

# Electricity on Demand



# 2023 4<sup>TH</sup> QUARTER

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The Nigerian Electricity Regulatory Commission (NERC) quarterly report is prepared in compliance with Section 56(3) of the Electricity Act 2023, 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 issue freely from the Commission's Website: [www.nerc.gov.ng](http://www.nerc.gov.ng)

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## Table of Contents

List of Figures .....	iv
List of Tables.....	v
List of Abbreviations.....	vi
Executive Summary .....	vii
1.0 SUMMARY.....	viii
2.0 STATE OF THE INDUSTRY .....	2
2.1 Operational Performance.....	2
2.1.1 Available Generation .....	2
2.1.2 Plant Availability Factor .....	3
2.1.3 Total Quarterly Generation.....	5
2.1.4 Generation Load Factor .....	8
2.1.5 Generation Mix .....	10
2.2 Grid Performance .....	11
2.2.1 Transmission Loss Factor .....	12
2.2.2 Grid Frequency .....	13
2.2.3 Voltage Fluctuation .....	15
2.2.4 System Collapse.....	16
2.3 Commercial Performance.....	18
2.3.1 Energy offtake performance .....	18
2.3.2 Energy Billed and Billing Efficiency.....	20
2.3.3 Revenue and Collection Efficiency .....	22
2.3.4 Aggregate Technical, Commercial and Collection (ATC&C) Loss.....	24
2.3.5 Market Remittance .....	26
2.3.5.1 Market Remittance to NBET.....	26
2.3.5.2 Market Remittance to MO .....	28
2.3.5.3 Market Remittance to NBET and MO .....	29
2.3.5.4 Market Remittance by Other Customers.....	30
3.0 REGULATORY FUNCTIONS.....	33
3.1 Regulations/Orders.....	33
3.2 Licences and Permits Issued or Renewed.....	35
3.3 Captive Power Generation Permits .....	36
3.4 Mini-grid Permits and Registration Certificates.....	37
3.5 Certification of Meter Service Providers/Meter Asset Providers.....	39
3.6 Public Consultation and Awareness .....	39
3.7 Compliance and Enforcement .....	40
3.8 Alternative Dispute Resolution.....	40
4.0 CONSUMER AFFAIRS.....	43
4.1 Consumer Education and Enlightenment .....	43
4.2 Metering End-Use Customers .....	43
4.3 Customers Complaints .....	46
4.4 Forum Offices .....	49
4.5 Health and Safety .....	51
5.0 COMMISSION.....	56
5.1 Financial Report.....	56
Appendix.....	57

## List of Figures

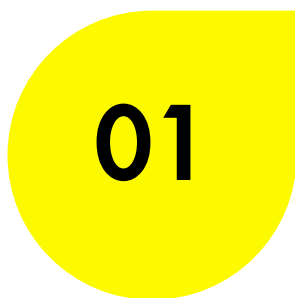
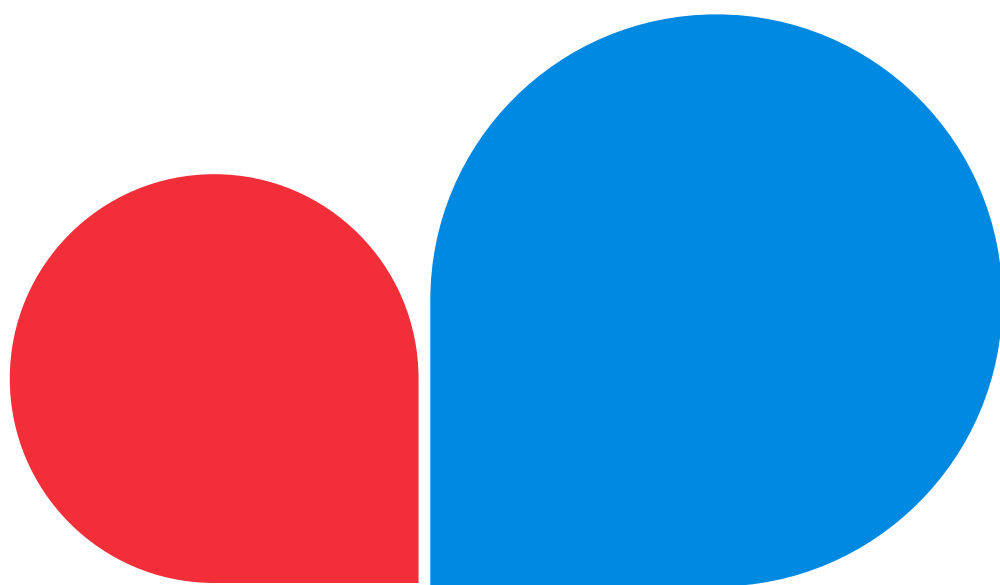
Figure 1: Average Available Capacity (MW) in 2023/Q3 vs. 2023/Q4 .....	3
Figure 2: Average Hourly Generation (MWh/h) in 2023/Q3 vs. 2023/Q4.....	7
Figure 3: Plants Load Factor (%) in 2023/Q3 vs. 2023/Q4 .....	10
Figure 4: Electricity Generated by Energy Sources in 2023/Q3 vs. 2023/Q4.....	11
Figure 5: Actual Transmission Loss Factor (%) vs. MYTO TLF Target (%) July - Dec 2023	13
Figure 6: Monthly System Frequency from Jul - Dec 2023.....	14
Figure 7: Monthly System Voltage (kV) from Jul - Dec 2023 .....	16
Figure 8: DisCos Remittance Performances to NBET in 2023/Q4 .....	28
Figure 9: DisCos Remittance Performances to MO in 2023/Q4 .....	29
Figure 10: Category of Complaints Received by DisCos in 2023/Q4 .....	48
Figure 11: Category of Complaints Received by Forum Offices in 2023/Q4 .....	51
Figure 12: Accident Report for 2023/Q4 .....	53

