

The Commissioner
Planning, Research and Strategy Division
Nigerian Electricity Regulatory Commission
Plot 1387, Cadastral Zone A00
Central Business District
P.M.B 136, Garki, Abuja
Nigeria
NERC website: www.nerc.gov.ng

Contact Centre:
Tel: +234 (09) 462 1400, +234 (09) 462 1410
Email: info@nerc.gov.ng

Table of Contents

List of Figures	4
List of Tables	5
1. EXECUTIVE SUMMARY	7
1.0 SUMMARY.....	8
2. STATE OF THE INDUSTRY	19
2.0 State of the Industry	20
2.1 Operational Performance	20
2.2 Generation Load Factor	23
2.3 Generation Mix.....	25
2.4 Grid Performance.....	27
2.4.1 Transmission Loss Factor.....	27
2.4.2 Grid Frequency	29
2.4.3 Voltage Fluctuation	30
2.4.4 System Collapse.....	32
2.5 Commercial Performance	32
2.5.1 Energy Received and Contracted Capacity	33
2.5.2 Energy Billed and Billing Efficiency	35
2.5.3 Revenue and Collection Efficiency	37
2.5.4 Aggregate Technical, Commercial and Collection Losses (ATC&C)	38
2.5.5 Market Remittance to NBET and MO	40
2.5.6 Market Remittance to MO	43
2.5.8 Remittance by Special Customers and Cross-Border Transactions	45
3. REGULATORY FUNCTIONS.....	47
3.0 Regulatory Functions.....	48
3.1 Regulations/Orders	48
3.2 Licences and Permits Issued or Renewed	48
3.3 Captive Power Generation Permits	49
3.4 Mini-grid Operators Registered with the Commission.....	49
3.5 Certification of Meter Service Providers/Meter Asset Providers	51
3.6 Public Consultation and Awareness	52
3.7 Compliance and Enforcement	52
3.8 Alternative Dispute Resolution	52
4. CONSUMER AFFAIRS	53
4.0 Consumer Affairs	54
4.1 Consumer Education and Enlightenment.....	54
4.2 Metering End-Use Customers	54
4.3 Customers Complaints.....	56
4.4 Forum Offices	58
5. THE COMMISSION	63
5.0 Commission	64
5.1 Financial Report	64
APPENDIX	66

List of Figures

Figure 1: Average Available Capacity (MW) in 2022/Q3 vs. 2022/Q4 20

Figure 2: Average Hourly Generation (MWh/h) in 2022/Q3 vs. 2022/Q4 21

Figure 3: Total Quarterly Generation (GWh) in 2022/Q3 vs. 2022/Q4 22

Figure 4: Plants Load Factor (%) in 2022/Q3 vs. 2022/Q4..... 24

Figure 5: Share of Electricity Generated by Energy Sources in 2022/Q3 & 2022/Q4 . 26

Figure 6: Transmission Loss Factor (%) vs. MYTO Assumption July – Dec 2022 28

Figure 7: Average Daily System Frequency from July - Dec 2022 30

Figure 8: Monthly System Voltage from Jul - Dec 2022 31

Figure 9: Energy Off-take by DisCos vs. PCC (MWh/h) in 2022/Q4 35

Figure 10: Market Invoice and Remittance by DisCos in 2022/Q4 43

Figure 11: DisCos Remittance Performances to MO in 2022/Q4 44

Figure 12: DisCos Remittance Performances to NBET in 2022/Q4 45

Figure 13: Category of Complaints Received by DisCos in 2022/Q4..... 58

Figure 14: Category of Appeals at the Forum Offices in 2022/Q4 60

Figure 15: Incidence Report by Licensees in 2022/Q4 62

List of Tables

Table 1: Energy Received vs Available PCC in 2022/Q3 and 2022/Q4 34

Table 2: Energy Received and Billed by DisCos in 2022/Q3 and 2022/Q4 36

Table 3: DisCos Revenue Collection Performance in 2022/Q3 vs. 2022/Q4 38

Table 4: ATC&C Loss (%) by DisCos in 2022/Q3 vs 2022/Q4..... 40

Table 5: NBET Invoice and MRO Adjusted final Obligation for 2022/Q4 41

Table 6: DisCos Remittance Performance to NBET and MO in 2022/Q4 42

Table 7: Special Customer Invoices and Remittances in 2022/Q4 46

Table 8: List of Licences issued in 2022/Q4..... 49

Table 9: Captive Generation Plants Approved in 2022/Q4 49

Table 10: Mini grid Permits and Registration Certificates Approved in 2022/Q4 50

Table 11: Approved Meter Asset providers in 2022/Q4 51

Table 12: Metering Progress as of 2022/Q4..... 54

Table 13: Meter deployment by DisCos 2022/Q3 vs 2022/Q4 55

Table 14: Complaints Received and Resolved by Disco in Q3 and Q4 2022..... 57

Table 15: Appeals Handled by Forum Offices in 2022/Q4 59

Table 16: Health and Safety (H&S) Reports in 2022/Q3 and 2022/Q4 61

Table 17: Quarterly Cash Flow of the Commission in 2022/Q4 64

List of Abbreviations

ADR	Alternative Dispute Resolution
AEDC	Abuja Electricity Distribution Company Plc
ATC&C	Average Technical, Commercial & Collection Losses
BEDC	Benin Electricity Distribution Company Plc
CAPEX	Capital Expenditure
CCU	Customers Complaint Unit
CEET	Compagnie Energie Electrique du Togo
CTC	Competition Transaction Charge
DisCos	Distribution Companies
DSOs	Distribution System Operators
ECR	Eligible Customer Regulations
EEDC	Enugu Electricity Distribution Company Plc
EKEDC	Eko Electricity Distribution Company Plc
EPSRA	Electric Power Sector Reform Act
GenCos	Generation Companies
GWh	Gigawatt's hour
IBEDC	Ibadan Electricity Distribution Company Plc
IEDN	Independent Electricity Distribution Network
IE	Ikeja Electric Plc
JEDC	Jos Electricity Distribution Company Plc
KEDC	Kaduna Electricity Distribution Company Plc
KEDCO	Kano Electricity Distribution Company Plc
kWh	Kilowatt-hour
MAP	Meter Assets Provider
MDA	Ministries, Departments and Agencies
MO	Market Operator
MTS	MYTO Target Sales
MW	Megawatts
MWh	Megawatt's hour
MYTO	Multi-Year Tariff Order
NBET	Nigerian Bulk Electricity Trading plc
NERC	Nigerian Electricity Regulatory Commission
NESI	Nigerian Electricity Supply Industry
NICE	Notices of Intention to Commence Enforcement
NIGELEC	Nigerien Electricity Society
NIPP	National Integrated Power Project
NMMP	National Mass Metering Program
PAC	Partial Activation of Contract
PCC	Partial Contracted Capacity
PHEDC	Port Harcourt Electricity Distribution Company Plc
PP	Percentage points
SBEE	Société Béninoise d'Energie Electrique
TCN	Transmission Company of Nigeria Plc
TLF	Transmission Loss Factor
YEDC	Yola Electricity Distribution Company Plc

1. EXECUTIVE SUMMARY

1.0 SUMMARY

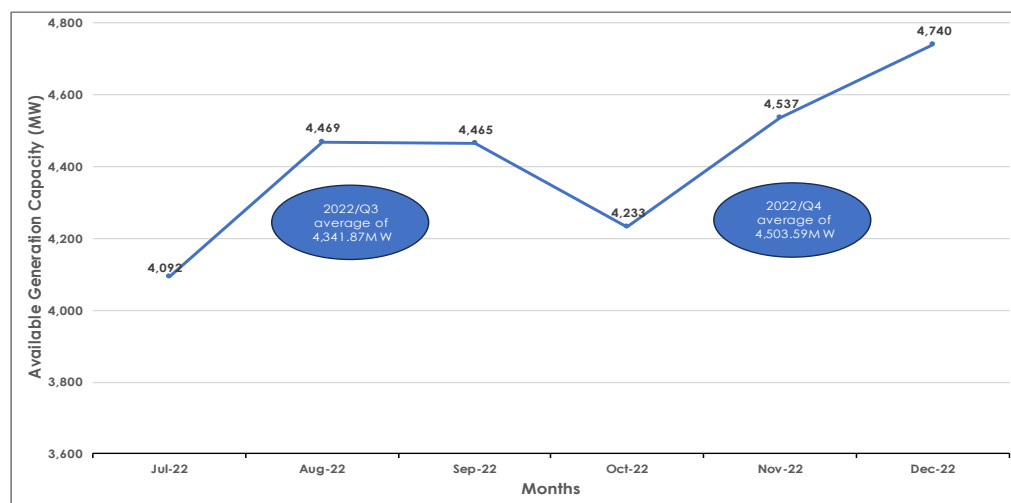
Pursuant to its mandates as enshrined in the Electric Power Sector Reform Act (EPSRA) 2004, the Nigerian Electricity Regulatory Commission (NERC or the Commission) continued the function of regulating the technical, operational, and commercial performance of the Nigerian Electricity Supply Industry (NESI). Through this regulatory function, the Commission oversees all licensed operators in the NESI to ensure that they provide stable, reliable and safe electricity to all consumers.

Operational Performance

The Operational performance parameters covered in 2022/Q4 quarterly report include - the available generation capacity, average hourly generation, total quarterly generation, load factor and generation mix of grid-connected power plants as well as the grid frequency and voltage profiles.

a. Available Generation Capacity: In 2022/Q4, there were twenty-six (26) grid-connected power stations consisting of eighteen (18) gas, four (4) hydro, two (2) steam, and two (2) gas/steam-powered plants. Cumulatively, the plants' average available capacity during the quarter was 4,503.59MW representing a +3.73% increase (+161.72MW) compared to 4,341.87MW recorded in 2022/Q3; represented in Figure A.

Figure A: Available Generation Capacity (July-December 2022)



It is noteworthy that since the second half of 2022, the grid recorded its highest average monthly available generation (4,740.34MW) in December 2022 which is +7.26% greater than the half-year average of 4,419.60MW.

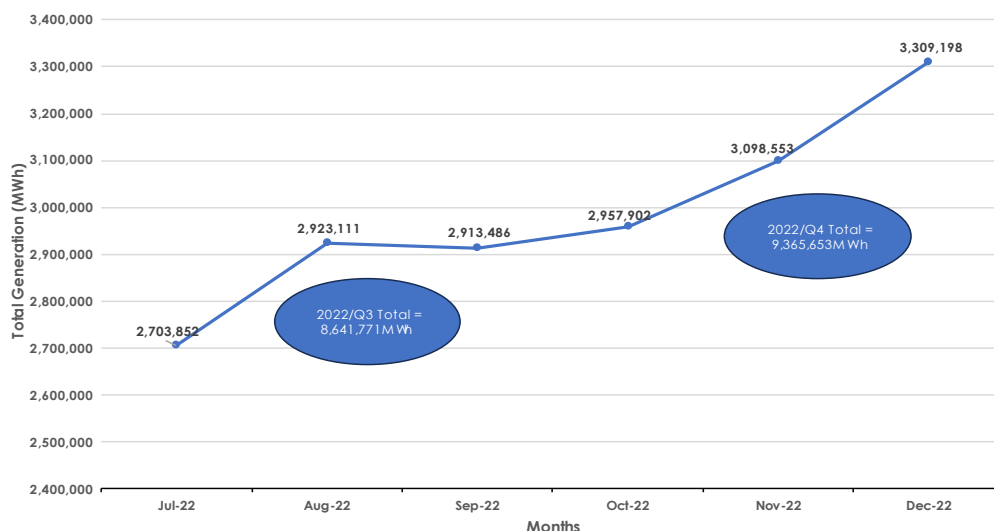
b. Average Hourly Generation: In 2022/Q4, the average hourly generation of all available units increased by 369.20MWh/h (+9.53%) from 3,873.16MWh/h in 2022/Q3 to 4,242.36MWh/h. The increase in generation was accompanied by an increased load factor performance of 95.32% (+7.01 percentage points) compared to 88.31% in 2022/Q3. The increase load factor is a reflection of improved utilisation of the available capacity in 2022/Q4 relative to 2022/Q3.

c. Total Quarterly Generation: Figure B shows that the total quarterly generation in 2022/Q4 was 9,365.65GWh. This represents an increase of +825.20GWh (+9.66%) from 8,540.44GWh generated in 2022/Q3. Increased gross generation is a direct result of the increase in available generation and load factor as described above. Increased generation can also reflect improved energy offtake by the Distribution Companies (DisCos) which can be partly attributed to the end of the rainy season – leading to a reduction in the number of weather-induced technical outages at the DisCos.

The total electricity generated in 2022/Q4 was 9,365.65GWh (+9.66% greater than 2022/Q3)

The average available generation capacity in 2022/Q4 was 4,503.59MW

Figure B: Total Generation (July-December 2022)



d. Grid Performance: In 2022/Q4, the average upper and lower bounds of the system frequency were 50.55Hz and 49.08Hz. Both frequencies

are within the higher and lower bound stress limits (50Hz±1.25Hz) approved in the grid code. Conversely, the average upper and lower bounds of the system voltage in 2022/Q4 were 352.07kV and 299.37kV. Both of these were outside the limits set in the grid code (330kV±16.5kV).

There was no grid collapse in 2022/Q4.

The System Operator (SO) has an obligation to operate the system as close as possible to the set targets for the respective parameters – system frequency at 50Hz and system voltage at 330kV. Operating the system with deviations from these set targets reduces the quality of electricity being supplied to consumers (this is of particular importance to industrial customers that operate highly sensitive equipment). This also compromises the long-term health of the power delivery infrastructure at both the transmission and distribution levels.

The SO will therefore need to invest and incorporate operational procedures that will improve its real-time grid visibility to ensure that system parameters are maintained within tolerable operational limits, thereby enabling it to enforce grid discipline among the GenCos and Discos.

Commercial Performance

a. Billing Efficiency: The total energy received by all DisCos in 2022/Q4 was 7,661.97GWh while the energy billed to end-use customers was 5,835.62GWh, translating into an average billing efficiency of 76.16%. This represents an increase of +0.55 pp relative to the 75.61% recorded in 2022/Q3.

A total of ₦243.65 billion was collected by all DisCos in 2022/Q4 out of the ₦332.28 billion billed to customers.

b. Collection Efficiency: The total revenue collected by all DisCos in 2022/Q4 was ₦243.65 billion out of ₦332.28 billion billed to customers –this corresponds to a collection efficiency of 73.33% which represents a +1.10 pp increase compared to 2022/Q3 (72.23%). Relative to 2022/Q3, the total billing and total collections increased: billing increased by ₦40.62 billion (+13.93%) and collections increased by ₦32.98 billion (+15.65%).

DisCos have an imperative to employ technologies and operational procedures that will increase both billing and collection performances so as to forestall long-term financial challenges. These could include holistic

energy accounting procedures, customer and infrastructure metering, among others.

c. Aggregate Technical, Commercial and Collection (ATC&C) Loss:

ATC&C provides a comparative report of how much revenue a DisCo is able to collect relative to how much it should have collected based on the volume of energy it received (and sold to customers). In recognition of the fact that not all revenue can be collected, the tariff methodology makes an allowance for ATC&C – efficient losses.

The ATC&C loss in 2022/Q4 was 44.15% comprising - technical and commercial loss (23.84%) and collection loss (26.67%). The ATC&C loss decreased by -1.24 pp compared to 2022/Q3 (45.39%) – this is as expected based on the improvements in billing and collection efficiencies as stated above.

Across 2022/Q3 and 2022/Q4, no DisCo met the efficient loss reduction targets specified in the approved tariff order. This means that all DisCos under-recovered their required revenues to varying degrees over the period; the DisCos with the highest differential did not recover sufficient revenues to meet their upstream market obligations.

d. Market remittance: The combined invoices issued to the DisCos in 2022/Q4 was ₦231.01 billion consisting of: i) generation costs from the Nigerian Bulk Electricity Trading Company (NBET): ₦188.74 billion; ii) transmission and administrative services from the Market Operator (MO): ₦42.27 billion. From this amount, the DisCos collectively remitted a total sum of ₦181.78 billion (₦145.91 billion for NBET and ₦35.87 billion for MO) with an outstanding balance of ₦49.23 billion. This corresponds to a remittance performance of 78.69% during the quarter compared to 80.99% in 2022/Q3.

Poor remittance is a direct consequence of the DisCos recording higher than allowed ATC&C performance as earlier noted. The disaggregated DisCo remittance performance to the market for 2022/Q4 is indicated in Figure C.

i. Remittance to NBET: In 2022/Q4, out of a total invoice of ₦219.24 billion issued to NBET by GenCos, NBET only invoiced ₦188.74 billion¹ to DisCos to accommodate the lack of cost-reflectiveness of tariffs for some DisCos². Nevertheless, NBET received ₦145.91 billion during the quarter representing an overall DisCo remittance level of 77.31%. This is -3.64 pp lower than the 80.95% in 2022/Q3 (₦140.67 billion remitted on an MRO-adjusted invoice of ₦173.76 billion).

ii. Remittance to MO: The total invoice from MO to DisCos in 2022/Q4 was ₦42.27 billion (100% remittance was expected). However, only ₦35.87 billion was the total received from the DisCos, meaning that the remittance performance to MO for the quarter was 84.85%. This represents a +3.67 pp increase compared to 81.18% (₦32.88 billion remitted against an invoice of ₦40.50 billion) recorded in 2022/Q3.

Figure C: DisCo invoices and remittances in 2022/Q4



Cross-border customers had a remittance performance of 46% to the MO in 2022/Q4.

iii. Remittance by Special/Cross-border Customers: In 2022/Q4, Transcorp-SBEE and Mainstream-NIGELEC received invoices of \$3.44 million and \$5.50 million respectively from MO and made remittances of \$0.93 million (27.04%) and \$5.44 million (98.90%) respectively. However, no remittance was made to the MO by Paras-SBEE and Odukpani-CEET against invoices of \$3.03 million and \$2.02 million respectively. The non-settlement of market obligations by this category of

¹ The ₦30.50 billion not invoiced to DisCos is classified as tariff shortfall, payable to NBET by the Federal Government for direct payment to the GenCos.

² NBET invoice is adjusted to reflect a Minimum Remittance Obligation (MRO) which is the portion of the total invoice that a DisCo is obligated to cover based on its allowed tariff as determined by the Commission in line with the MYTO. The obligation to pay the MRO is issued in the Commission’s Minimum Remittance Order to Discos.

market participants should be a call to action for MO to activate relevant safeguards for remittance shortfalls.

Regulatory Functions

The Commission granted a total of forty-nine (49) licenses and permits in 2022/Q4.

a. Licensing and Permits: In 2022/Q4, the Commission approved the issuance of two (2) new generation licenses with a combined capacity of 56.50MW and authorised the amendment of two (2) on-grid embedded generation license. The Commission also approved thirteen (13) mini-grid permits, fourteen (14) registration certificates for mini-grids with individual capacities below 1MW. It also granted approval for the amendment/renewal of seven (7) captive power generation permits with an aggregate capacity of 65.36MW. Applications from seven (7) meter installers, three (3) meter manufacturers and two (2) meter importers were also approved by the Commission in 2022/Q4.

Consumer Affairs

Town hall/customer complaints resolution meetings were held in Ibadan, Katsina and Abuja.

a. Consumer Education and Enlightenment: The commission continued to implement customer enlightenment programs within the quarter. This is in keeping with its commitment to ensure continuous customer education and enlightenment of their rights and obligations as well as keeping them informed of other general service delivery matters in the industry. During the quarter, the Commission held Town Hall/Customer Complaints Resolution meetings in Ibadan, Katsina and Abuja.

b. Metering: The NESI continues to be challenged by the inadequate deployment of end-use customer meters – as at December 2022, only 5,134,871 (42.25%) of the 12,152,106 registered energy customers have been metered. The net metering rate represents a +2.99 pp increase compared to the 39.26% recorded at the end of 2022/Q3.

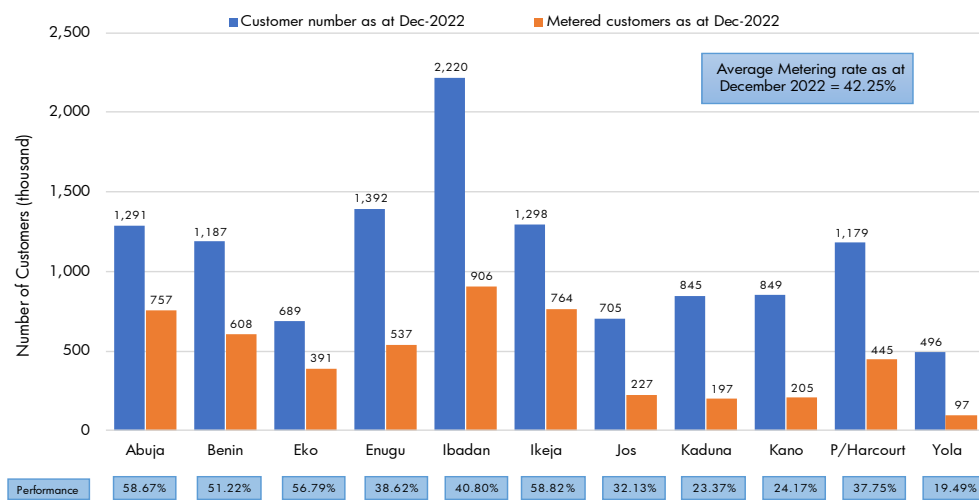
A total of 164,612 meters were installed in 2022/Q4 compared to the 142,887 meters installed in 2022/Q3 –an increase of +21,725 installations (+15.20%). The disaggregated DisCo net metering rate as at the end of 2022/Q4 is indicated in Figure D.

The Commission expects DisCos to utilise any of the five (5) meter financing mechanisms that have been provided in the 2021 Meter Asset

A total of 164,612 meters were installed in 2022/Q4.

Provider and National Mass Metering Regulations (NERC – R – 113 – 2021) to close their respective metering gaps. As a safeguard for customers against exploitation due to the lack of meters, the Commission has continued to issue monthly energy caps for all feeders in each DisCo which sets the maximum amount of energy that may be billed to an unmetered customer for the respective month based on gross energy received by the DisCo and the consumption of metered customers.

Figure D: Status of Customer metering as at December 2022



c. Customer Complaints: In 2022/Q4, the DisCos cumulatively received 261,278 complaints from consumers — this is +13,952 more complaints (+5.64%) than those received in 2022/Q3. In total, the DisCos resolved 238,765 complaints corresponding to a 91.38% resolution rate which is very identical to the 91.59% recorded in 2022/Q3. Metering, billing, and service interruption were the prevalent sources of customer complaints, accounting for more than 79% of the total complaints during the quarter. The Commission has introduced initiatives to address this category of complaints such as the independent verification of DisCos compliance with the capping regulation.

In 2022/Q4, the Forum Offices resolved 58.60% of total appeals at eighty-one (81) sittings.

d. Forum Offices: Pursuant to the provisions of its Customer Complaints Handling Standards and Procedure Regulations, the Commission set up forum panels across the country to review unresolved disputes from the DisCos' Complaint Handling Units. In 2022/Q4, the Forum Offices had a total of 2,594 active appeals (inclusive of the pending 1,137 appeals from 2022/Q3) from customers who were dissatisfied with DisCos' decision on the complaints lodged at the CCU. During the period, the

Forum Panels held eighty-one (81) sittings and resolved 1,520 (58.60%) of the appeals filed at Forum Offices nationwide, this means 1,074 appeals were yet to be resolved as at the end of 2022/Q4.

The Commission continues to take measures that will ensure a more efficient customer complaint resolution process starting with improvements in the quality of complaint resolution at the CCU of the DisCos. Furthermore, additional Forum Offices have been established across the country while alternative complaint resolution channels have also been introduced.

Investigations have been launched into all reported accidents.

e. Health & Safety: Out of the eighty-seven (87) mandatory health and safety reports expected from licensees in 2022/Q4, the Commission received a total of eighty-five (85) reports from licensed operators compared to eighty-two (82) reports received in 2022/Q3. The Commission has also initiated new processes to track licensees' compliance with the submission of statutory incidents reporting obligations.

The total number of incidents in 2022/Q4 was twenty-five (25) resulting in 27 injuries and 18 deaths (compared to 5 injuries and 12 deaths in 2022/Q3). The Commission has launched investigations into all the incidents and will continue to work with all sector stakeholders to improve the overall health and safety in the NESI.

The Commission

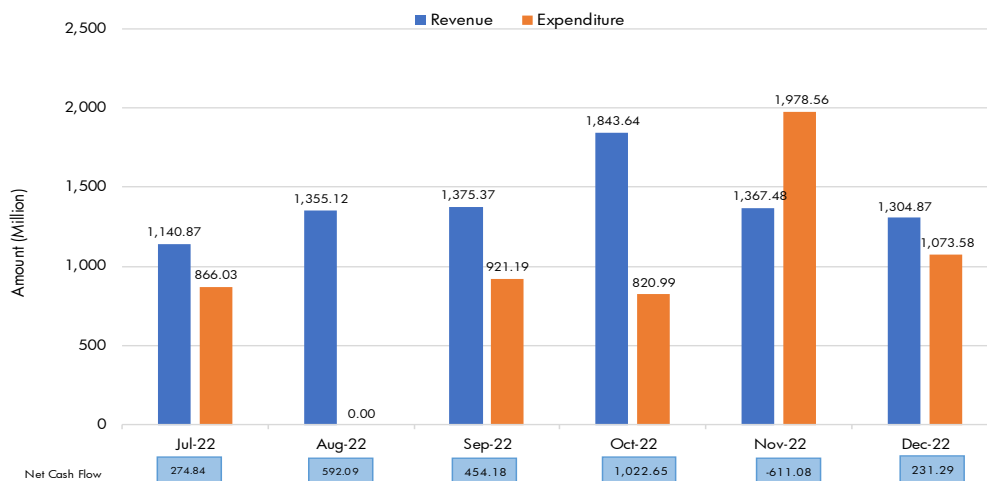
The Commission realised ₦4.52 billion as revenue and expenditure of ₦3.87 billion in 2022/Q4.

a. Financial Report: The total revenue realized by the Commission in 2022/Q4 was ₦4,515.99 million representing an increase of ₦644.63 million (+16.65%) compared to the ₦3,871.36 million realized in 2022/Q3. During the same period, the total expenditure increased by ₦1,322.88 million (+51.87%) from ₦2,550.25 million in 2022/Q3 to ₦3,873.13 million. The increase in expenditure was largely due to increased personnel costs and regulatory expenses during the quarter.

A comparison of the revenue and expenditure patterns of the Commission in 2022/Q4 shows a positive net cash flow of ₦642.86 million. Consistent with its commitment to prudence in its cash flow management,

the Commission has continued to record positive net cash flows over the past fourteen (14) quarters.

Figure E: Commission’s Revenue and Expenditure (July-December 2022)



Performance Indicators for 2022/Q4 Industry Operations

4,503.59 MW	Average Available Generation Capacity; +161.72MW (+3.73%) increase compared to 2022/Q3 – 4,341.87MW
9,365.65 GWh	Total Quarterly Generation; +825.20GWh (+9.66%) increase compared to 2022/Q3 – 8,540.44GWh
4,242.36 MWh/h	Average Hourly Generation; +369.20MWh/h (+9.53%) increase compared to 2022/Q3 – 3,873.16MWh/h
95.32%	Average Load Factor; +7.01 pp increase compared to 2022/Q3 – 88.31%
31.10%	Share of total quarterly generation from Hydropower Plants; +1.68 pp increase compared to 2022/Q3 –29.42%
7.31%	Transmission Loss Factor; -0.44 pp reduction compared 7.75% in 2022/Q3 and 0.19 pp below the MYTO allowance of 7.50%
7,661.97 GWh	Total Energy Received by the DisCos; +617.22GWh (+8.76%) increase compared to 2022/Q3 – 7,044.75GWh
5,835.62 GWh	Energy Billed; +509.19GWh (+9.56%) increase compared to 2022/Q3 –5,326.43GWh
₦243.65 billion	Total Revenue Collected by the Discos; ₦32.98 billion (+15.65%) increase compared to 2022/Q3 – ₦210.67 billion
76.16%	Cumulative Billing Efficiency across all DisCos; +0.55 pp increase compared to 2022/Q3 –75.61%
73.33%	Cumulative Collection Efficiency across all DisCos; +1.10 pp increase compared to 2022/Q3 –72.23%.
44.15%	Aggregate Technical, Commercial and Collection Loss; 2.27 pp improvement compared to 2022/Q3 –46.42%

₦231.01 billion	Combined Invoice from NBET (MRO adjusted) and MO to DisCos; ₦16.74 billion (+7.81%) increase compared to 2022/Q3 – ₦214.27 billion
₦181.78 billion	Total Amount Remitted by DisCos; ₦8.23 billion (+4.74%) increase compared to 2022/Q3 – ₦173.55 billion
78.68%	Discos' Average Remittance Performance; -2.31 pp decrease compared to 2022/Q3 – 80.99%
164,612	Number of New Meters Installed; +21,725 (+15.20%) increase compared to 2022/Q3 – 142,887
91.38%	Average DisCo complaint resolution rate; -0.21 pp decrease compared to 2022/Q3 – 91.59%
58.60%	Forum Office Complaint Resolution Rate; +8.20 pp increase compared to 2022/Q3 – 50.40%
18	Number of Fatalities; +6 more deaths compared to 2022/Q3 – 12
27	Number of Injuries; +22 more injuries compared to 2022/Q3 – 5
0	Number of grid collapses; -1 collapse compared to 2022/Q3
₦4.52 billion	Total revenue Realized by the Commission; +0.64 billion (+16.65%) increase compared to 2022/Q3 – ₦3.87 billion ³
₦3.87 billion	Total Expenditure by the Commission; +1.32 billion (+51.87%) increase compared to 2022/Q3 – ₦2.55 billion

2. STATE OF THE INDUSTRY

2.0 State of the Industry

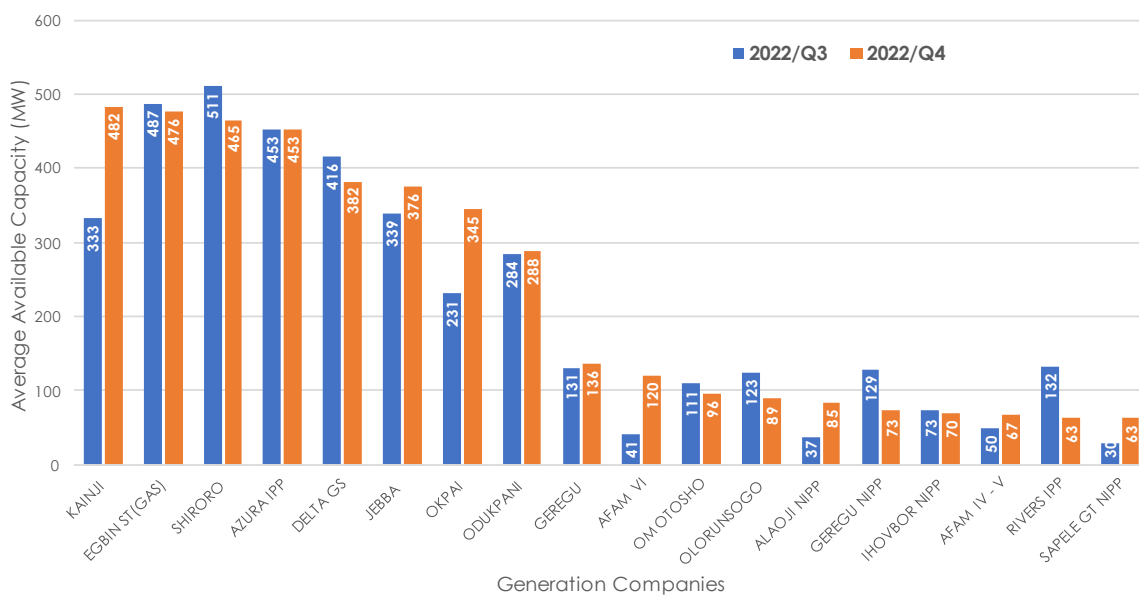
Pursuant to its statutory mandate as enshrined in the EPSRA 2004, the Nigerian Electricity Regulatory Commission (NERC) continues to monitor the technical, operational, and commercial performance of the Nigerian Electricity Supply Industry (NESI). Through this regulatory function, the Commission oversees all licensed operators in the NESI in a bid to ensure that they provide stable, reliable and safe electricity to all consumers.

2.1 Operational Performance

The average available generation capacity in 2022/Q4 was 4,503.59MW, the average hourly generation stood at 4,242.36MWh/h while the total quarterly generation was 9,365.65GWh from 26 generating plants across the country.

Average Available Capacity: The average available generation capacity increased by +3.73% from 4,341.87MW in 2022/Q3 to 4,503.59MW. The improvement in average available capacity as illustrated in Figure 1 was largely driven by improved availability from Kainji (+149.33MW/+44.90%), Okpai (+114.32MW/+49.54%), AFAM VI (+79.03MW/+192.14%), Alaoji NIPP (+47.55MW/+128.43%) and Jebba (+36.77MW/+10.85%) power plants.

Figure 1: Average Available Capacity (MW) in 2022/Q3 vs. 2022/Q4

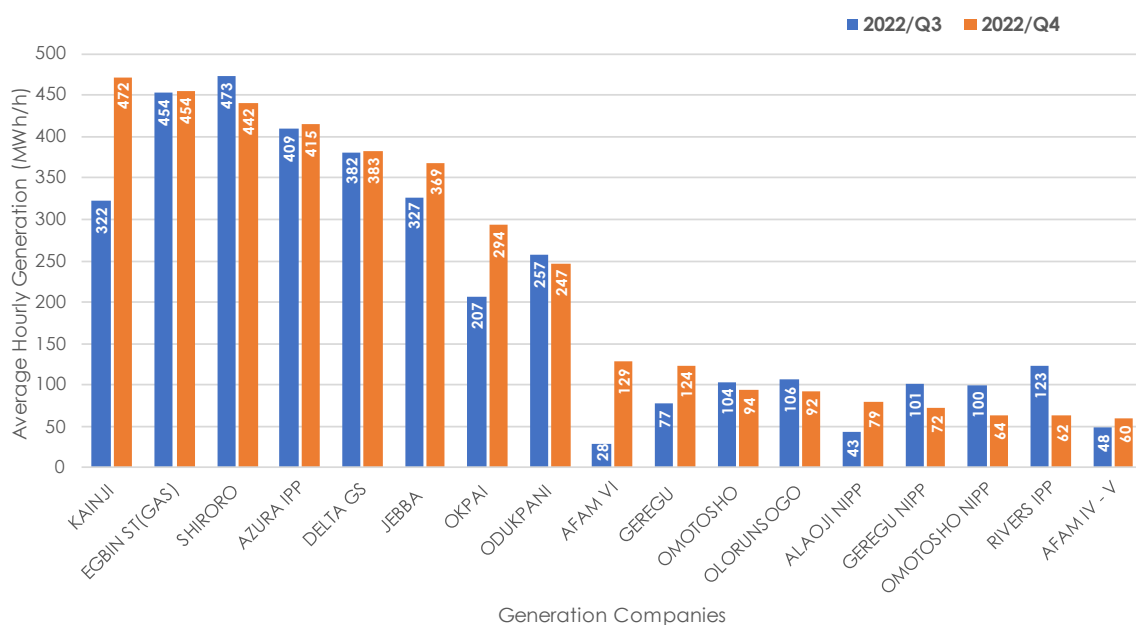


While thirteen (13) plants recorded increased availabilities, the system’s cumulative available generation was negatively affected by the significant decrease in availability recorded at the following plants Shiroro (-45.89MW/-8.98%), Delta gas (-33.61MW/-10.85%), Olorunsogo (-34.94MW/-27.79%), Geregu NIPP (-56.24MW/-43.54%) and Rivers IPP (-68.37MW/-51.94%) in 2022/Q4 relative to 2022/Q3.

Average Hourly Generation: The hourly output produced by all the units in a power plant fluctuates based on grid demand, mechanical operability of the unit(s) and the availability of feedstock (fuel). The average hourly output of the plant over a quarter is a combined reflection of its operational efficiency, technical and commercial viability, as well as the overall demand for electricity on the grid as plants are only dispatched when the load on the grid is sufficient to offtake the energy while operating within acceptable technical limits.

In 2022/Q4, the average hourly generation on the grid was 4,242.36MWh/h, an increase of +369.20MWh/h (+9.53%) compared to 3,873.16MWh/h in 2022/Q3. Figure 2 shows that between 2022/Q3 and 2022/Q4, sixteen (16) out of the 26 grid-connected plants recorded improved average hourly generation with the biggest improvements being recorded at Kainji (+150.36MWh/h/+46.68%), AFAM VI (+100.79MWh/h/+360.95%), Okpai (+86.78MWh/h/+41.87%) and Geregu (+46.50MWh/h/+60.35%) plants.

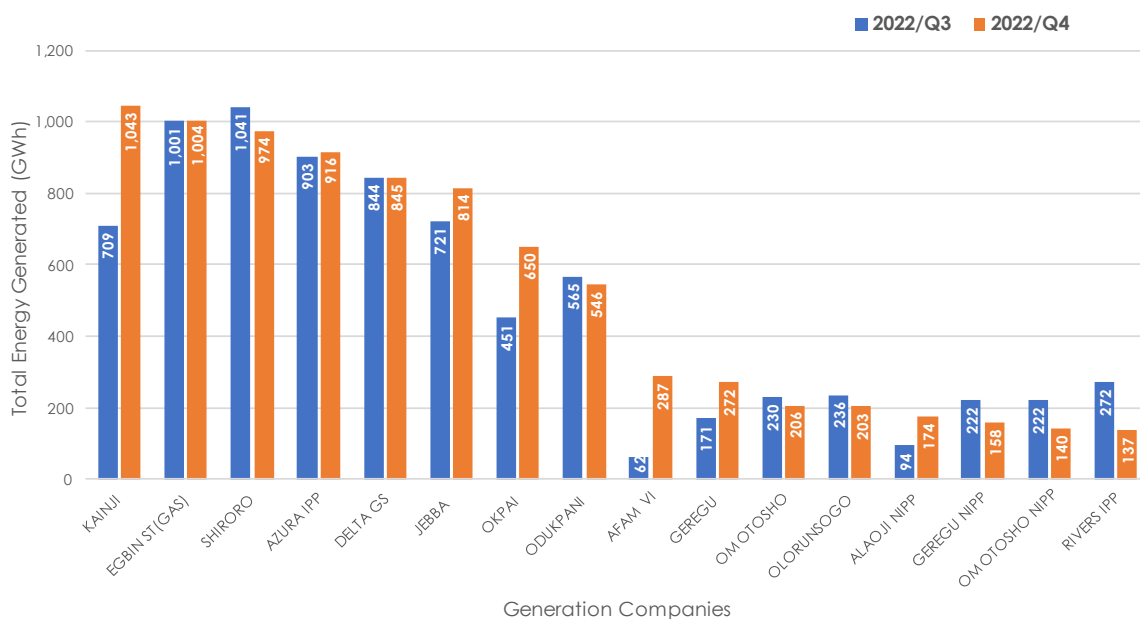
Figure 2: Average Hourly Generation (MWh/h) in 2022/Q3 vs. 2022/Q4



Conversely, ten (10) plants recorded reductions in their average hourly generation between 2022/Q3 and 2022/Q4 with a cumulative drop of -208.28MWh/h. The plants that contributed the most to the reduction in average hourly generation are Rivers NIPP (-60.52MWh/h/-49.25%), Omotosho NIPP (-36.26MWh/h/-36.22%), and Shiroro (-31.86MWh/h/-6.73%).

Total Quarterly Generation: The total electricity generation in 2022/Q4 was 9,365.65GWh, an increase of +825.20GWh (+9.66%) from the 8,540.45GWh generated in 2022/Q3. Figure 3 presents the seventeen (17) power plants that contribute 93% of the total electricity generated in 2022/Q4. Nine (9) of these power plants had increased generation in 2022/Q4 compared to 2022/Q3. The largest increase was seen at Kainji (+47.20%/+334.55GWh), AFAM VI (+360.32%/+224.57GWh), Okpai (+44.16%/+199.24GWh), Geregu (+58.84%/+100.79GWh), Jebba (+12.99%/+93.62GWh), Alaoji NIPP (+85.43%/+80.13GWh), Olorunsogo NIPP (+571.34%/+76.05GWh) and Sapele GT NIPP (+205.31%/+65.30GWh).

Figure 3: Total Quarterly Generation (GWh) in 2022/Q3 vs. 2022/Q4



During 2022/Q4, gas unavailability resulted in the reduced generation from Geregu NIPP (97,201.07MWh), Olorunsogo (176,090.50MWh), Omotosho NIPP (106,295.57MWh), and Rivers IPP (156,890.67MWh). Rivers IPP and Olorunsogo also lost 39,744.00MWh and 28,704.00MW respectively to mechanical constraints on their units.

As highlighted in the 2022/Q3 report, the Commission passed an Order on Securitisation of Gas Payments in the NESI (Order No: [NERC/333/2022](#)) in an attempt to minimise disruption to electricity generation owing to inadequate gas availability. The Order creates a mechanism that effectively guarantees 100% payment of gas invoices. This is partly responsible for the increased availability recorded in 2022/Q4. Nonetheless, the Commission will continue to work and engage relevant stakeholders to further improve the security of gas supply of the NESI.

2.2 Generation Load Factor

The Load Factor is a measure of the utilization of a power plant's capacity, calculated as the ratio of the average electricity generated to the maximum possible generation over the period, based on the available capacity. A higher load factor results in better capacity utilization, reducing the cost per unit of energy and increasing profitability, as fixed costs are spread over a larger amount of dispatched energy. The Load Factor reflects both demand for energy and a plant's ability to supply it. The formula for load factor is represented by equation 1 below:

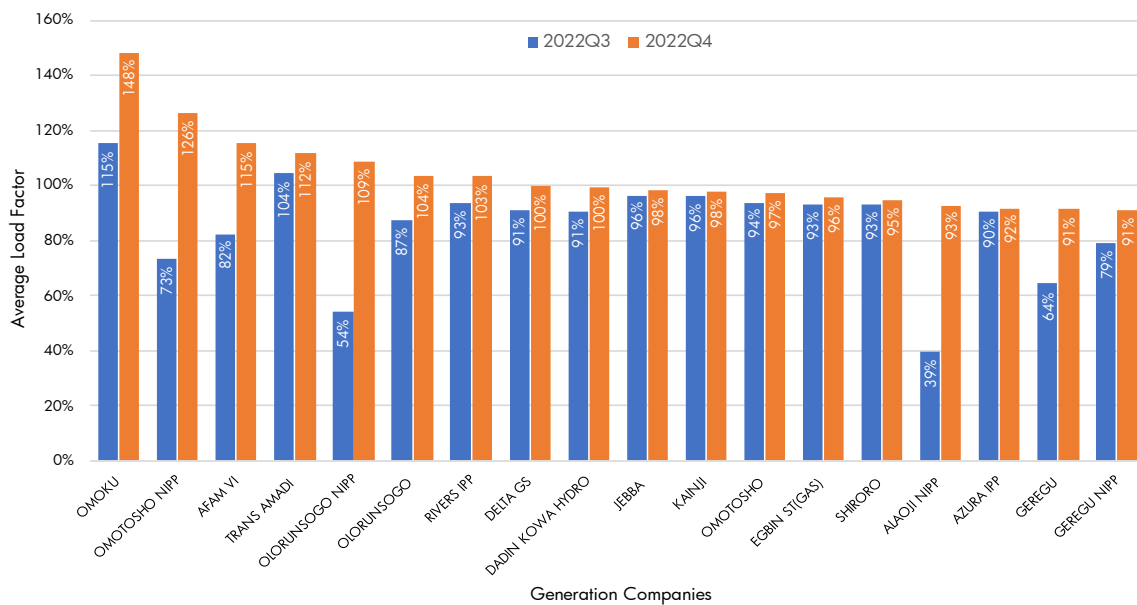
$$Load\ Factor = \frac{Total\ Energy\ Generated\ (MWh)}{Ave.\ Available\ Capacity\ (MW) \times 24hrs \times period\ (in\ days)} \quad (1)$$

The average load factor for all grid-connected power plants in 2022/Q4 was 95.32%, indicating that 4.68% of available capacity was unutilized during the quarter. The 95.32% load factor recorded in 2022/Q4 represents an increase of +7.01 percentage points (pp) from the 88.31% average load factor recorded in 2022/Q3. The key drivers for this overall improvement include - improved load offtake by the DisCos during the quarter and reduced cases of transmission infrastructure unavailability which allowed TCN to evacuate more energy to the DisCos. It is noteworthy that since the beginning of the second half of 2022, there has been continuous improvement in the utilisation of available capacity declared by GenCos.

Figure 4 shows that eighteen (18) power plants had capacity utilisation above 90% in 2022/Q4 with the following having the highest utilisation rates – Omoku (148.15%), Omotosho NIPP (126.32%), Afam VI (115.27%), Trans Amadi (111.70%) and Olorunsogo NIPP (108.72%).

All the hydro plants continued to experience high dispatch rate (> 90%) in line with the Commission’s order (Order No: [NERC/182/2019](#)) on mandatory and priority dispatch of hydropower plants. The Order mandates that hydro plants, the cheapest energy generation source, be dispatched with priority to reduce wholesale energy costs for consumers. There are also environmental considerations for the prioritisation of the hydro-plants as they have a major impact on water flows further downstream within the country.