## List of Tables

Table 1: Plant Availability Factor (%) in 2023/Q3 vs. 2023/Q4 .....	4
Table 2: Total Generation (GWh) in 2023/Q3 vs. 2023/Q4 .....	8
Table 3: System Collapse in 2023/Q4 .....	17
Table 4: DisCo energy offtake performance in 2023/Q3 vs. 2023/Q4.....	20
Table 5: Energy Received and Billing Efficiency by DisCos in 2023/Q3 vs. 2023/Q4....	22
Table 6: Revenue Collection Performance (%) of DisCos in 2023/Q3 vs. 2023/Q4 .....	23
Table 7: ATC&C Loss (%) by DisCos in 2023/Q3 vs. 2023/Q4 .....	25
Table 8: NBET Invoice and MRO Adjusted final Obligation of DisCos for 2023/Q4 .....	27
Table 9: DisCos Remittance Performances to NBET and MO in 2023/Q4 .....	29
Table 10: Invoices and Remittances of Other Customers in 2023/Q4.....	31
Table 11: Licences issued in 2023/Q4 .....	36
Table 12: Captive Generation Plants approved in 2023/Q4 .....	36
Table 13: Mini-grid Permits and Registration Certificates issued in 2023/Q4 .....	38
Table 14: Meter Service/Asset Providers certified in 2023/Q4.....	39
Table 15: Rectification directives issued in 2023/Q4.....	41
Table 16: Metering Progress as at 2023/Q4.....	44
Table 17: Meter Deployment by DisCos 2023/Q3 vs. 2023/Q4.....	45
Table 18: Complaints Received by DisCos in 2023/Q3 vs. 2023/Q4 .....	47
Table 19: Appeals handled by Forum Offices in 2023/Q4.....	50
Table 20: Health and Safety (H&S) Reports in 2023/Q3 vs. 2023/Q4.....	52
Table 21: Quarterly Cash Flow of the Commission in 2023/Q4.....	56

## List of Abbreviations

ADR	Alternative Dispute Resolution
AEDC	Abuja Electricity Distribution Company Plc
ATC&C	Aggregate Technical, Commercial & Collection Loss
BEDC	Benin Electricity Distribution Company Plc
CAPEX	Capital Expenditure
CCU	Customers Complaint Unit
CEET	Compagnie Energie Electrique du Togo
CTC	Competition Transition Charge
DisCos	Distribution Companies
DSOs	Distribution System Operators
EA	Electricity Act
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 hour
IBEDC	Ibadan Electricity Distribution Company Plc
IEDN	Independent Electricity Distribution Network
IE	Ikeja Electric Plc
JEDC	Jos Electricity Distribution Company Plc
KAEDC	Kaduna Electricity Distribution Company Plc
KEDC	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 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



# Executive Summary

## 1.0 SUMMARY

Pursuant to Section 34(1)(e) of the Electricity Act 2023 which states that "the Commission shall ensure the safety, security, reliability, and quality of service in the production and delivery of electricity to consumers", 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 to ensure that they provide stable, reliable, and safe electricity to all consumers.