Figure 4: Plants Load Factor (%) in 2022/Q3 vs. 2022/Q4



Relative to 2022/Q3, twenty (20) of the power plants recorded increased load factor in 2022/Q4 with the largest increases being recorded by Olorunsogo NIPP (+54.46 pp), Alaoji NIPP (+53.41 pp) and Omotosho NIPP (+53.08 pp). The improvement in load factor for these plants is attributable to the overall improvement in load offtake as well as an increase in the availability of the transmission infrastructure to evacuate the energy from the plants. On the other hand, Odukpani, Ihovbor NIPP, Okpai, Afam IV – V, and Sapele ST power plants experienced decreases in load factor performance in 2022/Q4 compared to 2022/Q3 of -4.61, -5.70, -5.86, -8.43, and -38.12 pp respectively.

The Commission through the “Situation Room Initiative” also undertook hands-on supervision of load dispatch and resolution of envisaged challenges. The initiative involves daily meetings between all grid-connected operators and the SO to review energy offtake performance, resolve any challenges, and maximize capacity utilization to supply end-use customers. The Commission also oversaw some process redesign

activities to improve the coordination and timeliness of information sharing with respect to available generation between the SO and the DisCos for improved load offtake.

In spite of its best efforts, it is very difficult for the SO to achieve a load factor above the 96% recorded in the quarter because of the lack of automated grid operation at the transmission and distribution levels. Without an automated real-time grid management system e.g., Supervisory Control and Data Acquisition (SCADA) system, the SO (transmission) as well as Dispatch Operators at the DisCo manage the grid manually and therefore are limited in terms of how closely they can match demand and supply in real-time. The Commission has continued to engage the SO and DisCos on the urgent need for automated grid management systems along the entire network.

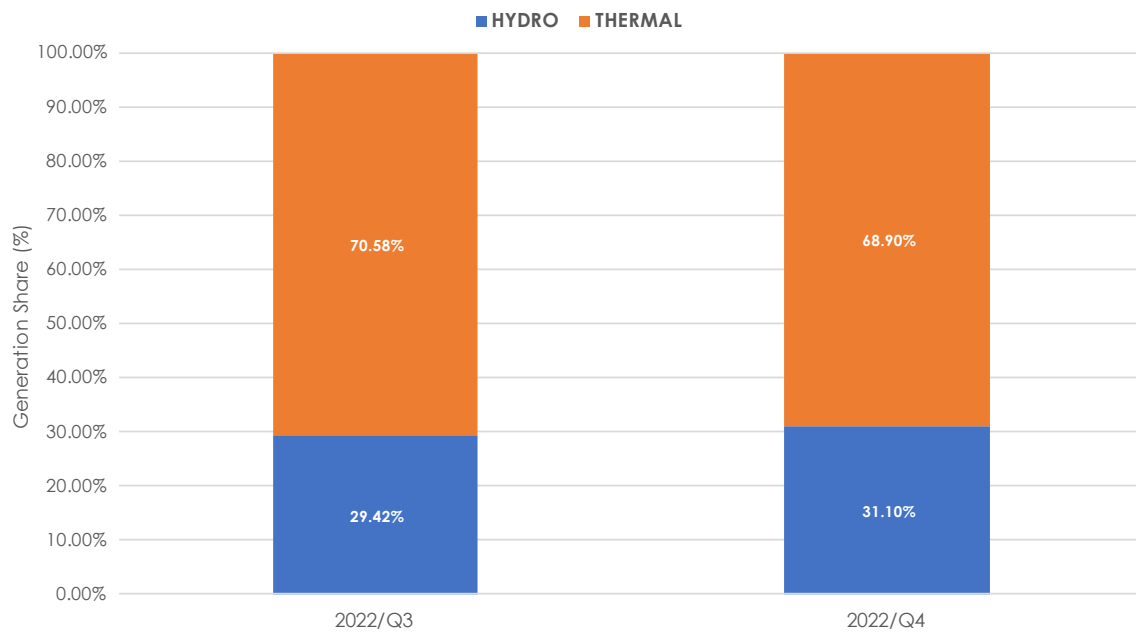
2.3 Generation Mix

The electricity generation mix refers to the combination of fuels used to generate electricity over a period of time. The composition of the generation mix varies across countries and is influenced by factors such as natural resource availability, government policies, environmental considerations, type of power plants, energy demand, and seasonal fluctuations. An ideal energy mix must balance the three key objectives of the energy trilemma: cost reduction, reliability, and energy security. The formula for the share of electricity generated by fuel sources is given by equation 2 below:

$$Share\ of\ fuel_i = \frac{Total\ electricity\ generated\ from\ fuel_i\ (MWh)}{Total\ electricity\ generated\ from\ all\ fuel\ sources\ (MWh)} \quad (2)$$

Figure 5 shows the share of electricity generated by fuel sources in 2022/Q3 and 2022/Q4. Hydropower experienced an increase in its share of the energy mix, rising from 29.42% (2,512.50GWh) in 2022/Q3 to 31.10% (2,926.67GWh) in 2022/Q4. This increase is in line with expectations that the reservoirs at the respective plants will have been sufficiently refilled during the rainy season. The National Control Centre (NCC) tracks the daily water levels at all hydro plants and manages the dispatch of the plants in a way that ensures that there is sufficient water in the plants’ reservoirs to allow them run during the peak of the dry season, albeit with limited capacity compared to the wet season. This is critical for grid stabilization as it allows for year-round security of supply from the hydro plants.

Figure 5: Share of Electricity Generated by Energy Sources in 2022/Q3 & 2022/Q4



In addition to the seasonal variability affecting the hydro plants, the NESI also has significant challenges with gas availability with ~75% of available generation capacity being gas-based. Most of the power plants in the NESI are dependent on “Associated Gas” i.e., gas produced during crude oil exploration. This puts the plants at an added level of exposure because significant drops in crude oil production will also mean reduced gas availability to run the plants.

Another potential vulnerability affecting thermal plants is the gas transmission infrastructure. Since most of the plants are not co-located with gas production facilities, they obtain their gas from the national gas transmission infrastructure which in the past has faced challenges of insecurity as well as supply quality i.e., gas purity and gas pressure.

These challenges point to a need for further diversification of Nigeria’s electricity supply mix. The Commission is reviewing its regulations and designing green power initiatives to mitigate these risks, including working with the TCN to evaluate the National Grid’s ability to integrate grid-scale renewable energy sources such as wind and solar. In the long term, the Federal Ministry of Power’s efforts to create an Integrated Resource Plan (IRP) will provide a policy framework for optimizing NESI’s generation mix. The Commission is committed to supporting the Ministry in finalizing the IRP and will use it as a reference for evaluating generation plant license applications.

2.4 Grid Performance

The Transmission Company of Nigeria (TCN) which has the responsibility of wheeling energy from power plants to DisCos holds two licensees, Transmission Service Provider (TSP) and System Operator (SO). TSP owns and maintains the transmission infrastructure while the SO is responsible for maintaining system stability, load balance and load dispatch. To assess the performance of the grid, the Commission focuses on four (4) Key Performance Indicators (KPI) that relate to power transmission. These are:

- Transmission loss factor
- Stability of grid frequency
- Voltage fluctuation
- Incidence of system collapse

2.4.1 Transmission Loss Factor

Transmission Loss Factor (TLF) refers to the proportion of the total energy sent out by the power plants that was lost in transmission (electrical wire losses and transmission station use) i.e., neither delivered to the DisCos nor exported to international customers. There is an inverse relationship between the TLF and the efficiency of the transmission system i.e., a decline in the TLF indicates an improvement in transmission efficiency. The formula for TLF is represented by equation 3 below:

$$TLF = \left(1 - \frac{\text{Energy delivered to all DisCos} + \text{Energy Exported}}{\text{Energy Sent out by all GenCos}} \right) \times 100 \quad (3)$$

The average TLF in 2022/Q4 was 7.31%, as shown in Figure 6. This represents a decrease of -0.44 pp from the 2022/Q3 TLF of 7.75%, indicating sustained improvement in TSP’s overall operational performance. A TLF of 7.31% indicates that for every 100MWh of energy injected into the grid, 7.31MWh of energy was undelivered to the DisCos and international customers due to losses in the transmission network or consumption by transmission substations.

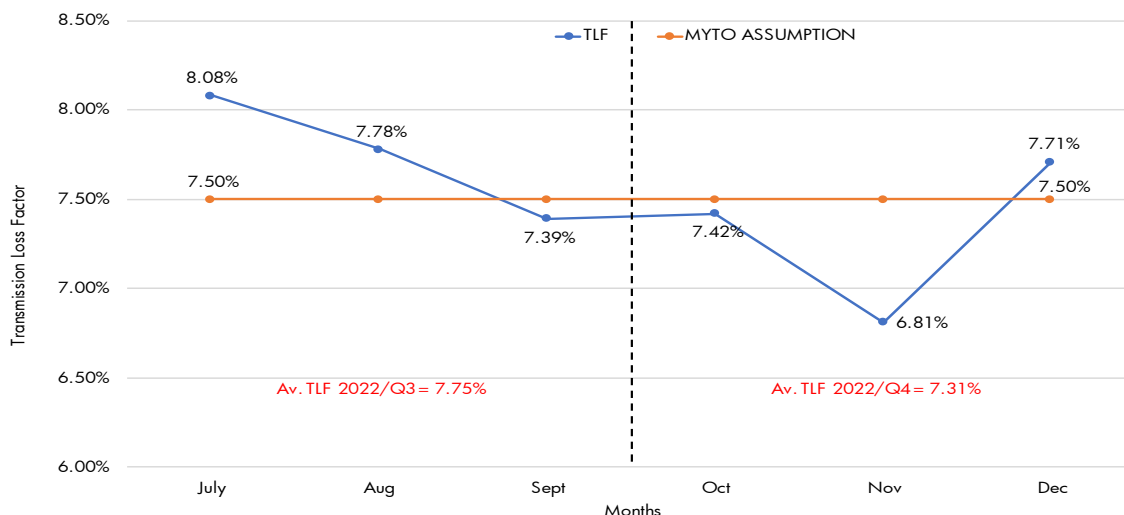
Despite the spike in TLF in December 2022, the average TLF for the quarter was lower than that of 2022/Q3 owing largely to the major efficiency improvements recorded in November 2023 (TLF of 6.681%). The TLF targets set by the Commission represent the maximum efficient loss in transmission that is paid by customers. The average TLF for 2022/Q4 was -0.19 pp lower than the MYTO target of 7.50%. The TSP’s overperformance in TLF means that it was able to earn revenue on an additional

17.94GWh in 2022/Q4; which is consistent with the reward/punitive mechanism that underpins the TLF setting methodology.

Some of the contributory factors to the improved TLF performance in 2022/Q4 are:

- Energy dispatch: higher levels of dispatched generation in 2022/Q4 relative to the dispatched generation in 2022/Q3. Given that the auxiliary energy use of transmission equipment (transformers and lines) remains relatively constant, an increase in the capacity and volume of energy wheeled across the transmission network will result in a lower TLF as measured in the 'percentage (%) lost energy', and not 'MWh lost', between dispatched energy from GenCos and the energy received by DisCos. That means if the numerator (auxiliary energy use of transmission equipment) remains constant, and an increase occurs in the denominator (volume of wheeled energy), the resulting TLF will be lower.
- Upper boundary of grid frequency: The average upper frequency bound in 2022/Q4 was 50.55Hz compared to 50.86Hz in 2022/Q3. This means that the average upper frequency was closer to the statutory limit of 50Hz by 0.31Hz in 2022/Q4 relative to 2022/Q3. When the upper bound of grid frequency is as close as possible to 50Hz by accurately balancing demand (offtake) and supply (generation), this minimises the energy that is lost in the transmission system i.e. unused energy thereby reducing the TLF.

Figure 6: Transmission Loss Factor (%) vs. MYTO Assumption July – Dec 2022



As part of its efforts to sustain the TLF improvements recorded by the TSP, the Commission has mandated the TCN to present its Performance Improvement Plan (PIP)

due to the importance of enhancing grid efficiency. It is expected that TCN will obtain concurrence from each DisCo for the PIP projects related to its franchise area so that there is alignment between investments being made at the transmission and distribution segments. This will allow TCN to have sufficient capacity to deliver electricity to the DisCos' load centres. In addition, the projects may also be used to reinforce the reliability and efficiency of the national transmission network grid.

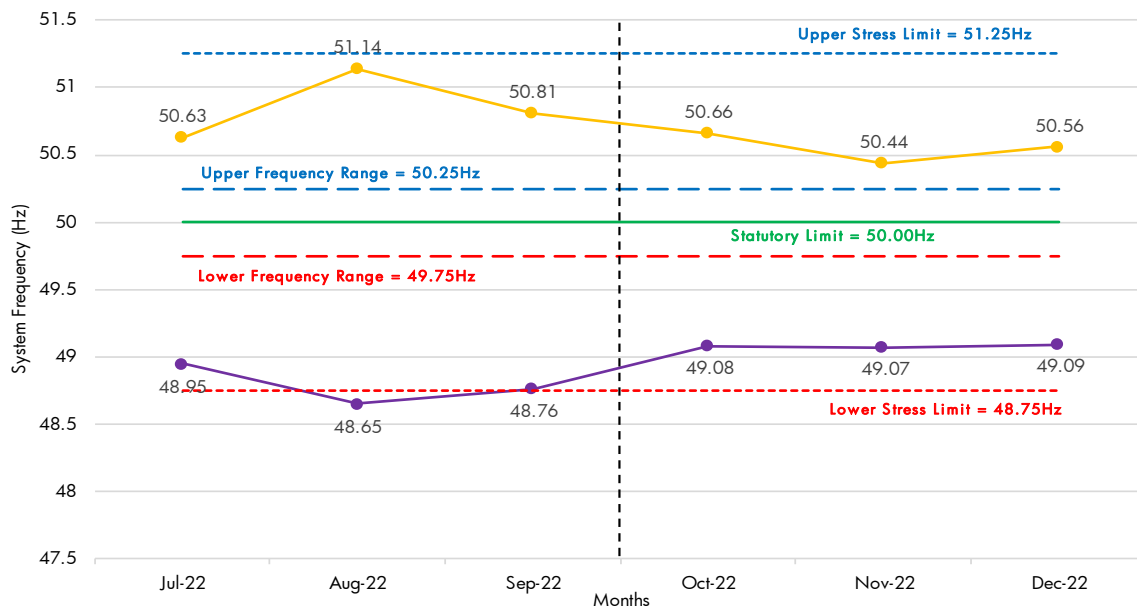
2.4.2 Grid Frequency

Frequency is a major power quality parameter that consumers (especially industrial customers) are concerned about because of the sensitivity of their machines. Most industrial production assembly lines have machines that are frequency sensitive and would not operate outside the pre-set frequency tolerance limits. As specified in the Grid Code, the system frequency under normal circumstances is expected to be between a lower limit of 49.75Hz and an upper limit of 50.25Hz (allowance of $\pm 0.5\%$ in normal circumstances) but may reach an upper bound stress limit of 51.25Hz and a lower bound stress limit of 48.75Hz in extreme circumstances (allowance of $\pm 2.5\%$ in extreme circumstances).

Across the entire quarter (2022/Q4), the average upper daily system frequency was 50.55Hz while the average lower daily system frequency was 49.08Hz; this translates to a range of 1.47Hz. Comparatively, in 2022/Q3, the average upper daily system frequency was 50.86Hz while the average lower daily system frequency was 48.79Hz; this translates to a range of 2.07Hz. The convergence of range (reduction by -28.99%) is an indication of improved system operation across the quarter and as explained above, contributed to the reduced TLF recorded in 2022/Q4.

The average upper and lower bounds of the system frequency in 2022/Q4 were all outside the normal operation limits but within the stress limits as shown in Figure 7. The system recorded its highest average frequency for the quarter in October 2022 which indicates that the grid was most unstable during this month with the SO being unable to match load offtake with the available generation.

Figure 7: Average Daily System Frequency from July - Dec 2022



The fluctuation in frequency indicates an imbalance in the supply and demand of electricity on the grid. As earlier stated, there is an urgent need for the deployment of automated grid management system by the SO and DisCo dispatch teams to ensure the grid frequency is maintained within the statutory limits to improve supply quality to all consumers.

DisCos are encouraged to pursue investment in technology that will provide real-time visibility into load offtake at their feeders, so as to improve the SO’s ability to balance generation and load in real-time as well as help the DisCos optimise the utilisation of the grid energy allocation. An advantage of operating the grid within the limit is that it will enable Nigeria to participate in the West African Power Pool (WAPP) which will connect the transmission system of several West African Countries. The WAPP provides an opportunity for Nigerian GenCos to sell their power seamlessly across the border while also allowing Nigeria to import energy from neighbours with excess capacity.

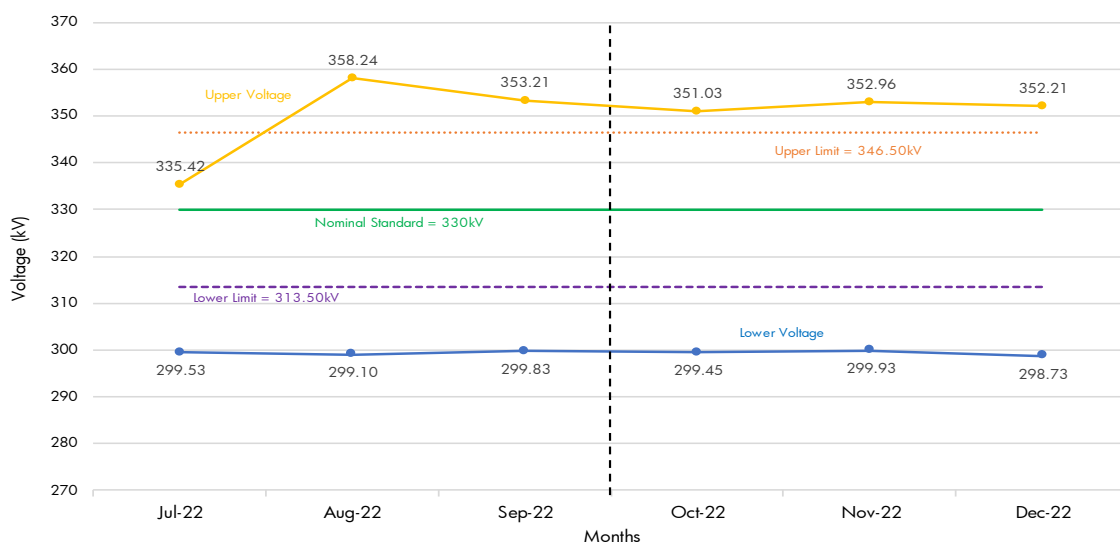
2.4.3 Voltage Fluctuation

To guarantee high-quality power, the Grid Code specifies a nominal system voltage of 330kV with a tolerance range of $\pm 5\%$ (313.5kV to 346.5kV). Fluctuations in grid voltage, including spikes, dips, flickers, brownouts, and blackouts, can cause significant harm to consumers and result in substantial commercial losses. Extreme cases of voltage fluctuations, particularly at the distribution network level can cause severe damage to industrial machines thereby driving industrial customers to seek alternative sources of power generation.

The system voltage pattern from July to December 2022 is illustrated in Figure 8. In 2022/Q4, the average upper and lower operating voltage bounds for the transmission network were 352.96kV and 299.97kV respectively with a range of 53.03kV. Both of were outside their respective allowable limits which indicates that the grid performance from a voltage perspective in 2022/Q4 did not meet the limits contained in the grid code. Comparatively, the upper and lower operating voltage bounds of the network in 2022/Q3 were 355.75kV and 299.47kV respectively with a range of 56.26kV. The marginal reduction in the voltage range from 2022/Q3 to 2022/Q4 is an indication of improved system performance in 2022/Q4 and further explains the improved TLF performance recorded over that period.

When a power system operates outside the allowed voltage range, it can cause several issues and consequences that negatively impact the system's performance, safety, and reliability. For instance, if the system operates at a voltage level higher than the allowed range, it may cause overvoltage stress on connected equipment, increased power loss, reduced efficiency, overheating, insulation breakdown, and increased risk of electrical arcs and flashovers, as well as potential protection system malfunctions. Similarly, operating the system at a lower-than-allowed voltage range can cause issues like underperformance of equipment, increased equipment wear, voltage flicker and instability, tripping of sensitive loads, and other issues.

Figure 8: Monthly System Voltage from Jul - Dec 2022



To reduce frequency and voltage fluctuations, the Commission is actively working with TCN and other stakeholders to ensure that the system voltage remains within the regulated limits, providing safe and reliable electricity supply. For instance, the TCN has installed under-frequency relays at the interface transmission stations to improve

system frequency while capacitor banks and reactors have been installed at low-voltage and high-voltage nodes respectively to stabilise the system voltage.

2.4.4 System Collapse

The national power grid is a vast network of electrical transmission lines that link power stations to the customers across the nation. It is designed to function within certain stability limits in terms of voltage ($330\text{kV}\pm 5\%$) and frequency ($50\text{Hz}\pm 0.5\%$). Any deviation from these stability ranges can result in decreased power quality and, in severe cases, cause widespread power outages. This can range from a partial collapse of a section of the grid to a full system-wide blackout.

The SO is responsible for ensuring that the frequency remains within a $\pm 0.5\%$ tolerance threshold. When demand for electricity is higher than the supply, the grid frequency drops, which can cause some power plants to shut down automatically. This further exacerbates the frequency imbalance and can lead to a full or partial system collapse. On the other hand, if supply surpasses demand, the frequency increases, and in severe cases, some power plants may shut down, causing a sudden drop in generation.

It is noteworthy that there was no grid collapse in 2022/Q4. The Commission, in collaboration with the TCN, will continue to intensify efforts to sustain the improvements in grid stability and prevent system collapses. Furthermore, the Commission shall continue to strictly monitor compliance with the SO's directives to generators on free governor and frequency control mode in line with the provisions of the subsisting operating codes in the electricity industry. The Commission is also exploring options for the enforcement of under frequency load-shedding scheme instituted to provide an added layer of security for the grid in case of a sudden loss of generation. TCN could also be required to undertake a review of the calibration of its relay settings as part of the efforts to increase grid stability.

2.5 Commercial Performance

The commercial performance of the NESI is a measure of the flow of funds from customers to upstream electricity industry players. The financial performance is very critical because funds are required to keep the all the players along the value chain operational. In evaluating the commercial performance of the NESI for 2022/Q4, the following parameters have been considered:

- Energy received and contracted capacity
- Energy billed and billing efficiency

- Revenue and collection efficiency
- Aggregate Technical, Commercial and Collection (ATC&C) losses
- Remittances to the Market Operator (MO) and the Nigerian Bulk Electricity Trading Company (NBET).

2.5.1 Energy Received and Contracted Capacity

A certain amount of energy generated is lost before reaching the final consumers. A portion of the energy generated at power stations is consumed on-site for equipment and facilities operation; this explains the difference between actual generation and the amount of energy sent to the transmission grid from the power plants. Energy sent out (energy injected into the transmission grid) is thus the total energy generated less the power station's own use. A fraction of the injected energy is again lost in the transmission system (TLF) before it is received at the DisCos' and the international customers' metering points. This energy received by the DisCos is subject to further losses (technical) before reaching the customers.

As reported in prior reports, the NESI transitioned into the Partial Activation of Contract (PAC) regime in July 2022 wherein each DisCo determines its own unconstrained power requirements in absolute MW known as the Partially Contracted Capacity (PCC). Although procurement is still done centrally by NBET, each DisCo has a take-or-pay obligation on its PCC meaning that as long the GenCos report availability, they will be entitled to capacity payments irrespective of actual energy offtake by the DisCo. As reported in previous quarters report, this arrangement is consistent with international best practices for power procurement.

The PAC made provisions for the payment of Liquidated Damages (LD) by the GenCos and/or TCN depending on the cause of capacity shortfall experienced by the DisCos. This contractual framework provides a basis for NBET to earn revenues that will be used to compensate DisCos for shortfalls in generation. Previously, the entire risk for availability of generation capacity to DisCos rested with NBET with no recourse to the GenCos – due to the lack of take-or-pay and LD provisions. This is one of the issues that contributed to the FGN's substantial subsidy payments to cover the unrecoverable revenues of the DisCo.

Table 1 shows that the amount of energy received by DisCos at their trading points in 2022/Q4 was 3,470.09MWh/h. This is an increase of +279.53MWh/h (+8.76%) from 3,190.56MWh/h recorded in 2022/Q3. The increase is largely reflective of the ramp up in available and actual generation in 2022/Q4.

Table 1: Energy Received vs Available PCC in 2022/Q3 and 2022/Q4

DisCos	2022/Q3			2022/Q4		
	Energy Received (MWh/h)	Available PCC (MWh/h)	Variance	Energy Received (MWh/h)	Available PCC (MWh/h)	Variance
Abuja	445.20	464.43	-4.14%	503.17	530.04	-5.07%
Benin	309.65	289.13	7.10%	311.38	312.75	-0.44%
Eko	345.11	364.86	-5.41%	412.59	427.64	-3.52%
Enugu	282.16	303.28	-6.97%	290.76	325.76	-10.74%
Ibadan	392.89	399.57	-1.67%	410.54	431.59	-4.88%
Ikeja	466.99	465.96	0.22%	504.27	511.81	-1.47%
Jos	181.18	194.88	-7.03%	198.53	215.53	-7.89%
Kaduna	226.00	223.33	1.19%	245.47	245.69	-0.09%
Kano	215.58	222.16	-2.96%	244.04	248.80	-1.91%
Port Harcourt	237.56	249.08	-4.62%	248.23	265.10	-6.36%
Yola	88.25	97.49	-9.48%	101.12	111.19	-9.05%
All DisCos	3,190.56	3,274.16	-2.55%	3,470.09	3,625.90	-4.30%

A comparison of the actual energy offtake and the available PCC can be used to evaluate each DisCo's energy offtake performance. Considering the large disparity between available generation capacity and the forecasted demand of customers, the Commission continues to monitor energy offtake by DisCos with a view of ensuring that the highest possible available generation is off-taken and delivered to Customers. This is one of the key mandates of the Situation Room initiative where hourly DisCo load offtake is analysed.

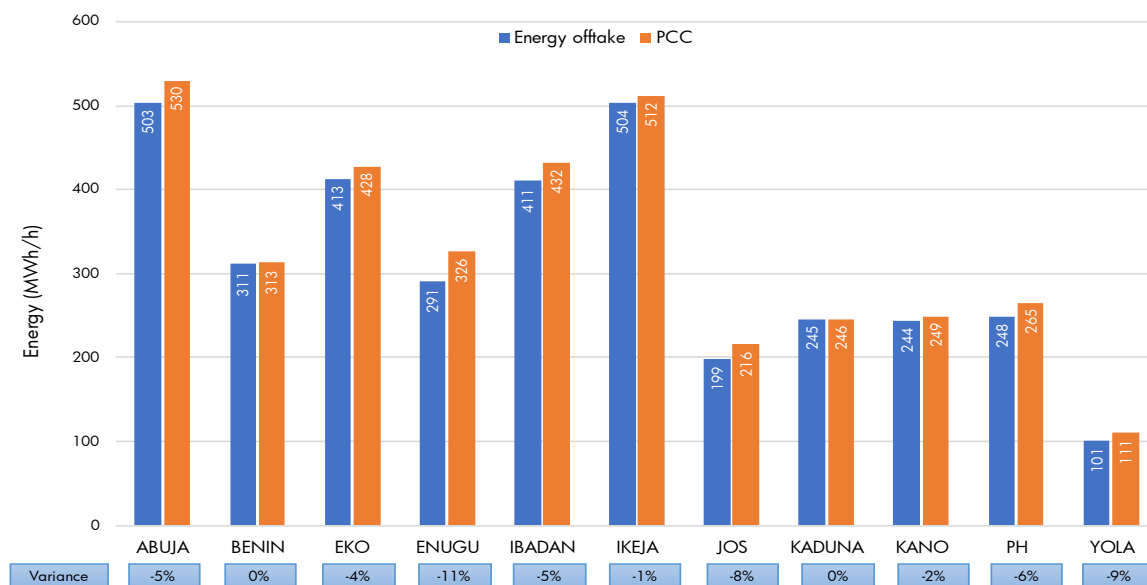
In 2022/Q4, all DisCos took less than their available PCC with Enugu -10.74% (-35.00MWh/h), Abuja -5.07% (-26.87MWh/h) and Ibadan -4.88% (-21.05MWh/h) having the largest variances relative to their available PCC, possibly due to technical limitation of their networks and/or commercially induced low load offtake during the period.

The average energy offtake performance by DisCos was 95.70% with six (6) DisCos exceeding 95% performance. Effective October 2022, the Commission issued KPI order to the management of DisCos; energy offtake performance was one of the indicators with repeated failure to hit the set targets attracting penalties as severe as termination of the responsible leadership personnel. The introduction of the KPI framework by the Commission will push DisCos to improve on their energy offtake and delivery to customers.

The Partial Contracted Capacity is a critical component of the tariff - if a DisCo consumes more than its available PCC, it will benefit from lower wholesale energy cost as it is only

required to make capacity payments to cover its available PCC share despite off taking more energy i.e., it is only bound to pay energy portion of any offtake above its available PCC. Conversely, a DisCo that consumes less than its PCC faces increased wholesale energy cost as it still has to pay for unused capacity which has not been delivered to consumers.

Figure 9: Energy Off-take by DisCos vs. PCC (MWh/h) in 2022/Q4



2.5.2 Energy Billed and Billing Efficiency

Billing Efficiency measures the proportion of energy billed to customers (metered and unmetered sales) relative to the total energy supplied to a given area over a period. One reason for billing losses (commercial losses) is the inability of DisCos to identify all energy users as a result of poor customer enumeration, insufficient metering (thereby a reliance on estimated billing), inaccurate meters, and other forms of energy theft.

The billing efficiency indicator encompasses both technical factors, such as energy loss in distribution infrastructure, and commercial factors like meter bypass and the DisCo's inability to account for energy supplied. For example, a billing efficiency of 70% means that ₦30.00 out of every ₦100.00 worth of electricity received by DisCos cannot be billed to customers due to any of the aforementioned issues. The formula for billing efficiency is represented by equation 4 below:

$$Billing\ Efficiency = \left(\frac{Total\ energy\ billed\ to\ customers\ (kWh)}{Total\ energy\ received\ by\ the\ Network\ (kWh)} \right) \times 100 \quad (4)$$

The summary presented in Table 2 shows that the total energy received by all DisCos in 2022/Q4 was 7,661.97 GWh, the total energy billed was 5,835.62GWh and the billing efficiency was 76.16%. A billing efficiency of 76.16% implies that for every ₦100 worth of energy received by DisCos in 2022/Q4, energy worth ₦23.84 was not billed to end users. Comparatively, the total energy received and billed in 2022/Q3 were 6,761.87GWh and 5,118.86GWh respectively which translates to a billing efficiency of 75.61%. Cumulatively, the DisCos recorded a +0.55 pp improvement in billing efficiency between 2022/Q3 and 2022/Q4.

All the Discos recorded increases in energy received between 2022/Q3 and 2022/Q4, with Eko (+149.00GWh/+19.55pp), Abuja (+128GWh/+13.02pp) Ikeja (+82.29GWh/+7.98pp), Kano (+62.84GWh/+13.20pp) and Ibadan (+38.96GWh/+4.49pp) recording the highest increases.

In 2022/Q4, six (6) DisCos recorded increases in billing efficiency relative to 2022/Q3 with Jos (2022/Q4 BE: 80.28%; change: +9.48 pp), Benin (2022/Q4 BE: 87.29%; change: +4.11 pp), and Ibadan (2022/Q4 BE: 75.15%; change: +2.36 pp) being the highest improved DisCos. Conversely, five (5) DisCos had reductions in billing efficiency with Abuja (2022/Q4 BE: 67.51%; change: -2.68 pp) and Eko (2022/Q4 BE: 89.02%; change: -1.92 pp) experiencing the greatest decline.

Table 2: Energy Received and Billed by DisCos in 2022/Q3 and 2022/Q4

DisCos	Total Energy Received (GWh)		Total Energy Billed (GWh)		Billing Efficiency	
	2022/Q3	2022/Q4	2022/Q3	2022/Q4	2022/Q3	2022/Q4
Abuja	983.00	1,111.00	690.00	750.00	70.19%	67.51%
Benin	683.71	687.52	568.72	600.11	83.18%	87.29%
Eko	762.00	911.00	693.00	811.00	90.94%	89.02%
Enugu	623.00	642.00	444.00	451.00	71.27%	70.25%
Ibadan	867.51	906.47	631.46	681.19	72.79%	75.15%
Ikeja	1,031.11	1,113.40	914.45	992.33	88.69%	89.12%
Jos	400.04	438.34	283.22	351.88	70.80%	80.28%
Kaduna	499.00	542.00	245.00	258.31	49.10%	47.66%
Kano	476.00	538.84	321.00	361.82	67.44%	67.15%
Port Harcourt	524.53	548.09	425.19	449.67	81.06%	82.04%
Yola	194.85	223.28	110.41	128.30	56.66%	57.46%
All DisCos	7,044.75	7,661.97	5,326.43	5,835.62	75.61%	76.16%

In 2022/Q4, five (5) DisCos recorded billing efficiencies above 80% with Ikeja Disco recording the highest billing efficiency of 89.12% (others were Benin: 87.29%, Eko: 89.02%, Ikeja: 89.12%, Jos: 80.28% and Port Harcourt: 82.04%). On the other end of the spectrum, Kaduna was the only DisCo that recorded a billing efficiency below

50% in 2022/Q4 (47.66%); this means that Kaduna DisCo lost about 52.34% (283.68GWh) of the energy it received in 2022/Q4 to a combination of technical and commercial losses.

The Commission is concerned about the low billing efficiency reported by the DisCos and its impact on the financial sustainability of the NESI. It is committed to working with DisCos to ensure that distribution losses are significantly reduced as part of the efforts towards steering the industry to financial sustainability. This effort will hinge on reinforcement of DisCo infrastructure to reduce technical losses, improved consumer enumeration, customer service, improving metering systems, and implementation of steps that will drive timely bill payments and the rollout of initiatives to curb energy theft.

2.5.3 Revenue and Collection Efficiency

Collection efficiency is an indicator of the proportion of the amount that has been collected from customers relative to the amount billed to them by the DisCos. Many customers continue to default in payment of their billed amounts in part due to a lack of willingness to pay (sometimes driven by unsatisfactory DisCo services). This has led to mounting commercial losses recorded by DisCos. A collection efficiency of 70% for instance implies that for every ₦100.00 worth of energy billed to customers by DisCos, approximately ₦30.00 remained unrecovered from the billed customers. The formula for collection efficiency is represented by equation 5 below:

$$\text{Collection Efficiency} = \left(\frac{\text{Total Revenue Collected (₦)}}{\text{Total Billed Amount (₦)}} \right) \times 100 \quad (5)$$

The total revenue collected by all DisCos in 2022/Q4 was ₦243.65 billion out of ₦332.28 billion billed to customers —this translates to a collection efficiency of 73.33%. Cumulatively, the DisCos' collection efficiency improved by +1.1 pp from 72.23% in 2022/Q3 to 73.33% in 2022/Q4. While the total collections increased by 15.65% (compared to ₦210.67 billion in 2022/Q3). At a macro level, the total energy billed increased by +13.93% (compared to ₦291.66 billion in 2022/Q3) which underscores the progress recorded by the DisCos in 2022/Q4.

The summary of the revenue performance of all DisCos in 2022/Q3 and 2022/Q4 is contained in Table 3. The 2022/Q3 to 2022/Q4 improvement in collection efficiency was largely driven by Ibadan, Kaduna and Benin whose collection efficiencies increased by +10.48, +5.66 and +5.24 pp respectively. Conversely, Jos, Eko, Ikeja and Kano DisCos recorded collection efficiency declines of -8.10, -1.79, -1.71 and -0.69 pp respectively.

Table 3: DisCos Revenue Collection Performance in 2022/Q3 vs. 2022/Q4

DisCos	Total Billings (₦' Billion)		Revenue Collected (₦' Billion)		Collection Efficiency	
	2022/Q3	2022/Q4	2022/Q3	2022/Q4	2022/Q3	2022/Q4
Abuja	39.27	44.64	31.99	36.40	81.47%	81.55%
Benin	30.76	33.15	17.25	20.33	56.09%	61.33%
Eko	37.69	46.48	32.27	38.97	85.64%	83.85%
Enugu	24.40	25.93	16.95	19.05	69.51%	73.46%
Ibadan	34.08	36.44	23.56	29.02	69.16%	79.64%
Ikeja	46.55	51.81	43.40	47.42	93.23%	91.52%
Jos	17.25	23.83	7.64	8.60	44.20%	36.10%
Kaduna	13.40	14.93	6.31	7.88	47.10%	52.76%
Kano	17.97	21.00	12.48	14.44	69.45%	68.76%
Port Harcourt	23.59	26.07	15.11	17.07	64.09%	65.47%
Yola	6.71	7.99	3.68	4.47	55.01%	55.91%
All DisCos	291.66	332.28	210.67	243.65	72.23%	73.33%

The overall increase in collection efficiency in 2022/Q4 could be attributed to the increased metering by the DisCos and the implementation of various collection campaigns to improve remittance for post-paid customers. Notwithstanding, the collection efficiency in the NESI is well below international standards⁴; this comparatively low collection efficiency is a major threat to the NESI's financial sustainability. To address this, the Commission is closely monitoring the metering programs, such as the National Mass Metering Program (NMMP) funded by the Central Bank of Nigeria and the Meter Asset Provider (MAP) scheme, being implemented by DisCos.

Furthermore, DisCos must continue to evaluate options for improving the optimisation of their energy delivery in line with the Service Based Tariff (SBT) regime to ensure that sufficient energy is supplied to customer groups/clusters with the highest collection efficiencies.

2.5.4 Aggregate Technical, Commercial and Collection Losses (ATC&C)

The Aggregate Technical, Commercial and Collection (ATC&C) loss is a summation of billing losses incurred by the DisCo due to its inability to bill 100% of delivered energy to consumers (technical and commercial losses) and the collection losses arising from the DisCo's inability to collect against 100% of the invoice's issued out to consumers. ATC&C is a critical performance-setting parameter for tariff determination because it represents the efficient losses which DisCos are allowed to recover from Customers. The ATC&C loss is broken into the following 3 components and represented by equation 6:

⁴ The collection efficiency by international standard is >95%

1. *Technical Loss* - heat losses due to load flow in electrical lines and transformation loss in transformers.
2. *Commercial Loss* - due to discrepancy in meter reading, erroneous billing, unmetered consumption, or energy theft.
3. *Collection Loss* – unpaid bills.

$$ATC\&C\ Loss = [1 - (billing\ efficiency \times collection\ efficiency)] \times 100 \quad (6)$$

The MYTO makes allowance for specific ATC&C loss level targets for each DisCo which usually decreased over time as more investments are made in the network to reduce efficient losses. Any DisCo that can outperform its allowed ATC&C (i.e., has a lower actual ATC&C than the target used to compute its cost reflective tariff), such Disco will earn more returns on its set tariffs. Conversely, any DisCo that underperforms relative to its allowed ATC&C (i.e., has a higher actual ATC&C than the target), will be unable to earn the expected returns on its set tariffs and could risk long term financial challenges.

As contained in Table 4, the cumulative DisCo ATC&C loss in 2022/Q4 was 44.15% composed of 23.84% technical and commercial losses, and 26.67% in collection loss. This level of ATC&C loss implies that over the course of 2022/Q4, on average, ₦44.15 in every ₦100.00 worth of energy received by a DisCo was unrecovered due to a combination of inefficient distribution networks, energy theft, low revenue collection and unwillingness of customers to pay their bills.

By way of comparison, the ATC&C loss for 2022/Q4 decreased by -1.24 pp from the 45.39 recorded in 2022/Q3 which means that on average, the financial performance of the DisCos improved by 1.24 pp between 2022/Q3 and 2022/Q4. This improvement was largely driven by Ibadan DisCo (2022/Q4 ATC&C: 40.15%; change: -11.82pp), Kaduna (2022/Q4 ATC&C: 74.85%; change -8.59pp) and Yola (2022/Q4 ATC&C: 67.87%; change: -5.17pp).

The overall ATC&C loss of 44.15% is greater than 200% of the expected ATC&C loss (20.27%) provided in the MYTO for the quarter – no DisCo achieved its target with all DisCos recording ATC&C loss that was above their allowed targets. The inability of DisCos to attain their efficiency targets means they are unable to earn revenue requirements approved by the Commission. This compromises their long-term financial position. All DisCos must take emergency remedial actions to improve their networks, accelerate customer enumeration and drive end-use consumer metering for increased revenue assurance and reduced ATC&C loss. Failure to resolve this will not only prevent the DisCos from being able to meet their upstream obligations, but it will also saddle them with too much debt and erode their equity.

Table 4: ATC&C Loss (%) by DisCos in 2022/Q3 vs 2022/Q4

DisCo	MYTO Target	Average ATC&C	
	2022	2022/Q3	2022/Q4
Abuja	19.27%	39.83%	44.95%
Benin	17.37%	50.34%	46.47%
Eko	14.18%	22.68%	25.35%
Enugu	11.31%	49.38%	48.39%
Ibadan	15.47%	51.97%	40.15%
Ikeja	11.37%	17.29%	18.43%
Jos	27.27%	65.24%	71.02%
Kaduna	10.65%	83.44%	74.85%
Kano	15.85%	56.48%	53.83%
Port Harcourt	21.45%	46.31%	46.29%
Yola	64.14%	73.04%	67.87%
All DisCos			
MYTO Level	20.27%		
Total Technical, Commercial & Collection losses	-	46.42%	44.15%
Technical & Commercial losses	-	24.31%	23.84%
Collection losses	-	29.13%	26.67%

2.5.5 Market Remittance to NBET and MO

In 2013, the CBN set up an escrow mechanism as part of the conditions for the Nigerian Electricity Market Stabilization Facility (NEMSF) intervention that the CBN extended to the DisCos. Under this arrangement, all the revenues of the DisCos are escrowed with DisCos only having access after relevant deductions to meet their loan obligations have been made. This escrow mechanism also provided visibility into the financial performance of the DisCos with respect to collections.

In June 2020, the remit of the fund manager responsible for the escrow was expanded to include the implementation of the payment waterfall framework which was designed by the Commission to increase upstream market remittance to NBET. This was to cover the cost of energy received from GenCos, transmission charges (payable to the TSP) and the MO's administrative charges. Prompt payment of upstream invoices is critical for securing the availability of generation and transmission capacities. The waterfall regime pushes DisCos to boost their collections because most of their allowed revenues rank low in the waterfall.

In the absence of cost-reflective tariffs, the Government undertakes to cover the resultant gap (between the cost-reflective and allowed tariff) in the form of tariff shortfall funding. This funding is applied to the NBET invoices that are to be paid by DisCos. The amount

to be covered by the DisCo is based on the allowed tariff determined by the Commission and set out as their Minimum Remittance Obligation (MRO) in the periodic Tariff Orders issued by the Commission.

The MROs for each DisCo during 2022/Q4 are outlined in Table 5. The ₦30.51 billion that has been netted off from the full invoice as a result of the application of the MRO represents the government's subsidy support to the NESI in 2022/Q4. The ₦10.17 billion per month support represents a major reduction in the size of government subsidy support to the NESI which peaked at ~₦49.50 billion per month in 2019. As the implementation of government reforms continues, the goal is to eliminate MROs (subsidies) completely thereby allowing the market to operate purely on commercial terms without government intervention. The MRO is limited to NBET, while MO recovers 100% of its revenue requirement from DisCos.

Table 5: NBET Invoice and MRO Adjusted final Obligation for 2022/Q4

DisCos	NBET Invoice (₦ billion)	MRO	Final Obligation (₦ billion)
Abuja	32.70	94.73%	30.97
Benin	19.78	88.28%	17.46
Eko	21.08	92.08%	19.41
Enugu	19.58	94.16%	18.43
Ibadan	26.72	86.71%	23.02
Ikeja	32.22	89.45%	28.82
Jos	13.09	65.81%	8.61
Kaduna	15.59	88.05%	13.73
Kano	15.68	87.61%	13.74
Port Harcourt	16.12	84.85%	13.84
Yola	6.70	10.50%	0.70
All DisCos	219.24		188.74

The summary presented in Table 6 shows that the combined invoices issued to the DisCos in 2022/Q4 was ₦231.01 billion consisting of: i) generation costs from NBET — ₦188.74 billion; ii) transmission and administrative services from the MO — ₦42.27 billion. Out of this amount, the DisCos collectively remitted a total of ₦181.78 billion (₦145.91 billion for NBET and ₦35.87 billion for MO). This creates a total market shortfall of ₦49.23 billion and translating to a remittance performance of 78.69%⁵ in 2022/Q4 (-2.30 pp decrease compared to 2022/Q3—80.99%).

⁵ The remittance performance in 2022/Q4 decreased relative to 2022/Q3 despite improvements in billing efficiency, collection efficiency and ATC&C. This is because the invoice issued increased by ~17 billion between the two periods while remittance only increased by ~8 billion.