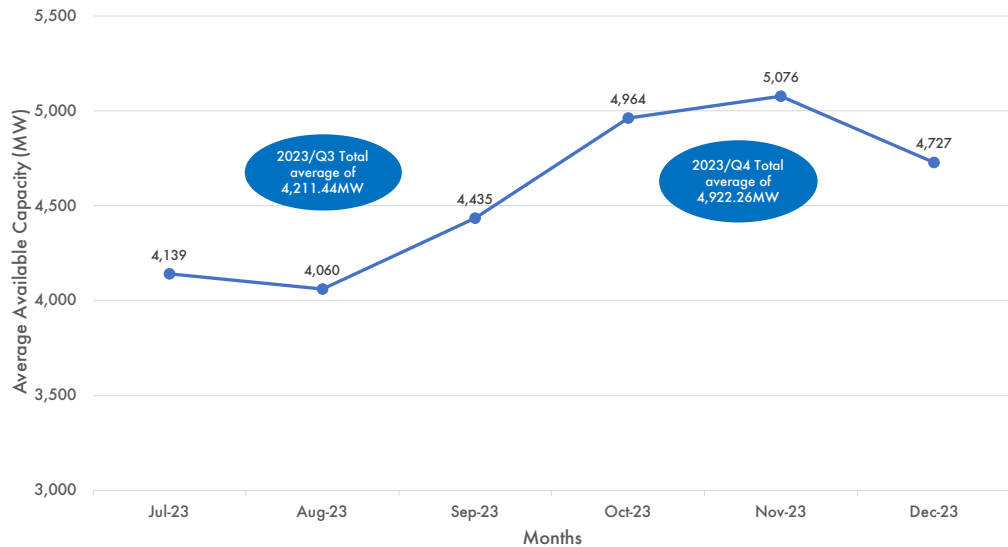
### Operational Performance

The Operational performance parameters reported in 2023/Q4 include the available generation capacity, plant availability factor, total quarterly generation, load factor, and generation mix of the twenty-seven (27) grid-connected power plants. Other parameters reported include the grid performance, in terms of grid frequency and voltage stability during the quarter.

**a. Available Generation Capacity:** There were twenty-seven (27) grid-connected power plants in 2023/Q4 consisting of nineteen (19) gas, four (4) hydro, two (2) steam, and two (2) gas/steam-powered plants. The plants' average available generation capacity during the quarter was 4,922.26MW representing a +16.88% increase (+710.82MW) compared to the 4,211.44MW recorded in 2023/Q3 (Figure A). Twenty-two (22) out of the twenty-seven (27) grid-connected plants recorded increased available generation capacities in 2023/Q4 compared to 2023/Q3.