Table 6: DisCos Remittance Performance to NBET and MO in 2022/Q4

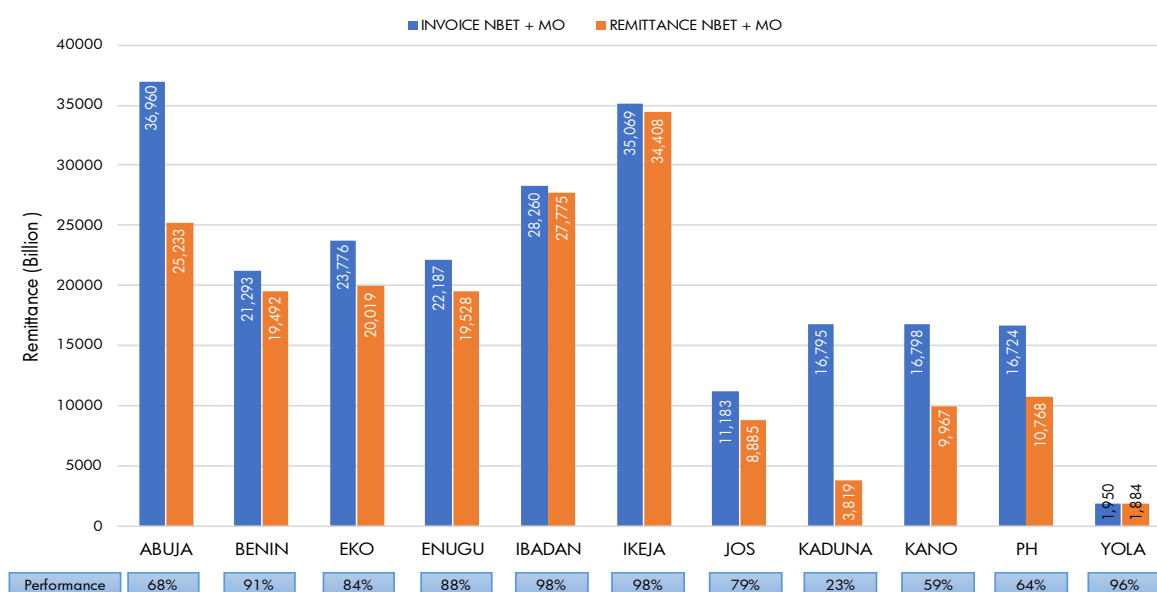
DisCos	Invoice(₦'Billion)		MRO Adjusted Invoice (₦'Billion)		Actual Remittance (₦'Billion)		Remittance Performance	
	NBET	MO	NBET	MO	NBET	MO	2022/Q3	2022/Q4
Abuja	32.70	5.99	30.98	5.99	20.45	4.78	78.97%	68.27%
Benin	19.78	3.83	17.46	3.83	16.08	3.41	82.36%	91.54%
Eko	21.08	4.37	19.41	4.37	16.05	3.97	93.24%	84.20%
Enugu	19.58	3.75	18.44	3.75	16.19	3.33	87.62%	88.02%
Ibadan	26.72	5.09	23.17	5.09	21.96	5.81	91.62%	98.28%
Ikeja	32.22	6.25	28.82	6.25	27.84	6.57	108.05%	98.11%
Jos	13.09	2.57	8.61	2.57	6.91	1.98	90.75%	79.45%
Kaduna	15.59	3.07	13.72	3.07	3.00	0.82	20.67%	22.74%
Kano	15.71	3.06	13.73	3.06	8.02	1.95	54.22%	59.33%
Port Harcourt	16.12	3.05	13.68	3.05	8.72	2.04	60.58%	64.39%
Yola	6.70	1.25	0.73	1.25	0.68	1.20	86.44%	96.58%
All DisCos	219.09	42.27	188.75	42.28	145.91	35.87	80.99%	78.68%

Compared to 2022/Q3, the total invoice, remittance and remittance performance changed as follows: +₦16.75 billion (+7.82%), +₦8.23 billion⁶ (+4.74%) and -₦2.31 pp respectively. Figure 10 indicates that Ibadan, Ikeja, Yola and Benin DisCos had remittance performances above 90% – 98.28% (₦27.77 billion), 98.11% (₦34.41 billion), 96.58% (₦1.88 billion) and 91.54% (₦19.49 billion) respectively. Like in 2022/Q3, Kaduna DisCo had the lowest remittance performance of 22.74% (₦3.82 billion) in 2022/Q4.

Compared to 2022/Q3, seven (7) DisCos – Yola, Benin, Ibadan, Kano, Port Harcourt, Kaduna and Enugu DisCos had improved remittances of +10.14pp, +9.18 pp, +6.66 pp, +5.11 pp, +3.81 pp, +2.07 pp, and +0.40 pp respectively to the market (NBET+MO). However, Jos, Abuja, Ikeja and Eko DisCos recorded decreased remittance performance of -11.30 pp, -10.70 pp, -9.94 pp and -9.04pp respectively between 2022/Q3 and 2022/Q4. There is a need for DisCos to implement new strategies to increase their collections to improve their remittance performance. If this is not done, they will be saddled with market shortfalls that can adversely affect their equity positions.

The Commission noted that collections increased by 15.65% (₦32.98b) but this only translated into a remittance increase of 4.74% (₦8.23b). Upon further investigation, the Commission identified that a large portion of the improvement in collections that did not translate to remittance was a result increase in CBN debt service arising from the end of principal moratorium on some of the CBN facilities. Furthermore, the Commission also noted there was an increase in the approved admin OpEx deductions allowed for the DisCos for the Nov/Dec 2022 market cycles for which collections occurred in Jan/Feb 2023; this was as a result of the Commission's routine tariff review activities.

Figure 10: Market Invoice and Remittance by DisCos in 2022/Q4



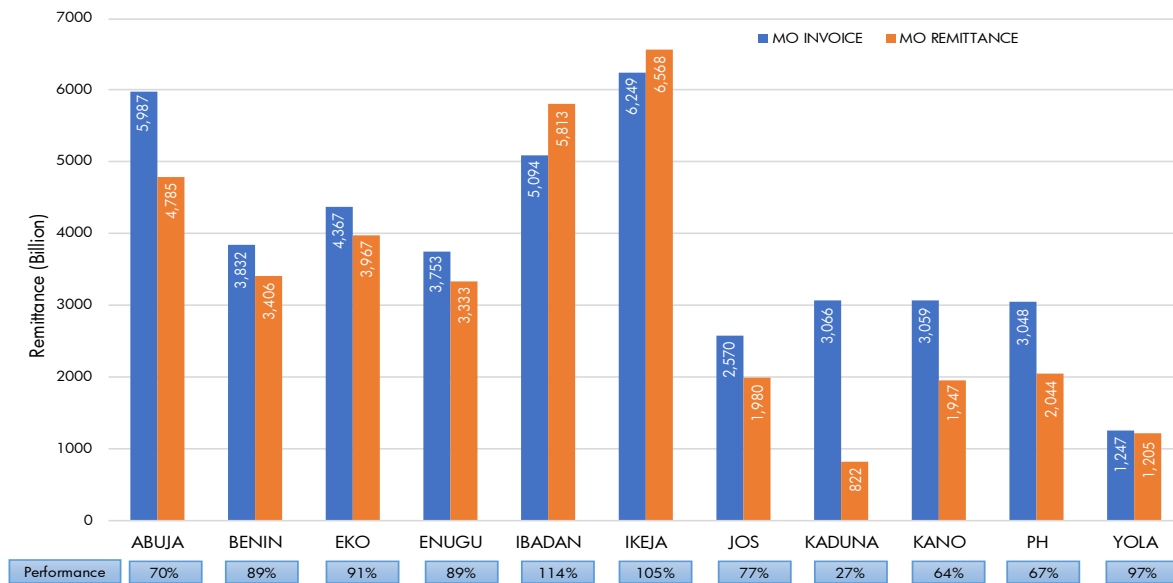
2.5.6 Market Remittance to MO

The Market Operator issues invoices to DisCos and international customers for energy transmission and administrative services. The average remittance performance to the MO in 2022/Q4 was 84.85% compared to 81.18% in 2022/Q3 (+3.67 pp increase). In 2022/Q4, Ibadan and Ikeja had >100% remittance to the MO⁷ – 114.41% (N5.81 billion against invoice of N5.09 billion) and 105.12% (N6.571 billion against invoice of N6.25 billion) respectively. Kaduna had the lowest remittance performance with 26.80% (N0.82 billion against an invoice of N3.07 billion) as shown in Figure 11.

Between 2022/Q3 and 2022/Q4, Benin, Enugu, Ibadan, Kaduna, Kano and Port Harcourt recorded improvements in their MO remittance performance of +20.73 pp, +10.28 pp, +10.20 pp, +9.71 pp, +5.80 pp and +8.28 pp respectively. The DisCo that recorded the highest decline in MO remittance performance in 2022/Q4 relative to 2022/Q3 was Eko with -7.91 pp; other DisCos that had declines are Abuja (-6.59 pp), Ikeja (-2.97 pp) and Jos (-5.39 pp).

⁷ Remittance performance above 100% is due to payment of arrears.

Figure 11: DisCos Remittance Performances to MO in 2022/Q4



2.5.7 Market Remittance to NBET

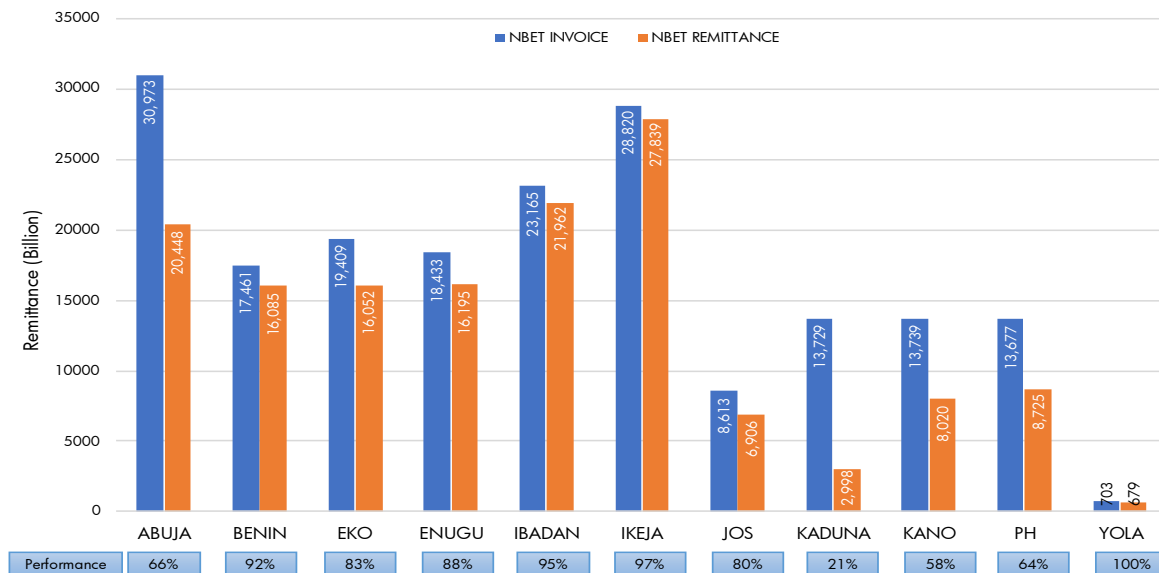
The Nigerian Bulk Electricity Trading Company issues invoices to DisCos to cover energy generation costs over a given period. Figure 12 shows that the average remittance performance of the DisCos to NBET in 2022/Q4 was 77.31% compared to 80.95% in 2022/Q3 (-3.64 pp change). In 2022/Q4, Yola Disco had the highest remittance to NBET of 96.51% (N678.86 million vs an MRO-adjusted invoice of N703.44 million) while Kaduna had the lowest remittance of 21.83% (N3.00 billion vs an MRO-adjusted invoice of N13.73 billion).

The remittance performance to NBET decreased for most of the DisCos between 2022/Q3 and 2022/Q4. The highest decline were recorded by Jos (-21.55 pp), Ikeja (-19.03 pp), Eko (-18.62 pp), and Abuja (-10.92 pp) DisCos while Ibadan recorded an improvement of +0.44 pp. The reason for the decline in remittance was the non-remittance of some regulatory net-off funds by the Ministry of Finance to NBET on behalf of the DisCos⁸. Notwithstanding, the analysis shows that none of the DisCos had adequate collections to meet their full upstream obligations without regulatory net-offs. As explained in the 2022/Q3 report, the regulatory net-off is for a defined period ending June 2023, beyond which collections will be the only source of meeting upstream obligations. This means DisCos must begin to take proactive steps to increase their collections to avoid market shortfalls in the future.

⁸ Details of the regulatory net off are contained in the Commission’s 2022/Q3 report.

Cumulatively, the ~23% that was not remitted to NBET poses a challenge to the sector because this shortfall translates into GenCo underpayments which could affect their ability to finance critical maintenance activities required for sustaining generation availability.

Figure 12: DisCos Remittance Performances to NBET in 2022/Q4



The Commission recognizes the necessity of growing market remittances to sustain sector operations and has continued to provide DisCos with revenue-boosting initiatives. The introduction of the SBT had offered opportunities for DisCos to improve customer service through sustained quality energy supply, providing a clear path to increased revenue without broad-based tariff increases by DisCos. The ongoing DisCos investments in infrastructure and metering initiatives will result in a greater volume of reliable energy supplied to customers, improve revenue assurance and by so doing, increase collections and market remittances.

2.5.8 Remittance by Special Customers and Cross-Border Transactions

The summary presented in Table 7 contains remittance made by cross border, bilateral and special customers in 2022/Q4. The table indicates that bilateral customers; Transcorp-SBEE and Mainstream-NIGELEC received invoices of \$3.44 million and \$5.50 million respectively from MO and made remittances of \$0.93 million (27.04%) and \$5.44 million (98.90%) respectively in 2022/Q4. However, no remittance was made to the MO by Paras-SBEE and Odukpani-CEET for invoices of \$3.03 million and \$2.02 million respectively. The non-settlement of market obligations by this category of market participants should be a call to action for MO to activate relevant safeguards for remittance shortfalls.

Table 7: Special Customer Invoices and Remittances in 2022/Q4

Customers	NBET				MO			
	Invoice (Million)	Remittance (Million)	Performance (%)		Invoice (Million)	Remittance (Million)	Performance (%)	
	2022 /Q4	2022 /Q4	2022 /Q3	2022 /Q4	2022 /Q4	2022 /Q4	2022 /Q3	2022 /Q4
Cross-Border Customers								
PARAS-SBEE(\$)	0.00	0.00	0%	0%	3.02	0.00	0%	0%
TRANSCORP-SBEE (\$)	0.00	0.00	0%	0%	3.44	0.93	65%	27%
MAINSTREAM-NIGELEC (\$)	0.00	0.00	0%	0%	5.50	5.44	98%	99%
ODUKPANI-CEET (\$)	0.00	0.00	0%	0%	2.02	0.00	98%	0%
Total	0.00	0.00	0%	0%	13.99	6.37	76%	46%
Bilateral Customers								
EKO EGBIN (₦)	0.00	0.00	0%	0%	0.00	0.00	0%	0%
EKO PARAS (₦)	0.00	0.00	0%	0%	0.00	0.00	0%	0%
IKEJA EGIN (₦)	0.00	0.00	0%	0%	0.00	0.00	0%	0%
MSTM/INNER GALAXY (₦)	0.00	0.00	0%	0%	519.45	524.07	103%	100%
MSTM/KAM INDUSTRIES (₦)	0.00	0.00	0%	0%	45.72	45.72	100%	100%
MSTM/CFM (₦)	0.00	0.00	0%	0%	0.00	0.00	0%	0%
MSTM/LORD'S MINT (₦)	0.00	0.00	0%	0%	0.00	0.00	0%	0%
MSTM/KAM INTEGRATED (₦)	0.00	0.00	0%	0%	105.88	105.88	100%	100%
KAM STEEL SHAGAMU (₦)	0.00	0.00	0%	0%	39.34	39.34	100%	100%
NDPHC/SUNFLAG (₦)	0.00	0.00	0%	0%	20.86	35.57	143%	170%
NDPHC/WEEWOOD (₦)	0.00	0.00	0%	0%	0.00	0.00	0%	0%
TRANSCORP/PREM STEEL (₦)	0.00	0.00	0%	0%	0.00	0.00	0%	0%
NORTH SOUTH/STAR PIPE (₦)	0.00	0.00	0%	0%	19.02	14.28	100%	75%
NORTH SOUTH/OAU (₦)	0.00	0.00	0%	0%	27.67	6.29	37%	23%
MSTM/ADFV (₦)	0.00	0.00	0%	0%	34.63	34.63	100%	100%
OMOTOSHO II/EKEDC (₦)	0.00	0.00	0%	0%	1,026.81	637.21	100%	62%
OMOTOSHO II/PULKIT (₦)	0.00	0.00	0%	0%	14.71	0.00	0%	0%
OMOTOSHO II/PRISM (₦)	0.00	0.00	0%	0%	139.50	83.98	100%	60%
APPLE (₦)	0.00	0.00	0%	0%	580.85	190.00	72%	33%
TAOPEX/KAM STEEL (₦)	0.00	0.00	0%	0%	19.73	0.00	0%	0%
Total	0.00	0.00	0	0%	2,594.18	1,716.96	97%	65%
Special Customer								
AJAOKUTA STEEL (₦)	372.17	0.00	0%	0%	66.92	0.00	0%	0%

Notes : 1. NBET, MO, SBEE, CEET and NIGELEC are Nigeria Bulk Electricity Trader, Market Operator, Société Beninoise d'Énergie Electrique, Compagnie Energie Electrique du Togo and Société Nigerienne d'électricite, respectively. 2. MSTM, ADFV are Mainstream and Adefolorunsho Ventures respectively 3. Remittance above 100% is due to payment of arrears.

In 2022/Q4, the MO issued invoices to the tune of ₦2.63 billion to 20 bilateral customers in the NESI. The data indicates that the bilateral customers made a remittance of ₦1.72 billion (65.38% remittance performance) against the remittance rate of 97.18% in 2022/Q3. The MO must utilise all the mechanisms available to it to ensure that there is prompt and a 100% remittance from International and bilateral customers.

It is worth noting that special customer, Ajaokuta Steel Co. Ltd did not make any payment for the ₦372.17 million (NBET) and ₦66.92 million (MO) invoices received in 2022/Q4. This continues a longstanding trend of non-payment by this customer and the Commission has communicated the need for intervention on this issue to the relevant FGN ministries.

3. REGULATORY FUNCTIONS

3.0 Regulatory Functions

3.1 Regulations/Orders

Regulations are a set of rules that the Commission may issue from time to time to optimise the performance of licensees with a view to giving effect to the object of the 2004 EPSRA. In 2022/Q4, the Commission issued twelve (12) new Orders while it proceeded with the consultation process for the review and amendment of the Mini-Grid Regulations, 2016 which commenced in the previous quarter.

The new Orders issued are [NERC/334—344/2022](#) and [NERC/348/2022—December 2022 Minor Review of Multi-Year Tariff Order for the DisCos and TCN](#) respectively. The objectives of the Orders are summarized below:

- To reflect the impact of changes in the projected minor review variables for the period January to December 2022 for the determination of Cost-Reflective Tariffs (CRT).
- To ensure sustained improvement in reliability and supply in line with DisCos' CAPEX proposal and PIP commitment.
- To ensure that tariffs payable by customers are commensurate and aligned with the quality and availability of power supply committed to customer clusters by DisCos and,
- To sustain the improved contracting framework heralded by the partial activation of generation company contracts in July 2022, steer the market to gradually transition to CRTs and move the market towards direct bilateral contracting between DisCos and GenCos in line with power sector reform objectives.

The Commission continues to monitor compliance with the provisions of other extant regulations, orders and standards governing the NESI.

3.2 Licenses and Permits Issued or Renewed

During 2022/Q4, the Commission approved the issuance of two (2) new generation licenses with a total nameplate capacity of 56.50MW as contained in Table 8. The Commission also approved the amendments of on-grid embedded generation licenses from Ibom Power Company Limited and Omotosho Generation Company Limited. These amendments were effected to allow the inclusion of third party off-takers in addition NBET as buyers of electricity generated from these plants.

Table 8: List of Licences issued in 2022/Q4

S/N	Licensee	Capacity (MW)	Type	Location	Fuel Type
1	Ibom Utility Company Limited	N/A	IEDN*	Ikot Abasi, Akwa Ibom	N/A
2	MEPP Limited	50	On-grid	Baga road, Maiduguri, Borno	Gas
3	Quest Oil & Engineering Services Ltd	6.5	Off-grid	Nigerian Bottling Company, Idu, FCT	Gas

* Independent Electricity Distribution Network

3.3 Captive Power Generation Permits

Captive power plants are plants owned and maintained by the generating entity for its own consumption and not for sale to a third party. In 2022/Q4, the Commission granted approval for the amendment/renewal of seven (7) existing captive power generation permits with a total nameplate capacity of 65.36MW. Details of the permit holders, location and plant capacities are listed below in Table 9.

Table 9: Captive Generation Plants Approved in 2022/Q4

S/N	Company Name	Location/State	Capacity (MW)
1	Chi Limited	Ajao, Estate, Lagos	23.59
2	Nigerian Breweries Plc	Aba, Abia	7.97
3	Nigerian Breweries Plc	New Ife Road, Ibadan	7.20
4	Nigerian Breweries Plc	Mile Corner Ama-Eke, Ngwo Enugu	5.60
5	Nigerian Breweries Plc	Ama, Abua	10.80
6	Nigerian Breweries Plc	Awo-Omama	4.40
7	Nigerian Breweries Plc	Ijebu Ode, Ogun	5.80

3.4 Mini-grid Operators Registered with the Commission

Following the satisfactory evaluation of Mini-grid applications, the Commission approved thirteen (13) Mini-grid permits for projects with capacities below 1MW and issued fourteen (14) registration certificates for projects with capacities below 100kW in 2022/Q4. The details of the successful Mini-grid applicants and their locations are presented in Table 10.

Table 10: Mini grid Permits and Registration Certificates Approved in 2022/Q4

S/N	Name	Location	Type	Capacity (kW)
1	Maskh Limited	Hakatafi, Ganjuwa, Bauchi	Registration	30
2	Maskh Limited	Dunari, Itas Gadua, Bauchi	Registration	30
3	Maskh Limited	Shagari Ganjuwa Bauchi	Registration	30
4	Maskh Nigeria Limited	Mela dige, Itas Gadau, Bauchi	Registration	50
5	A4 & T Power Solutions	Ilugha, Ondo West, Ondo	Registration	96
6	Prado Power Ltd	Aninigi Paikoro Niger	Registration	54
7	Prado Power Ltd	Mbiabet Eseyete Ini Akwa Ibom	Registration	36
8	Solad Tnt Power Solutions Limited	Ikenne Market, Ikenne, Ogun	Registration	58
9	ACOB Lighting Tech Limited	Otu Costain Odigbo Ogun	Registration	70
10	ACOB Lighting Tech Limited	Bolorunduro Odigbo Ogun	Registration	40
11	ACOB Lighting Tech Limited	Mile 13 Ajebamijoko Odigbo Ogun	Registration	55
12	ACOB Lighting Tech Limited	Adaja Odigbo Ogun	Registration	40
13	ECOF Kaduna Limited	Chikaji Giwari Igabi Kaduna	Registration	42
14	Havenhill Synergy Limited	Olokoto, Orile-north, Oyo	Registration	16
Approved Permits				
15	Husk Power Energy Systems Nigeria Limited	Ijajun Doma, Nasarawa	Permit	100
16	Husk Power Energy Systems Nigeria Limited	Fadama Bauna North, Lafia Nasarawa	Permit	100
17	Powergen Nig Asset Limited	Araromi Olatapo Otiglo, Ondo	Permit	224
18	Prado Power Limited	Maijaki Lapai, Niger	Permit	45
19	Prado Power Limited	Lafia Kpada Lapai Niger	Permit	50
20	Ceesolar Energy Limited	Abaribara Abayong Biase, Cross River	Permit	22
21	Ventura Logistics Services Limited	Odege Okposi Ohaozora	Permit	99
22	NXT Grid Nigeria Limited	Matari Soba Kaduna	Permit	117

23	Darway Coast Nigeria Limited	Agbokim Etung Cross River	Permit	130
24	Darway Coast Nigeria Limited	Abia Etung Cross River	Permit	71
25	Darway Coast Nigeria Limited	Bendeghe Etung Cross River	Permit	140
26	Darway Coast Nigeria Limited	Etomi Etung LGA Cross River	Permit	115
27	Enaro Energy Mini Grid Limited	Ishoka phase 1, Mercy Land and Mercy phase 1 Estate, Ajobo Ipaja LGA, Lagos	Permit	999

3.5 Certification of Meter Service Providers/Meter Asset Providers

A Meter Service Provider (MSP) is an entity certified by the Commission as a manufacturer, supplier, vendor, or installer of electric energy meters and/or metering systems. A Meter Asset Provider (MAP) is an entity that is granted a permit by the Commission to provide metering services with roles that may include meter financing, procurement, supply, installation, maintenance, and replacement.

In 2022/Q4, the Commission certified twelve (12) MSPs following the satisfactory evaluation of their applications. The list of the certified MSPs contained in Table 11 comprises seven (7) meter installer companies, three (3) meter manufacturers and two (2) meter importers.

Table 11: Approved Meter Asset providers in 2022/Q4

S/N	Name	Authorisation Type
1	Teejay Ade Afolabi Electrical Enterprises	Installer A1
2	Panida Resources Ltd	Installer A1
3	Damijosh Energy Limited	Installer A1
4	HACOM Energy Limited	Installer A1
5	Elvic Professional Services Ltd	Installer A1
6	Estervo System Company Ltd	Installer C1
7	Universal Integrated Power & Utility Services Ltd	Installer C1
Manufacturers		
8	Anietronic Limited	Manufacturer
9	Kobeissi Electrical & Mechanical Engineering Ltd	Manufacturer
10	Morgan Energy Limited	Manufacturer
Importers		
11	Conlog Meter Solutions Nigeria Limited	Importer
12	Sparkmeter West Africa Limited	Importer

Notes to the table: Class "A1" Certification authorizes a holder to undertake installations of (i) Low Voltage single-phase and three-phase Metering systems for installation exceeding 750 metering Systems/Contract, and (ii) Installations at grid voltages exceeding 5 Metering Systems. Class "C1" Certification authorizes a holder to undertake installations of Low Voltage Distribution single-phase and three-phase Metering Systems exceeding 500 Metering Systems/Contract.

3.6 Public Consultation and Awareness

During 2022/Q4, the Commission continued the process for the review of the Mini-Grid Regulations, 2016 which commenced in 2022/Q3. A series of stakeholder consultation workshops and engagement meetings were conducted across the six (6) geopolitical zones across the country in line with the business rules of the commission. The consultation meetings provided a viable platform for industry stakeholders to make necessary input and contributions with respect to proposed changes to the Regulations. Stakeholder feedback from the consultation programmes is currently being reviewed by the Commission as part of the regulation formulation process.

The Commission further engaged customers and stakeholders through radio programs such as “Electricity Update” as part of its initiatives at providing updates on existing regulations, as well as consumer rights and obligations. It also continued to hold regular town hall meetings and Power Consumer Assemblies in accordance with EPSRA provisions. The goals of these engagements are to improve stakeholders' understanding of existing regulations, and their rights and obligations as outlined in industry rules and EPSRA.

3.7 Compliance and Enforcement

In 2022/Q4 the Commission conducted enforcement actions (such as payments of penalties and compensations) on pending cases brought forward from the preceding quarters against several operators for various infractions. These include the violations of Regulations and Orders, accidents and electrocution cases and the failure to comply with Forum decisions within the stipulated time frame.

3.8 Alternative Dispute Resolution

The Commission has established an Alternative Dispute Resolution (ADR) process to resolve disputes between market participants in the NESI. This includes the constitution of a Dispute Resolution Panel (DRP) and the appointment of a Dispute Resolution Counsellor (DRC) to administer the dispute resolution provisions of the Market Rules and Grid Code. The Commission remains committed to promoting the effective use of the DRP and is exploring ways to improve its utilization among industry stakeholders.

4. CONSUMER AFFAIRS

4.0 Consumer Affairs

4.1 Consumer Education and Enlightenment

The Commission considers continuous consumer education and enlightenment as important elements of its overall mandate because it involves teaching consumers about rights and obligations. The engagements also provide an avenue for the Commission to oversee DisCo/Customer complaint resolution sessions. One of the Commission's most active customer education and enlightenment mechanisms is Town Hall/Customer Complaints Resolution meetings. In 2022/Q4, Town Hall meetings were held in Ibadan (November 15 – 17), Katsina (November 22 – 24) and Abuja (December 6 – 9). A wide array of issues were discussed at these meetings including Service Based Tariff, customers' rights and obligations, customers' redress mechanisms, capping of estimated billing, metering gaps, and the Commission's ongoing efforts to bridge the metering gap in the NESI.

4.2 Metering End-Use Customers

As at 31st December 2022, there were 12,152,106 registered customers out of which 5,134,871 have been metered representing 42.25% metering rate as presented in Table 12. Between 2022/Q3 and 2022/Q4, the number of registered customers decreased by 639,791 (-5.00%), while the metering rate increased by +2.99 pp from 39.26% in 2022/Q3. The decline in the number of registered customers is due to the ceding of customers in Aba and Ariaria under Enugu DisCo's franchise area to Aba Power Limited, as well as the ongoing customer database sanitization (cleaning the customer database to remove dormant accounts) at Benin DisCo.

Table 12: Metering Progress as of 2022/Q4

DisCos	Registered Customers	Metered Customers	Metering Performance
Abuja	1,290,977	757,458	58.67%
Benin	1,186,922	607,902	51.22%
Eko	689,237	391,398	56.79%
Enugu	1,391,562	537,408	38.62%
Ibadan	2,220,266	905,824	40.80%
Ikeja	1,298,323	763,680	58.82%
Jos	705,249	226,611	32.13%
Kaduna	844,996	197,442	23.37%
Kano	849,311	205,280	24.17%
Port Harcourt	1,179,194	445,174	37.75%
Yola	496,069	96,694	19.49%
Total	12,152,106	5,134,871	42.25%

Metering addresses one of the major concerns customers have with DisCos – the fear of unfair billing. An additional 164,612 end-user customers were metered in 2022/Q4. This represents an increase of +21,725 installations (+15.20%) compared to the 142,887 meters installed in 2022/Q3 (Table 13). Out of the 164,612 meters installed for end users in 2022/Q4, 3,831 (2.33%) were metered under the NMMP scheme, 160,114 (97.26%) customers were metered under the MAP intervention and 667 (0.41%) were metered under the Vendor Financed scheme.

The progress recorded in metering was driven majorly by six (6) DisCos which accounted for 97.63% of the total installations in 2022/Q4. The group was led by Ikeja with 52,177 installations (31.70% of the total). Seven (7) DisCos recorded an increase in the number of meters installed in 2022/Q4 relative to 2022/Q3 with Ikeja having the highest increase of +81.59%. On the other hand, three (3) DisCos recorded decreases in the number of meters installed in 2022/Q4 relative to 2022/Q3 with Yola having the highest decline of -91.37%.

In terms of metering rate, the DisCo that recorded the greatest improvement was Benin; +13.46 pp compared to 2022/Q3. Kaduna (-0.11 pp) was the only DisCo that recorded a decline in meter installation between 2022/Q3 and 2022/Q4.

Table 13: Meter deployment by DisCos 2022/Q3 vs 2022/Q4

DisCos	Number of Metered Customers as at 2022/Q4	Customers Metered in 2022/Q4	Customers Metered in 2022/Q3	Change in Metering between 2022/Q3 and Q4
Abuja	1,290,977	32,969	27,249	+5,720
Benin	1,186,922	-	0	-
Eko	689,237	15,974	12,207	+3,767
Enugu	1,391,562	16,139	18,185	-2,046
Ibadan	2,220,266	34,209	26,488	+7,721
Ikeja	1,298,323	52,177	28,733	+23,444
Jos	705,249	373	264	+109
Kaduna	844,996	1,520	799	+721
Kano	849,311	338	245	+93
Port Harcourt	1,179,194	9,248	9,434	-186
Yola	496,069	1,665	19,283	-17,618
Total	12,152,106	164,612	142,887	+21,725

There has been a sustained improvement in the deployment of end-use customer meters since the Commission issued the updated MAP & NMMP Regulations (2021). On a programmatic level, the MAP intervention recorded a total of 160,114 meters

installations in 2022/Q4; representing a +41,244 (+34.70%) increase in metering compared to the 118,870 installations recorded in 2022/Q3. Ikeja DisCo recorded the highest number of installations with 52,177 representing 32.59% of the total number of customers metered under the MAP scheme. Benin and Yola DisCo did not record any installation under the MAP scheme in 2022/Q4.

In the same period, a total of 3,831 customers were metered under the NMMP representing a decrease of -84.05% from 24,017 customers metered in 2022/Q3. Except for Eko DisCo, all other DisCos reported a decrease in customer metering through NMMP in 2022/Q4 compared to 2022/Q3. This is as a result of the winding down of the NMMP Phase zero. Further details on the metering progress under the NMMP and MAP between 2022/Q3 and 2022/Q4 are presented in appendices XI and XII respectively.

The MAP and NMMP continue to provide the clearest path for mass customer metering. On NMMP, the Commission is actively engaged with the CBN, World Bank and other relevant stakeholders to accelerate the financial close and funds disbursement for the next round (Phase One) of the NMMP. On MAP, the Commission has directed DisCos to undertake increased Customer enlightenment about the program. On its own part, the Commission is finalising the mechanism for the implementation of the customer refund – it is expected that when customers are refunded, it could increase customer appetite to finance meter deployment under the MAP program. Furthermore, the Commission will introduce a periodic monitoring system to measure the progress each DisCo is making with respect to meter offtake under the MAP program.

4.3 Customers Complaints

The complaints received and resolved by DisCos in 2022/Q3 and 2022/Q4 are represented in Table 14. The total number of complaints received in 2022/Q4 was 261,278 across all DisCos and 238,765 of those were resolved. The average resolution rate recorded in 2022/Q4 was 91.38%. Compared to the preceding quarter, the number of complaints received, number of cases resolved, and average resolution rate changed by +13,952 (+5.64%), +12,242 (+5.40%) and -0.21 pp respectively.

Port Harcourt Disco had the highest number of complaints (49,449 representing 18.93% of total complaints) while Yola Disco had the fewest number of complaints (2,703 representing 1.03% of total complaints). In comparison with 2022/Q3, Abuja,

Eko, Enugu, Ibadan, Jos and Port Harcourt DisCos recorded increased customer complaints by +5,191 (+20.38%), +5,606 (+13.87%), +4,289 (+21.12%), +8,084 (+25.19%), +3,144 (+26.94%) and +1,899 (+3.99%) respectively.

Conversely, Benin, Ikeja, Kaduna, Kano and Yola DisCos received fewer complaints from customers in 2022/Q4 compared to 2022/Q3 of -3,606 (-43.91%), -2,762 (-8.62%), -1,153 (-7.75%), and -74 (-2.66%) respectively. All the DisCos except Ibadan and Ikeja DisCos had over 90% resolution rate for the complaints received in 2022/Q4 with Abuja, Kano, Port Harcourt, and Yola DisCos having resolution rates of 97% or higher.

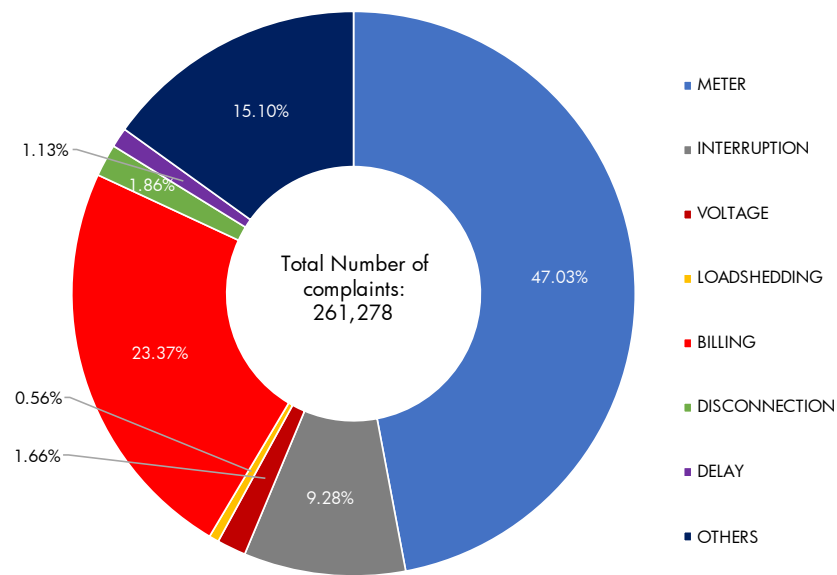
Table 14: Complaints Received and Resolved by Disco in Q3 and Q4 2022

DisCos	2022/Q3			2022/Q4		
	Complaints Received	Complaints Resolved	Resolution Rate	Complaints Received	Complaints Resolved	Resolution Rate
Abuja	25,471	30,325	97.81%	30,662	30,107	98.19%
Benin	8,212	7,168	87.29%	4,606	4,225	91.73%
Eko	38,638	35,881	92.86%	43,997	40,733	92.58%
Enugu	20,312	16,430	80.89%	24,601	22,729	92.39%
Ibadan	32,094	24,040	74.90%	40,178	36,068	89.77%
Ikeja	32,044	28,868	90.09%	29,282	19,536	66.72%
Jos	11,671	11,581	99.23%	14,815	13,950	94.16%
Kaduna	8,144	7,744	95.09%	7,258	6,845	94.31%
Kano	14,880	14,723	98.94%	13,727	13,632	99.31%
P/H	47,550	46,996	98.83%	49,449	48,291	97.66%
Yola	2,777	2,767	99.64%	2,703	2,649	98.00%
Total	247,326	226,523	91.59%	261,278	238,765	91.38%

The top three most frequently reported issues among the 261,278 complaints received by DisCos in 2022/Q4 were metering (47.03%), billing (23.37%), and service interruption (9.28%), accounting for over 79% of total complaints as shown in Figure 13.

To address these major customer concerns, the Commission has introduced a number of initiatives. Firstly, the Commission has introduced a process to independently verify DisCos' compliance with capping regulations so as to protect unmetered customers from overbilling with respect to issues on billing and metering. The Commission now has access to the DisCos' billing platforms, allowing it to access billing records for each unmetered customer. This will enable the Commission to compare the energy billed against the energy cap set for the respective customer feeders. Any DisCo that bills a customer above the approved energy cap will be subject to enforcement action by the Commission.

Figure 13: Category of Complaints Received by DisCos in 2022/Q4



In furtherance of its mandate on customer protection as enshrined in the EPSRA 2004, the Commission monitors complaint handling and resolution processes adopted by DisCos. In this regard, each DisCo is required to submit monthly customer complaints reports – this gives the Commission the chance to provide regulatory intervention when necessary. The strategy for monitoring DisCos' customer complaints handling and resolution processes is being reviewed by the Commission to further enhance its regulatory oversight. This review includes the operations of the Commission's Forum Offices, which are established to address customer complaints that cannot be resolved by the DisCos.

4.4 Forum Offices

Pursuant to section 80(1)(b) of the EPSRA which mandates it to develop customer complaints handling standards and procedures in consultation with licensees, the Commission has set up Forum Offices across the Country to hear and resolve customer complaints that are not satisfactorily resolved at the DisCos' Customer Complaints Units (DisCo-CCU). Customer's complaints not satisfactorily resolved at the DisCo-CCU, may be filed for redress at the Forum Offices. The Forum Office is managed by the Forum Secretariat while the hearings are conducted by five Forum Panel Members who are not Commission staff and are selected from the following groups/agencies –

1. One representative of Industrial customers to be nominated by the Manufacturers' Association of Nigeria (MAN).

2. One representative of Commercial customers to be nominated by the Nigerian Association of Chambers of Commerce, Industry, Mining and Agriculture (NACCIMA).
3. One representative of household customers to be nominated by the Federal Competition and Consumers Protection Commission (FCCPC).
4. One representative of an NGO based in the DisCos operating area nominated by the Commission.
5. One nominee based in the DisCos operating area who has an electrical engineering background nominated by the Commission.

The Forum provides a platform for customers and DisCos to resolve service-related disputes as enshrined in the NERC's Customer Complaints Handling Standards and Procedures (CCHSP) Regulations. As of 31st December 2022, the Commission had thirty (31) operational Forum Offices in twenty-nine (29) states and the FCT, Abuja. The details including names, addresses and contacts of the Commission's Forum Offices are presented in Appendix XIV.

Table 15 presents a summary of the appeals across the Forum Offices in 2022/Q4. A total of 2,594 appeals (1,457 new appeals and 1,137 pending appeals from 2022/Q3) were active across all Forum Offices. This represents a decrease of -63 (-2.37%) compared to 2,657 appeals in the previous quarter. The Forum Offices serving Ikeja DisCo received the highest number of appeals (906) while Yola DisCo received the fewest (26).

Table 15: Appeals Handled by Forum Offices in 2022/Q4

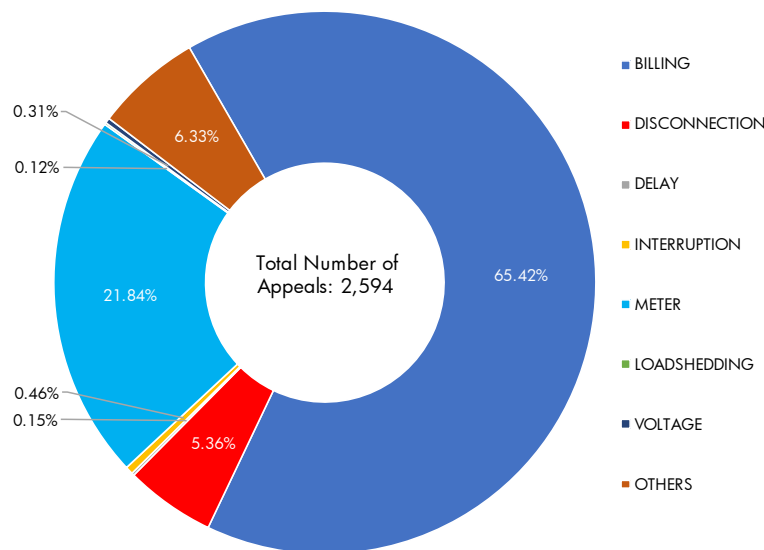
Forum Offices	Accountable DisCos	Appeals Received ¹	Appeals Resolved ²	Appeals Pending ³	No of Sitings
Abuja, Lafia & Lokoja	Abuja	93	64	29	7
Asaba & Benin	Benin	121	115	6	8
Eko	Eko	69	47	22	10
Abakaliki, Akwa, Enugu, Owerri, & Umuahia	Enugu	331	184	147	13
Ibadan, Abeokuta, Ilorin & Osogbo	Ibadan	454	220	234	15
Ikeja	Ikeja	906	500	406	8
Bauchi, Gombe, Jos & Makurdi	Jos	42	13	29	1
Gusau, Kaduna, Kebbi & Sokoto	Kaduna	131	85	46	7
Jigawa, Kano & Katsina	Kano	63	34	29	2
Calabar, Port Harcourt & Uyo	P/Harcourt	358	239	119	9
Yola	Yola	26	19	7	1
All Forum Offices	All DisCos	2,594	1,520	1,074	81

Note: ¹ Appeals received includes outstanding appeals from the preceding quarter. ² Appeals resolved excludes appeals withdrawn or rejected. ³ Appeals are still within the regulatory timeframe of 2 months to resolve.

The Forum Offices resolved 58.60% of the total active appeals in the quarter. This is an improvement of +8.20 pp from the 2022/Q3 resolution rate of 50.40%. This improvement is attributed to the increase in number of panel sittings in 2022/Q4, which increased from 74 to 81. The Commission is taking steps to increase the frequency of sittings so as to hasten the resolution of appeals at Forum Offices.

Figure 14 shows the breakdown of the various categories of appeals registered at the Forum Offices in 2022/Q4. Appeals related to billing were the most prevalent within the quarter, accounting for 65.42% of the total. Appeals on metering and disconnection represented 21.84% and 5.36% of the total appeals. The Commission is addressing these issues by conducting a review of its customer service regulations and has introduced the Capping Regulation which has been explained above. Measures are also being explored to enhance definitive and satisfactory resolution of cases at the DisCo-CCU level. This will reduce the number of complaints escalated to the Forum Offices.

Figure 14: Category of Appeals at the Forum Offices in 2022/Q4



The reports from the Forum Offices shows that only 64 (4.21%) of the undecided cases at the Forum Offices was due to incomplete submissions or withdrawal by complainants. In addition to establishing additional Forum Offices and other customer complaint resolution channels, the Commission will continue to explore strategies to improve the operational efficiency of Forum Offices. This will improve overall customer complaint management in the NESI, helping the Commission achieve its strategic objective of providing high-quality customer service.

4.5 Health and Safety

Pursuant to its objective “to ensure the provision of safe and reliable electricity to consumers” as stated in Section 32(1)(e) of the ESPRA, the Commission monitors health and safety performance of the NESI. In 2022/Q4, eighty-five (85) out of eighty-seven (87) mandatory health and safety reports were received, with Omotosho and Geregu Power stations having one outstanding report each for November and December respectively. The Commission monitors submission of health and safety reports and will enforce relevant actions against licensees that fail to meet their reporting obligations.