*The average available generation capacity in 2023/Q4 was 4,922.26MW*



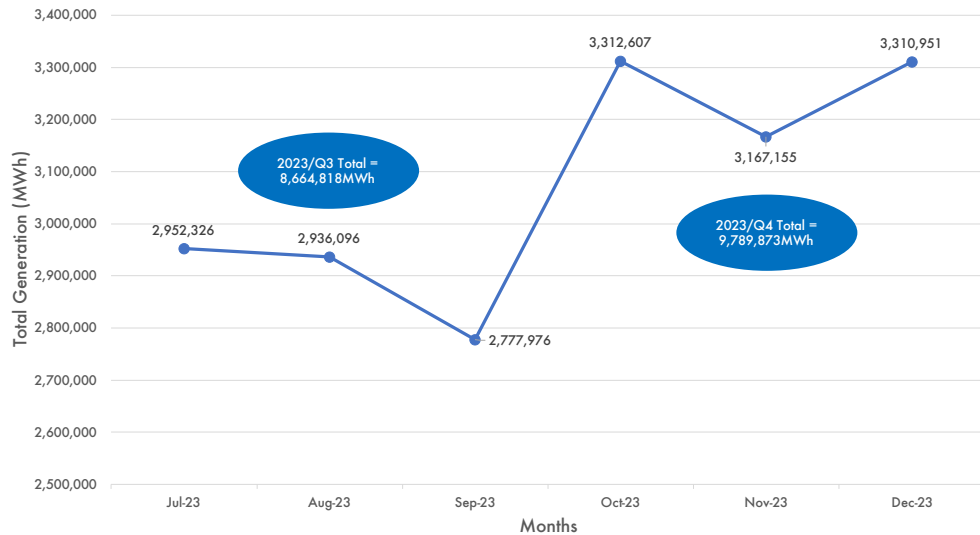


**Figure A: Available Generation Capacity (July - December 2023)**

**b. Total Quarterly Generation:** In 2023/Q4, the average hourly generation of available units increased by +12.98% (+509.54MWh/h) from 3,924.28MWh/h in 2023/Q3 to 4,433.82MWh/h. The total electricity generated in the quarter also increased by 12.98%<sup>1</sup> (+1,125.05GWh) from 8,664.82GWh in 2023/Q3 to 9,789.87GWh (Figure B). The increase in gross energy generation during the quarter was primarily due to the increase in the available generation capacity of the grid-connected power plants compared to 2023/Q3.

*The total electricity generated in 2023/Q4 was 9,789.87GWh*

<sup>1</sup> The percentage change in total generation and average hourly generation is the same across Q4/2023 vs Q3/2023 because the number of days in each of the quarters is the same (92 days). When there is a difference between the number of the days of the quarters being compared, the percentage in total generation will be different from the percentage change in average hourly generation.



**Figure B: Total Generation (July – December 2023)**

The significant increase in the total amount of energy generated in October compared to energy generated in September can be attributed to the increase in energy generation from Rivers IPP (+122.20%), Sapele GT NIPP (+82.82%), Afam VI (+71.01%), Shiroro (+42.97%), and Jebba (+35.40%) power plants.

**c. Grid Performance:** In 2023/Q4, the average lower daily (49.06Hz) and average upper daily (50.66Hz) system frequencies were outside the normal operating limits (49.75Hz - 50.25Hz) but remained within the lower and higher bound stress limits (48.75Hz - 51.25Hz). The average lower daily (298.17kV) and average upper daily (347.88kV) system voltages were however outside the prescribed regulatory limits (313.50kV - 346.50kV). The Commission is aware of the system risk posed by the continuous operations of the grid outside the set boundaries and therefore continues to monitor the system coordination by the SO to ensure grid frequency and voltage are maintained within the statutory limits specified in the Grid Code.

One incident of grid collapse was recorded in 2023/Q4. The incident occurred on the 11<sup>th</sup> of December 2023, and the immediate cause was the simultaneous tripping of four (4) 330kV circuits and the separation of four (4) power plants; Egbin, Olorunsogo Ph I, & II and Paras power plants, along the western axis of the grid. In line with section 20.1 of the Grid Code, the Commission has directed the System Operator (SO)

to submit a detailed report containing the root causes of the incidents leading to the system collapse and mitigation plans to avoid a recurrence of similar incidents in the future.

### Commercial Performance

The commercial performance of the 2023/Q4 report covers energy offtake performance, billing efficiency, collection efficiency, aggregate technical, commercial, and collection loss, as well as the market remittance of relevant market participants. The Commission monitors the financial performance of the NESI to ensure efficient and commensurate cash flow along the value chain for the sustainability of the industry.

**a. Energy Offtake Performance:** In 2023/Q4, DisCos achieved 93.40% offtake performance (3,713.16MWh/h) relative to available Partial Contracted Capacity (3,975.34MWh/h). In absolute terms, the average energy offtake by DisCos at their trading point during the quarter (3,713.16MWh/h) was an increase of 459.34MWh/h (+14.12%) compared to the 3,253.82MWh/h recorded in 2023/Q3.

**b. Billing Efficiency:** The total energy received by all DisCos in 2023/Q4 was 8,198.65GWh while the energy billed to end-use customers was 6,432.22GWh, translating into an overall billing efficiency of 78.45%. This represents a decrease of -0.64pp relative to the 79.09% recorded in 2023/Q3.

**c. Collection Efficiency:** The total revenue collected by all DisCos in 2023/Q4 was ₦294.95 billion out of ₦399.69 billion billed to customers. This translates to a collection efficiency of 73.79% which represents a decrease of -2.77pp when compared to 2023/Q3 (76.56%).