Accident statistics for the NESI in the third and fourth quarters of 2022 are presented in Table 16. In 2022/Q4, the total number of incidents was twenty-five (25) resulting in twenty-seven (27) injuries and eighteen (18) deaths. This is a significant decline in health and safety performance when compared to 2022/Q3 when there were seventeen (17) incidents that resulted in five (5) injuries and twelve (12) deaths.

Table 16: Health and Safety (H&S) Reports in 2022/Q3 and 2022/Q4

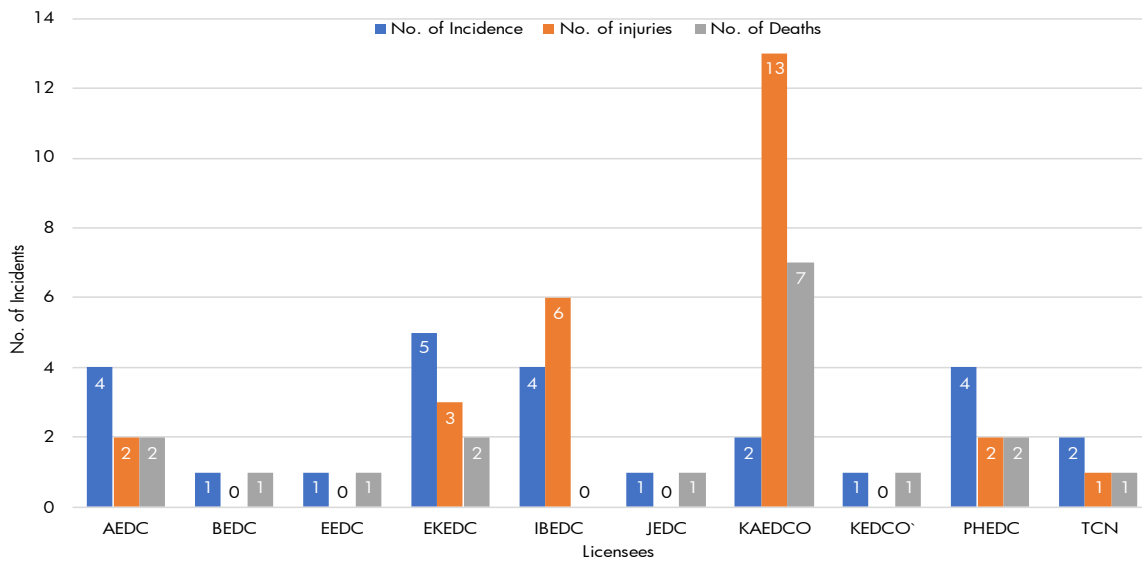
Item	2022/Q3	2022/Q4	Net Change
Number of Expected H&S Reports	87	87	0
Number of H&S Reports Submitted	82	85	+3
Number of Deaths (employees & third parties)	12	18	+6
Number of Injuries	5	27	+22

Out of the twenty-five (25) incidents reported in the quarter, Eko DisCo had the highest number of incidences of five (5) corresponding to 20% of the total, followed by Abuja, Ibadan and Port Harcourt DisCos with four (4) incidences each and corresponding to 16% of the total. Ikeja and Yola DisCo reported no incident in 2022/Q4.

Despite recording two incidents in the quarter, Kaduna DisCo had the highest number of injuries and deaths —13 and 7 respectively, followed by Eko DisCo with 3 injuries and 2 deaths as shown in Figure 15. Other incidents include illegal/unauthorized connections, unsafe work condition/act, wire snap, vandalism, explosion, road accidents and fall from height.

The Commission notes with concern the deterioration in the safety performance of the NESI in 2022/Q4 and consequently initiated investigations into all reported incidents to determine their respective root causes. The Commission has continued to take appropriate enforcement actions against concerned licensees, while sustaining stakeholder engagement on ways to improve health and safety issues in the NESI.

Figure 15: Incidence Report by Licensees in 2022/Q4



In line with its 2021-2023 strategic goals, the Commission has intensified efforts at implementing various safety programmes aimed at eliminating accidents in the industry. Some of the safety programmes implemented by the Commission include the standardisation of protective schemes, public enlightenment on health & safety, engagement of government agencies on Right of Way (RoW) violations, and a review of an operational procedure for distribution system operators on fault clearing.

5. THE COMMISSION

5.0 Commission

5.1 Financial Report

The summary of the Commission's revenue and expenditure in 2022/Q4 and 2022/Q3 is presented in Table 17. The Commission had a total revenue of ₦4,515.99 million and a total expenditure of ₦3,873.13 million in 2022/Q4. The total revenue in 2022/Q4 was ₦644.63 million (+16.65%) higher than the ₦3,871.36 million realised in 2022/Q3. This increase in revenue is attributed to the increase in operating levy (market charges) which improved by ₦552.04 million (+14.65%), from ₦3,767.02 realised in 2022/Q3 to ₦4,319.06 million in 2022/Q4. Furthermore, there was a significant increase by +88.74% in Other Internally Generated Revenue from ₦104.34 million in 2022/Q3 to ₦196.93 million in 2022/Q4.

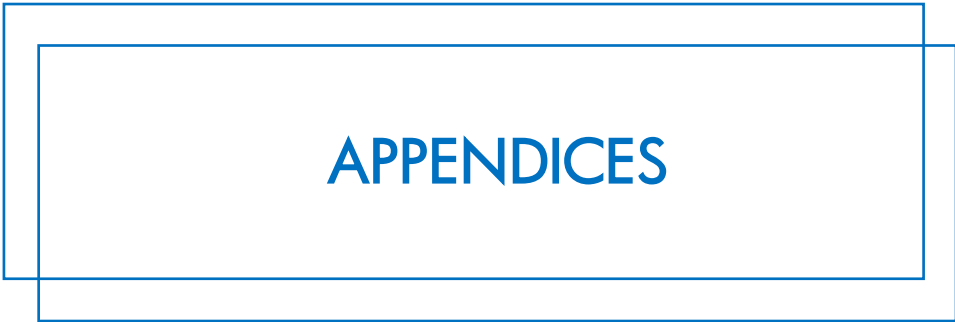
Table 17: Quarterly Cash Flow of the Commission in 2022/Q4

	Summary for 2022/Q4 (₦' Million)			2022/Q3	2022/Q4
	October	November	December		
A. Revenue					
Operating Levy (i.e., MC)	1,734.38	1,323.84	1,251.84	3,767.02	4,319.06
Other IGR	100.26	43.64	53.03	104.34	196.93
Total Revenue	1,843.64	1,367.48	1,304.87	3,871.36	4,515.99
B. Expenditure					
Personnel Cost	474.62	1,470.50	461.80	1,267.30	2,406.92
Regulatory Expenses	323.73	450.91	573.35	1,157.98	1,347.99
Admin & General Maintenance	22.64	57.15	38.43	124.97	118.22
Total Expenditure	820.99	1,978.56	1,073.58	2,550.25	3,873.13
C. Net Cash Flow (A-B)	1,022.65	(611.08)	231.29	1,321.11	642.86
Outstanding Liabilities ⁹				5,626.19	

Over the same period, the Commission's total expenditure (capital and recurrent) increased by ₦1,322.88 million (+51.87%) from ₦2,550.25 in 2022/Q3 to ₦3,873.13 million in 2022/Q4. This increase can be attributed to the rise in personnel costs and regulatory expenses. In terms of net cashflow, the 2023/Q4 performance was ₦642.86 million which represents a -51.34% reduction compared to the ₦1,321.11 million recorded in 2022/Q3.

⁹ Based on feedback received from Finance and Accounts, the Commission's 2022/Q4 Outstanding liabilities were not available at the time of this report.

In spite of increased regulatory expenditure during the quarter, the Commission still recorded positive net cash flow. This is consistent with its commitment to prudence in its cash flow management; the Commission has continued to record positive net cash flows over the past fourteen (14) quarters.



APPENDICES

Appendix I: Energy Generation in 2022/Q3 and 2022/Q4

GenCos	Available Capacity (MW)		Average Daily Generation (MWh)		Quarterly Generation (GWh)	
	2022/Q3	2022/Q4	2022/Q3	2022/Q4	2022/Q3	2022/Q4
AES	-	-	-	-	-	-
Afam_VI	49.78	67.17	1,157.42	1,442.76	106.49	132.97
Afam IV_V	41.13	120.16	670.15	3,089.05	62.32	286.89
Alaoji NIPP	37.03	84.58	1,034.56	1,887.08	93.79	173.92
Azura-Edo IPP	452.60	452.60	9,818.42	9,961.50	903.39	916.41
Dadin Kowa	21.33	36.78	456.66	878.55	41.70	80.79
Delta	415.88	382.27	9,158.49	9,192.20	844.09	844.60
Egbin	486.77	475.65	10,887.99	10,906.97	1,001.31	1,004.02
Egbin ST-6	-	-	-	-	-	-
Gbarain NIPP	-	-	-	-	-	-
Geregu Gas	131.05	135.87	1,849.39	2,965.42	171.29	272.08
Geregu NIPP	129.17	72.93	2,412.64	1,726.81	221.97	157.69
Ibom Power	72.69	58.10	985.15	1,000.89	91.01	91.89
Ihovbor NIPP	72.98	70.34	1,434.08	1,353.26	132.84	124.23
Jebba	338.84	375.61	7,849.67	8,854.57	720.75	814.37
Kainji	332.62	481.96	7,730.09	11,338.71	708.71	1,043.26
Odukpani	284.35	288.26	6,178.38	5,929.84	565.21	546.28
Okpai	230.77	345.09	4,974.78	7,057.54	451.17	650.41
Olorunsogo Gas	123.28	89.02	2,555.14	2,209.90	235.59	203.00
Olorunsogo NIPP	8.92	38.71	143.13	977.23	13.31	89.36
Omoku	40.08	33.74	1,101.92	1,204.10	101.46	110.66
Omotosho Gas	110.71	95.93	2,490.25	2,244.89	229.65	206.20
Omotosho NIPP	136.87	47.94	2,402.27	1,532.06	222.11	139.84
Paras Energy	60.00	60.00	1,037.41	1,246.03	95.49	114.59
Rivers IPP	131.64	63.26	2,949.18	1,496.72	271.78	137.43
Sapele	30.03	62.97	343.15	1,055.18	31.81	97.10
Sapele NIPP	45.75	56.99	807.66	708.51	74.59	65.55
Shiroro	511.30	465.40	11,360.72	10,596.04	1,041.34	974.05
Trans Amadi	46.29	37.26	1,167.08	960.73	107.29	88.05
Total	4,341.87	4,503.59	92995.77	101816.53	8540.45	9365.65

Appendix II: Monthly Energy Received and Billed by DisCos in 2022/Q3 and 2022/Q4

DisCos	Energy Received (GWh)						Energy Billed (GWh)						Billing Efficiency	
	2022/Q3			2022/Q4			2022/Q3			2022/Q4			2022/Q3	2022/Q4
	Jul	Aug	Sep	Oct	Nov	Dec	Jul	Aug	Sep	Oct	Nov	Dec		
Abuja	314	331	338	364	373	374	217	234	239	255	251	244	70.19%	67.51%
Benin	209	237	237	228	239	220	184	188	197	205	193	202	83.18%	87.29%
Eko	226	273	263	267	306	338	211	245	237	240	271	300	90.94%	89.02%
Enugu	217	213	193	193	213	236	162	144	138	138	152	161	71.27%	70.25%
Ibadan	291	294	283	281	303	322	210	213	208	216	226	239	72.38%	75.15%
Ikeja	312	355	364	343	365	406	278	314	323	302	327	363	88.69%	89.12%
Jos	128	127	144	142	154	142	84	90	110	114	123	115	70.80%	80.28%
Kaduna	154	176	169	182	176	184	84	81	80	82	89	88	49.10%	47.66%
Kano	151	168	157	180	179	180	101	116	104	112	126	124	67.44%	67.15%
Port Harcourt	177	175	172	173	178	197	143	141	141	143	148	159	81.06%	82.04%
Yola	65	65	64	72	74	77	37	36	37	42	43	44	56.66%	57.46%
All Discos	2245	2415	2385	2,426	2,560	2,676	1710	1803	1814	1,849	1,948	2,039	75.61%	76.16%

Appendix III: Monthly Revenue Performance by DisCos in 2022/Q3 and 2022/Q4

DisCos	Total Billing (₦' Million)						Revenue Collected (₦' Million)						Collection Efficiency (%)	
	2022/Q3			2022/Q4			2022/Q3			2022/Q4			2022/Q3	2022/Q4
	Jul	Aug	Sep	Oct	Nov	Dec	Jul	Aug	Sep	Oct	Nov	Dec		
Abuja	12,455	13,253	13,565	14,745	14,807	15,084	10,783	10,346	10,867	12,006	12,391	12,003	81.47%	81.55%
Benin	9,972	10,125	10,658	10,973	10,475	11,708	5,516	5,481	6,253	6,803	6,803	6,727	56.09%	61.33%
Eko	11,514	13,240	12,934	13,214	14,901	18,361	10,253	11,122	10,902	11,593	13,098	14,281	85.64%	83.85%
Enugu	8,736	7,898	7,762	7,716	8,540	9,675	6,094	5,588	5,276	6,044	6,705	6,300	69.51%	73.46%
Ibadan	11,414	11,443	11,220	11,594	12,101	12,746	8,057	8,010	7,502	10,160	10,818	8,045	69.16%	79.64%
Ikeja	14,108	16,022	16,424	15,698	17,082	19,031	13,820	14,972	14,611	14,803	16,211	16,403	93.23%	91.52%
Jos	5,131	5,447	6,672	6,864	8,717	8,248	2,526	2,349	2,749	2,604	3,303	2,696	44.2%	36.10%
Kaduna	4,605	4,412	4,380	4,503	4,908	5,524	1,903	2,144	2,263	2,561	2,796	2,523	47.1%	52.76%
Kano	5,677	6,399	5,895	6,195	7,201	7,601	4,129	4,350	4,001	4,173	4,782	5,483	69.45%	68.76%
Port Harcourt	7,907	7,788	7,897	8,077	8,454	9,542	5,205	5,004	4,910	5,249	5,835	5,986	64.09%	65.47%
Yola	2,227	2,178	2,301	2,386	2,633	2,971	1,136	1,217	1,336	1,359	1,545	1,562	55.01%	55.91%
All DisCos	93,746	98,204	99,709	101,966	109,819	120,491	69,423	70,584	70,671	77,356	84,289	82,008	72.23%	73.33%

Appendix IV: Monthly DisCos Invoices & Remittances to MO in 2022/Q3 and 2022/Q4

DisCos	Invoice (₦' Billion)						Remittance (₦' Billion)						Remittance Performance	
	2022/Q3			2022/Q4			2022/Q3			2022/Q4			2022/Q3	2022/Q4
	Jul	Aug	Sep	Oct	Nov	Dec	Jul	Aug	Sep	Oct	Nov	Dec		
Abuja	1.7	2.0	1.9	2.00	2.06	1.93	1.6	1.5	1.8	1.54	1.65	1.60	87%	80%
Benin	1.1	1.3	1.3	1.29	1.39	1.16	0.8	0.7	1.0	1.10	1.24	1.07	68%	89%
Eko	1.3	1.7	1.5	1.52	1.38	1.47	1.9	1.1	1.4	1.33	1.17	1.47	99%	91%
Enugu	1.2	1.3	1.3	1.23	1.23	1.30	1.0	1.0	0.9	1.06	1.20	1.07	79%	89%
Ibadan	1.6	1.7	1.7	1.54	1.77	1.78	1.1	2.9	1.2	1.73	2.08	2.01	104%	114%
Ikeja	1.8	2.0	2.0	1.92	2.11	2.22	1.9	2.0	2.2	1.32	2.53	2.72	108%	105%
Jos	0.7	0.8	0.8	0.85	0.86	0.86	0.6	0.4	0.8	0.47	0.92	0.59	82%	77%
Kaduna	0.8	1.0	0.9	1.03	1.02	1.02	0.1	0.2	0.1	0.23	0.27	0.32	17%	27%
Kano	0.8	1.0	0.9	1.02	1.03	1.01	0.5	0.2	0.6	0.52	0.57	0.86	48%	64%
Port Harcourt	1.0	1.1	1.0	0.92	1.03	1.10	0.6	0.7	0.5	0.64	0.75	0.66	59%	67%
Yola	0.4	0.4	0.4	0.40	0.42	0.43	0.3	0.4	0.4	0.38	0.44	0.38	97%	97%
All DisCos	12.4	14.3	13.8	13.70	14.30	14.27	10.4	11.1	11.3	10.31	12.81	12.75	81%	85%
Ajaokuta Steel (₦' M)	22.4	23.36	22.61	21.35	23.20	22.36	0.00	0.00	0.00	0.00	0.00	0.00	0%	0%
Other Bilateral(\$' M)	3.72	3.71	3.75	4.00	4.65	5.21	0.00	0.00	0.00	0.00	0.00	0.00	0%	0%

- Notes: 1. Where the remittance by a DisCo for a given period is more than the invoice received (Remittance performance >100%), it reflects payment for outstanding bills/arrears
2. Other bilaterals consist of PARAS-SBEE, TRANSCORP/SBEE, Mainstream/NIGELEC, and Odukpiani/CEET

Appendix V: Monthly DisCos Invoices & Remittances to NBET in 2022/Q3 and 2022/Q4

DisCos	Invoice (₦' Billion)						Remittance (₦' billion)						Remittance Performance	
	2022/Q2			2022/Q3			2022/Q2			2022/Q3			2022/Q3	2022/Q4
	Jul	Aug	Sep	Oct	Nov	Dec	Jul	Aug	Sep	Oct	Nov	Dec		
Abuja	9.28	9.40	9.87	10.46	11.03	11.21	7.06	5.98	7.90	6.91	6.94	6.60	77%	63%
Benin	6.03	6.25	6.47	6.38	6.81	6.59	4.61	4.19	5.38	5.49	5.45	5.14	93%	81%
Eko	6.64	7.85	6.75	6.41	6.92	7.75	5.52	6.73	5.63	5.29	5.01	5.75	101%	76%
Enugu	6.31	6.41	6.06	5.98	6.50	7.09	5.54	5.29	5.01	5.38	5.52	5.29	92%	83%
Ibadan	8.36	8.23	8.24	8.23	8.98	9.50	6.51	5.71	6.89	7.83	6.86	7.27	94%	82%
Ikeja	9.10	9.78	10.32	9.67	10.72	11.83	8.78	9.45	9.99	9.34	8.77	9.72	116%	86%
Jos	3.65	3.72	3.88	4.15	4.27	4.66	2.35	2.04	2.52	2.42	2.32	2.16	102%	53%
Kaduna	4.44	4.84	4.83	5.10	5.12	5.38	0.79	1.05	0.84	1.17	1.11	0.72	22%	19%
Kano	4.39	4.72	4.55	5.06	5.21	5.41	2.42	1.12	3.12	2.56	2.30	3.15	59%	51%
Port Harcourt	5.15	4.97	5.07	4.96	5.29	5.86	2.79	2.80	2.28	3.04	3.08	2.60	65%	54%
Yola	1.93	1.91	1.97	2.10	2.23	2.37	0.007	0.20	0.20	0.22	0.23	0.22	0%	10%
All DisCos	65.29	68.07	68.01	10.46	11.03	11.21	46.36	44.55	49.77	6.91	6.94	6.60	86%	63%
Ajaokuta Steel (₦' M)	125.50	119.46	124.83	117.45	129.37	125.35	0.00	0.00	0.00	0.00	0.00	0.00	0%	0%
Other Bilateral(\$' M)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%	0%

Notes: 1. Where the remittance by a DisCo for a given period is more than the invoice received (Remittance performance >100%), it reflects payment for outstanding bills/arrears
2. Other bilaterals consist of PARAS-SBEE, TRANSCORP/SBEE, MAINSTREAM/NIGELEC, and ODUKPANI/CEET

Appendix VI: Category of Complaints Received by Discos in 2022/Q4

<i>DisCos</i>	<i>Complaints Received</i>	<i>Complaints Resolved</i>	<i>Unresolved Complaints</i>	<i>Meter</i>	<i>Interruption</i>	<i>Voltage</i>	<i>Loadshedding</i>	<i>Billing</i>	<i>Disconnection</i>	<i>Delay</i>	<i>Others</i>	<i>Resolution Rate</i>
Abuja	30,662	30,107	555	12,121	2,240	250	1,013	2,739	2,201	-	10,098	98%
Benin	4,606	4,225	381	95	265	77	19	536	1	-	3,442	92%
Eko	43,997	40,733	3,264	34,516	2,237	506	7	3,829	330	368	2,204	93%
Enugu	24,601	22,729	1,872	13,684	1,920	431	-	2,062	-	-	6,504	92%
Ibadan	40,178	36,068	4,110	469	172	122	-	38,296	-	-	1,119	90%
Ikeja	29,282	19,536	9,746	12,755	1,967	285	359	2,696	1,023	1,744	8,453	67%
Jos	14,815	13,950	865	8,613	1,025	218	65	4,522	220	-	152	94%
Kaduna	7,258	6,845	413	2,052	3,701	456	3	606	244	-	196	94%
Kano	13,727	13,632	95	8,539	4,241	100	-	705	47	-	95	99%
Port Harcourt	49,449	48,291	1,158	28,660	5,700	1,475	-	5,028	777	837	6,972	98%
Yola	2,703	2,649	54	1,301	765	426	-	3	2	3	203	98%
All DisCos	261,278	238,765	22,513	122,805	24,233	4,346	1,466	61,022	4,845	2,952	39,438	91%

Appendix VII: Appeals Handled by Forum Offices in 2022/Q3 and 2022/Q4

S/N	Forum Offices	2022/Q3				2022/Q4			
		Appeals Received	Appeals Resolved	Appeals Pending	Resolution Rate	Appeals Received	Appeals Resolved	Appeals Pending	Resolution Rate
1	Abakaliki, Ebonyi State	50	32	18	64.00%	63	32	31	50.79%
2	Abeokuta, Ogun State	70	30	29	42.86%	94	55	8	58.51%
3	Abuja, FCT	56	34	22	60.71%	65	49	16	75.38%
4	Asaba, Delta State	92	86	6	93.48%	67	61	6	91.04%
5	Awka, Anambra State	81	50	31	61.73%	92	77	15	83.70%
6	Bauchi, Bauchi State	5	4	1	80.00%	5	5	0	100.00%
7	Benin, Edo State	50	28	22	56.00%	54	54	0	100.00%
8	Birnin Kebbi, Kebbi State	61	14	47	22.95%	73	40	33	54.79%
9	Calabar, C/Rivers State	62	47	15	75.81%	69	47	22	68.12%
10	Dutse, Jigawa State	166	144	7	86.75%	128	44	84	34.38%
11	Eko, Lagos State	13	12	1	92.31%	8	1	7	12.50%
12	Enugu, Enugu State	21	17	4	80.95%	29	16	13	55.17%
13	Gombe, Gombe State	162	107	55	66.05%	157	81	76	51.59%
14	Gusau, Zamfara State	910	360	550	39.56%	906	500	406	55.19%
15	Ibadan, Oyo State	61	14	47	22.95%	63	32	31	50.79%
16	Ikeja, Lagos State	17	0	15	0.00%	15	1	14	6.67%
17	Ilorin, Kwara State	14	13	1	92.86%	7	7	0	100.00%
18	Jos, Plateau State	60	36	17	60.00%	65	47	18	72.31%
19	Kaduna, Kaduna State	38	17	18	44.74%	45	33	0	73.33%
20	Kano, Kano State	9	4	3	44.44%	3	0	3	0.00%
21	Katsina, Katsina State	6	0	6	0.00%	10	2	8	20.00%
22	Lafia, Nasarawa State	24	15	4	62.50%	26	14	5	0.00%
23	Lokoja, Kogi State	8	7	1	87.50%	2	1	1	50.00%
24	Makurdi, Benue State	36	18	6	50.00%	22	0	12	0.00%
25	Osogbo, Osun State	114	55	59	48.25%	140	52	88	0.00%
26	Owerri, Imo State	10	5	5	50.00%	11	6	5	54.55%
27	Port Harcourt, Rivers State	176	0	176	0.00%	142	119	22	0.00%
28	Sokoto, Sokoto State	26	18	8	69.23%	27	20	7	74.07%
29	Umuahia, Abia State	46	24	11	52.17%	37	25	10	67.57%
30	Uyo, Akwa Ibom State	173	113	60	65.32%	143	80	63	0.00%
31	Yola, Adamawa State	40	35	5	87.50%	26	19	6	73.08%
	All Forum Offices	2,657	1,339	1,250	50.40%	2,594	1,520	1,010	58.60%

Appendix VIII: Category of Complaints Received by Forum Offices in 2022/Q3 and 2022/Q4

Forum Office	2022/Q3								2022/Q4							
	Billing	Disconnection	Con. Delay	Interruption	Metering	Load Shedding	Voltage	Others	Billing	Disconnection	Con. Delay	Interruption	Metering	Load Shedding	Voltage	Others
Abakaliki, Ebonyi State	35	4	0	0	7	0	0	4	56	2	0	1	4	0	0	0
Abeokuta, Ogun State	53	3	0	2	5	0	0	7	61	5	0	2	14	0	0	12
Abuja, FCT	7	0	0	0	48	0	0	1	13	0	0	0	50	0	0	2
Asaba, Delta State	82	4	0	0	5	0	0	1	57	2	0	0	7	0	0	1
Awka, Anambra State	62	6	0	0	7	0	0	6	71	8	0	0	8	0	0	5
Bauchi, Bauchi State	5	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
Benin, Edo State	40	5	0	0	5	0	0	0	47	3	0	0	4	0	0	0
B/Kebbi, Kebbi State	50	5	0	0	2	0	0	4	56	7	0	0	3	0	1	6
Calabar, C/Rivers State	27	8	0	0	22	0	0	5	44	3	0	0	19	0	0	3
Dutse, Jigawa State	74	23	0	11	49	0	0	9	72	16	2	0	32	0	0	6
Eko, Lagos State	4	0	0	0	6	0	0	3	3	0	0	0	3	0	0	2
Enugu, Enugu State	13	2	0	0	2	0	0	4	19	4	0	0	3	0	0	3
Gombe, Gombe State	102	6	0	1	20	1	0	32	98	5	0	1	18	0	1	34
Gusau, Zamfara State	666	30	6	4	182	3	1	18	640	16	1	2	218	3	0	26
Ibadan, Oyo State	50	5	0	0	2	0	0	4	30	1	0	0	29	0	0	3
Ikeja, Lagos State	14	0	0	0	0	0	0	3	14	0	0	0	0	0	0	1
Ilorin, Kwara State	9	1	0	0	2	0	0	2	4	1	0	0	1	0	0	1
Jos, Plateau State	28	3	0	0	17	0	0	12	37	5	0	0	21	0	0	2
Kaduna, Kaduna State	17	2	0	1	7	1	0	10	16	5	0	0	1	0	0	23
Kano, Kano State	1	3	0	0	2	1	0	2	1	0	0	0	2	0	0	0
Katsina, Katsina State	4	0	0	0	2	0	0	0	9	0	0	0	1	0	0	0
Lafia, Nasarawa State	14	2	0	0	8	0	0	0	6	1	0	2	14	0	0	3
Lokoja, Kogi State	2	1	0	0	1	0	0	4	2	0	0	0	0	0	0	0
Makurdi, Benue State	36	0	0	0	0	0	0	0	22	0	0	0	0	0	0	0
Osogbo, Osun State	83	2	0	0	25	0	0	4	71	0	0	0	61	0	0	5
Owerri, Imo State	7	1	0	0	0	0	0	2	7	1	0	0	0	0	0	3
P/Harcourt, Rivers State	126	20	0	0	26	0	4	0	95	21	0	0	22	0	4	0
Sokoto, Sokoto State	10	2	0	0	5	0	0	9	18	5	0	0	0	0	0	4
Umuahia, Abia State	37	3	0	0	4	0	1	1	27	4	1	0	4	0	0	1
Uyo, Akwa Ibom State	92	26	1	1	40	0	0	13	80	22	0	0	23	0	2	16
Yola, Adamawa State	23	1	0	7	8	0	0	1	14	2	0	4	4	0	0	2
All Forum Offices	1,773	168	7	27	509	6	6	161	1,695	139	4	12	566	3	8	164

Appendix IX: Monthly Cash Flow of the Commission between July and December 2022

	Summary for 2022/Q3 (# Million)				Summary for 2022/Q4 (# Million)			
	Jul.	Aug.	Sep.	Total	Oct.	Nov.	Dec.	Total
A. Revenue								
Operating Levy (i.e., MC)	1,124.49	1,302.19	1,340.34	3,767.02	1,734.38	1,323.84	1,251.84	4,319.06
Other IGR	16.38	52.93	35.03	104.34	100.26	43.64	53.03	196.93
Total Revenue	1,140.87	1,355.12	1,375.37	3,871.36	1,843.64	1,367.48	1,304.87	4,515.99
B. Expenditure								
Personnel Cost	422.87	404.03	440.4	1,267.30	474.62	1,470.50	461.80	2,406.92
Regulatory Expenses	373.18	328.11	456.69	1,157.98	323.73	450.91	573.35	1,347.99
A & G Maintenance	69.98	30.89	24.1	124.97	22.64	57.15	38.43	118.22
Total Expenditure	866.03	763.03	921.19	2,550.25	820.99	1,978.56	1,073.58	3,873.13
C. Net Cash Flow (A-B)	274.84	592.09	454.18	1,321.11	1,022.65	(611.08)	231.29	642.86
<i>Outstanding Liabilities</i>				5,629.19				-

Notes: MC is Market Charges; IGR is internally Generated Revenue; and A&G is admin and general.

Appendix X: Meter Installation through the MAP and NMMP Interventions

<i>DisCos</i>	<i>Meters contracted</i>	<i>Meters installed in 2019</i>	<i>Meters installed in 2020</i>	<i>Meters installed in 2021</i>	<i>Meters installed in 2022/Q1</i>	<i>Meters installed in 2022/Q2</i>	<i>Meters installed in 2022/Q3</i>	<i>Meters installed in 2022/Q4</i>	<i>Total number installations</i>
Abuja	1,000,475	63,925	105,253	87,987	705	22,532	27,249	32,969	341,028
Benin	664,646	1,169	11,154	72,256	6,336	677	-	-	91,592
Eko	283,178	5,422	32,353	71,362	3,263	6,470	12,207	15,974	147,043
Enugu	713,926	17,410	54,603	97,433	8,852	14,421	18,185	16,139	226,850
Ibadan	1,103,867	4,771	38,403	94,309	30,404	42,570	26,488	34,209	283,527
Ikeja	1,186,114	22,876	160,469	126,051	18,169	46,285	28,733	52,177	454,729
Jos	593,473	15	4,673	87,977	1,966	311	264	373	108,411
Kaduna	519,152	43	8,258	18,236	8,493	21,882	799	1,520	59,874
Kano	562,747	22	3,314	87,736	199	173	245	338	85,280
Port Harcourt	220,044	7,775	36,546	92,543	7,123	7,744	9,434	9,248	170,413
Yola	749,376	-	478	5,565	-	4,891	19,283	1,665	36,427
Total	7,596,998	123,428	455,504	841,455	85,510	167,956	142,887	164,612	2,005,174

Appendix XI: Meter Installation through the NMMP intervention

DisCos	Meters contracted	Meters installed in 2019	Meters installed in 2020	Meters installed in 2021	Meters installed in 2022/Q1	Meters installed in 2022/Q2	Meters installed in 2022/Q3	Meters installed in 2022/Q4	Total number installations
Abuja	100,475	-	17,777	82,698	-	-	-	-	100,475
Benin	90,870	-	-	71,152	6,336	354	-	-	77,842
Eko	79,178	-	55	63,659	2,972	3,545	948	1,566	72,737
Enugu	92,381	-	-	92,025	-	130	64	-	91,512
Ibadan	114,952	-	4,985	93,761	10,966	3,880	3,182	8	117,372
Ikeja	111,703	-	24	111,679	-	-	-	-	111,703
Jos	93,473	-	983	87,977	1,966	-	-	373	94,641
Kaduna	69,152	-	1,555	15,835	7,042	21,590	540	219	47,516
Kano	87,747	-	11	87,736	-	-	-	-	80,979
Port Harcourt	82,720	-	14,212	68,508	-	-	-	-	82,720
Yola	85,376	-	478	5,565	-	4,891	19,283	1,665	36,427
Total	1,008,026	-	40,080	780,595	29,282	34,390	24,017	3,831	913,924

Appendix XII: Meter Installation through the MAP intervention

DisCos	Meters contracted	Meters installed in 2019	Meters installed in 2020	Meters installed in 2021	Meters installed in 2022/Q1	Meters installed in 2022/Q2	Meters installed in 2022/Q3	Meters installed in 2022/Q4	Total number installations
Abuja	900,000	63,925	87,476	5,289	705	22,532	27,249	32,302	239,296
Benin	573,776	1,169	11,154	1,104	-	323	-	-	13,750
Eko	204,000	5,422	32,298	7,703	291	2,925	11,259	14,408	74,306
Enugu	621,545	17,410	54,603	5,408	8,852	14,291	18,121	16,139	134,741
Ibadan	988,915	4,771	33,418	548	19,438	38,690	23,306	34,201	166,155
Ikeja	1,074,411	22,876	160,445	14,372	18,169	46,285	28,733	52,177	343,026
Jos	500,000	15	3,690	-	-	311	264	-	4,280
Kaduna	450,000	43	6,703	2,401	1,451	292	259	1,301	12,358
Kano	475,000	22	3,303	-	199	173	245	338	4,301
Port Harcourt	137,324	7,775	22,334	24,035	7,123	7,744	9,434	9,248	87,693
Yola	664,000	-	-	-	-	-	-	-	-
Total	6,588,971	123,428	415,424	60,860	56,228	133,566	118,870	160,114	1,079,906

Appendix XIII: Categories of Appeals Received at the Forum Offices in 2022/Q4

S/N	Forum Offices	Complaints B/F	Current Complaints	Complaints Received	Complaints Resolved	Complaints Rejected	Complaints Withdrawn	Pending Complaints	No Of Hearings	Billing	Disconnection	Delay	Interruption	Meter	Loadshedding	Voltage	Others	Resolution Rate
1	ABAKALI	32	31	63	32	0	0	31	2	56	2	0	1	4	0	0	0	50.79%
2	ABEOKUTA	35	59	94	55	31	0	8	3	61	5	0	2	14	0	0	12	58.51%
3	ABUJA	22	43	65	49	0	0	16	4	13	0	0	0	50	0	0	2	75.38%
4	ASABA	6	61	67	61	0	0	6	5	57	2	0	0	7	0	0	1	91.04%
5	AWKA	31	61	92	77	0	0	15	4	71	8	0	0	8	0	0	5	83.70%
6	BAUCHI	5	0	5	5	0	0	0	0	5	0	0	0	0	0	0	0	100.00%
7	BENIN	22	32	54	54	0	0	0	3	47	3	0	0	4	0	0	0	100.00%
8	CALABAR	47	26	73	40	0	0	33	3	56	7	0	0	3	0	1	6	54.79%
9	EKO	18	51	69	47	0	0	22	10	44	3	0	0	19	0	0	3	68.12%
10	ENUGU	62	66	128	44	0	0	84	4	72	16	2	0	32	0	0	6	34.38%
11	GOMBE	1	7	8	1	0	0	7	0	3	0	0	0	3	0	0	2	12.50%
12	GUSAU	0	29	29	16	0	0	13	1	19	4	0	0	3	0	0	3	55.17%
13	IBADAN	78	79	157	81	0	0	76	4	98	5	0	1	18	0	1	34	51.59%
14	IKEJA	550	356	906	500	0	0	406	8	640	16	1	2	218	3	0	26	55.19%
15	ILORIN	27	36	63	32	0	0	31	2	30	1	0	0	29	0	0	3	50.79%
16	JIGAWA	15	0	15	1	0	0	14	0	14	0	0	0	0	0	0	1	6.67%
17	JOS	5	2	7	7	0	0	0	1	4	1	0	0	1	0	0	1	100.00%
18	KADUNA	21	44	65	47	0	0	18	4	37	5	0	0	21	0	0	2	72.31%
19	KANO	18	27	45	33	12	0	0	2	16	5	0	0	1	0	0	23	73.33%
20	KATSINA	1	2	3	0	0	0	3	0	1	0	0	0	2	0	0	0	0.00%
21	KEBBI	0	10	10	2	0	0	8	1	9	0	0	0	1	0	0	0	20.00%
22	LAFIA	9	17	26	14	3	4	5	2	6	1	0	2	14	0	0	3	0.00%
23	LOKOJA	1	1	2	1	0	0	1	1	2	0	0	0	0	0	0	0	50.00%
24	MAKURDI	6	16	22	0	10	0	12	0	22	0	0	0	0	0	0	0	0.00%
25	OSHOGBO	104	36	140	52	0	0	88	6	71	0	0	0	61	0	0	5	0.00%
26	OWERRI	5	6	11	6	0	0	5	1	7	1	0	0	0	0	0	3	54.55%
27	P/H	0	142	142	119	0	1	22	6	95	21	0	0	22	0	4	0	0.00%
28	SOKOTO	0	27	27	20	0	0	7	1	18	5	0	0	0	0	0	4	74.07%
29	UMUAHIA	11	26	37	25	0	2	10	2	27	4	1	0	4	0	0	1	67.57%
30	UYO	0	143	143	80	0	0	63	0	80	22	0	0	23	0	2	16	0.00%
31	YOLA	5	21	26	19	1	0	6	1	14	2	0	4	4	0	0	2	73.08%
	TOTAL	1,137	1,457	2594	1,520	57	7	1010	81	1,695	139	4	12	566	3	8	164	58.60%

Appendix XIV: Categories of Complaints Received by the DisCos in 2022/Q4

DisCo	Complaints Received	Complaints Resolved	Complaints Unresolved	Meter	Interruption	Voltage	Loadshedding	Billing	Disconnection	Delay	Others	Resolution Rate
AEDC	30,662	30,107	555	12,121	2,240	250	1,013	2,739	2,201	-	10,098	98%
BEDC	4,606	4,225	381	95	265	77	19	536	1	-	3,442	92%
EEDC	43,997	40,733	3,264	34,516	2,237	506	7	3,829	330	368	2,204	93%
EKDC	24,601	22,729	1,872	13,684	1,920	431	-	2,062	-	-	6,504	92%
IBEDC	40,178	36,068	4,110	469	172	122	-	38,296	-	-	1,119	90%
IKEDC	29,282	19,536	9,746	12,755	1,967	285	359	2,696	1,023	1,744	8,453	67%
JEDC	14,815	13,950	865	8,613	1,025	218	65	4,522	220	-	152	94%
KAEDC	7,258	6,845	413	2,052	3,701	456	3	606	244	-	196	94%
KNEDC	13,727	13,632	95	8,539	4,241	100	-	705	47	-	95	99%
PHEDC	49,449	48,291	1,158	28,660	5,700	1,475	-	5,028	777	837	6,972	98%
YEDC	2,703	2,649	54	1,301	765	426	-	3	2	3	203	98%
TOTAL	261,278	238,765	22,513	122,805	24,233	4,346	1,466	61,022	4,845	2,952	39,438	91%

Table XV: List and Addresses of NERC Forum Offices as at December 2022

S/N	Forum Office	Location	Telephone	Email
1	<i>Abakaliki, Ebonyi State</i>	3, Ezekuna Crescent, Off Nsugbe Street, Abakaliki Ebonyi State	9037808590	abakalikiforum@nerc.gov.ng
2	<i>Abeokuta, Ogun State</i>	33, First Avenue, Ibara Housing Estate, Ibrar GRA, Abeokuta	9139381008	abeokutaforum@nerc.gov.ng
3	<i>Abuja, FCT</i>	14, Road 131, Gwarinpa, Federal Capital Territory, Abuja	8146862225	abujaforum@nerc.gov.ng
4	<i>Asaba, Delta State</i>	Denis Osadebe Way, Beside Mobil Filling Station, Asaba, Delta State	9062277247	asabaforum@nerc.gov.ng
5	<i>Awka, Anambra State</i>	Plot 80, Aroma Junction Layout, Opp. CBN, Awka, Anambra State	9037808594	awkaforum@nerc.gov.ng
6	<i>Bauchi, Bauchi State</i>	37, Old Jos Road, GRA, Bauchi, Bauchi State	9062924607	bauchiforum@nerc.gov.ng
7	<i>Benin, Edo State</i>	34, Akpakpava Street, Benin City, Edo State	9037808592	beninforum@nerc.gov.ng
8	<i>B/Kebbi, Kebbi State</i>	8, Ahmadu Bello Way, Opp. Kebbi State Govt House, Kebbi State	9062863161	biminkebbiforum@nerc.gov.ng
9	<i>Calabar, C/Rivers State</i>	Plot 109, MCC Road by Ibok Street, Calabar, Cross River State	9062863159	calabarforum@nerc.gov.ng
10	<i>Dutse, Jigawa State</i>	Dutse G.R.A, Dutse, Jigawa State	7031704827	jigawaforum@nerc.gov.ng
11	<i>Eko, Lagos State</i>	61, Odunlami Street, Off Marina, Lagos Island, Lagos State	8106807261	ekoforum@nerc.gov.ng
12	<i>Enugu, Enugu State</i>	John Anichukwu Close, Plot 7 Mkpokiti Pocket Layout, Enugu, Enugu State	8146862230	enuquforum@nerc.gov.ng
13	<i>Gombe, Gombe State</i>	Government Layout GDP/2, Along Ministry of Education Road, Gombe State	8140440079	gombeforum@nerc.gov.ng
14	<i>Gusau, Zamfara State</i>	2 Canteen Daji, J. B. Yakubu Road, Gusau, Zamfara State	9062863163	gusauforum@nerc.gov.ng
15	<i>Ibadan, Oyo State</i>	Jibowu Str, Opp. Magara Police Station, Iyaganku, G.R.A, Ibadan, Oyo State	8146862252	ibadanforum@nerc.gov.ng
16	<i>Ikeja, Lagos State</i>	199, Obafemi Awolowo Way, Alausa, Ikeja, Lagos State	8106807298	ikejaforum@nerc.gov.ng
17	<i>Ilorin, Kwara State</i>	30, Stadium Road, Off Taiwo Road, Ilorin, Kwara State	9062924603	ilorinforum@nerc.gov.ng
18	<i>Jos, Plateau State</i>	5a, Ray-field Road, Jos, Plateau State	9037808597	josforum@nerc.gov.ng
19	<i>Kaduna, Kaduna State</i>	22, Ahmadu Bello Way, Opposite NNDC Building, Kaduna, Kaduna State	8106807299	kadunaforum@nerc.gov.ng
20	<i>Kano, Kano State</i>	2, Miller Road, Bompai, Nasarawa G.R.A, Kano, Kano State	8146862222	kanoforum@nerc.gov.ng
21	<i>Katsina, Katsina State</i>	7, Abuja Crescent, Off Hassan Usman Katsina Road, Katsina, Katsina State	7031704821	katsinaforum@nerc.gov.ng
22	<i>Lafia, Nasarawa State</i>	Manyi Street, Off Jos Road, Bukan Sidi, Lafia, Nasarawa State	9062924599	lafiaforum@nerc.gov.ng
23	<i>Lokoja, Kogi State</i>	Hassan Kastina Rd, Opp. State Civil Service Commission, Zone 8 Police HQ, Lokoja, Kogi State.	9062924601	lokojaforum@nerc.gov.ng
24	<i>Makurdi, Benue State</i>	Hephzibah Plaza, Atom Kpera Road, Opp. Makurdi Int'l School, Benue State	9062277249	makurdiforum@nerc.gov.ng
25	<i>Osogbo, Osun State</i>	51, Isiaka Adeleke Way, Along Okefia-Alekuwodo Rd, Osogbo, Osun State	9062924604	osogboforum@nerc.gov.ng
26	<i>Owerri, Imo State</i>	1, C.B Anyanwu Rd, Housing Area B, Exclusive Garden, Owerri	9062277245	owerriforum@nerc.gov.ng
27	<i>P/Harcourt, Rivers State</i>	The Vhelberg Imperial Hotel, Plot 122 & 122a, Bank Anthony Avenue, Off Ordinance Rd, P/Harcourt	8146862223	phforum@nerc.gov.ng
28	<i>Sokoto, Sokoto State</i>	1, Garba Duba Road, Sokoto, Sokoto State	9062863157	sokotoforum@nerc.gov.ng
29	<i>Umuahia, Abia State</i>	House 2, Adelabu Str., Amaokwe Housing Estate, Umuahia Ibeku, Abia State	9062277251	umuahiaforum@nerc.gov.ng
30	<i>Uyo, Akwa Ibom State</i>	63, Osongama Road, Off Oron/Uyo Airport Road, Uyo, Akwa Ibom State	9062863165	uyoforum@nerc.gov.ng
31	<i>Yola, Adamawa State</i>	5, Nguroje Str., Karewa Extension, Jimeta, Yola, Adamawa State	9037808535	yolaforum@nerc.gov.ng



NIGERIAN ELECTRICITY REGULATORY COMMISSION

PLOT 1387 | CADASTRAL ZONE A00 | CENTRAL BUSINESS DISTRICT |

P.M.B. 136 | GARKI | ABUJA

www.nerc.gov.ng