Over previous quarters, it has been observed that when there is an increase in energy offtake, there is usually a decrease in DisCos' billing and collection efficiencies for the same period. This is probably because DisCos send more energy to areas where they incur more commercial losses. The inverse relationship between energy offtake by DisCos and billing as well as collection efficiencies may pose challenges to the long-term growth of the NESI unless DisCos make

*A total of ₦294.95 billion was collected by all DisCos in 2023/Q4 out of the ₦399.69 billion billed to customers.*

significant progress towards improving energy accounting and addressing the major causes of losses.

**d. Aggregate Technical, Commercial and Collection (ATC&C) Loss:** ATC&C provides a consolidated report of how much revenue a DisCo can collect relative to how much it should have collected based on the volume of energy it received (and sold to customers). It is the indicator that evaluates the actual energy and revenue loss in electricity distribution systems.

The ATC&C loss in 2023/Q4 was 42.11% comprising - technical and commercial loss (21.55%) and collection loss (26.21%). The ATC&C loss increased by +2.66pp compared to 2023/Q3 (39.45%).

All the DisCos failed to achieve the efficient loss targets allowed in their tariffs in 2023/Q4. This translates into an inability to collect the revenues that are required to finance the sustainable long-term operations of the business while also providing reasonable returns for investors.

**e. Market remittance:** In 2023/Q4, the cumulative upstream invoice payable by DisCos was ₦270.05 billion, consisting of ₦223.32 billion for generation costs from NBET and ₦46.73 billion for transmission and administrative services by the Market Operator (MO). Out of this amount, the DisCos collectively remitted a total sum of ₦188.70 billion (₦156.15 billion for NBET and ₦32.55 billion for MO) with an outstanding balance of ₦81.35 billion. This translates to a remittance performance of 69.88% in 2023/Q4 compared to the 75.91% (remittance of ₦158.43 billion out of the total invoice of ₦208.70 billion) recorded in 2023/Q3. The disaggregated DisCos remittance performance to the market for 2023/Q4 is presented in Figure C.

**f. Remittance by Special and Cross-border Customers:** In 2023/Q4, none of the four (4) international customers serviced by the MO made any payment against the \$12.02 million invoice issued to them by the MO for services rendered in 2023/Q4<sup>2</sup>. Cumulatively, no bilateral customer made any payment against the cumulative invoice of

<sup>2</sup> It is noteworthy that some international customers made payments during 2023/Q4 for outstanding MO invoices from previous quarters. The details of these payments are contained in Appendix VIII.

₦1,952.63 million issued to them by the MO for services rendered in 2023/Q4.

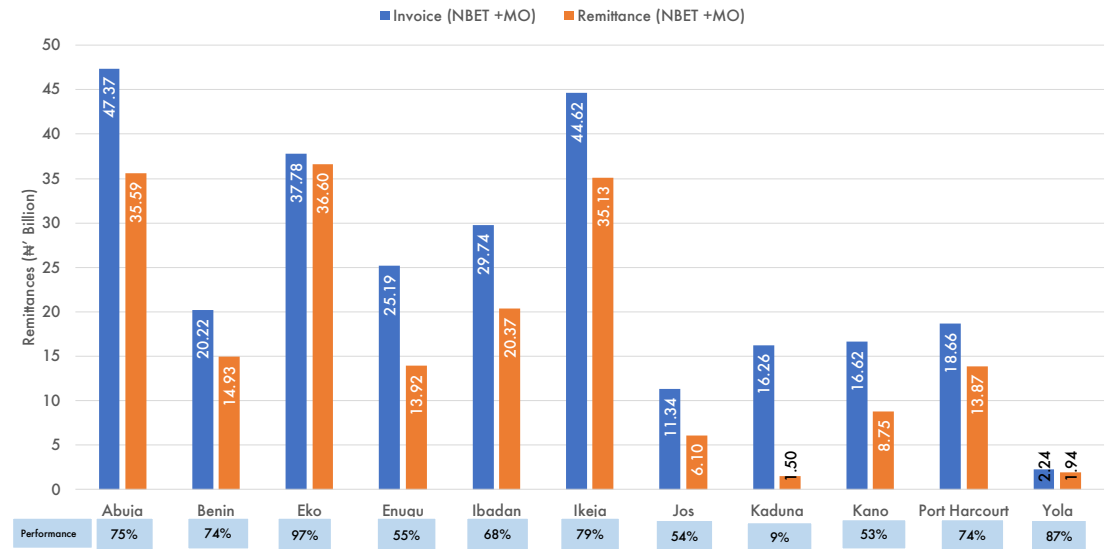


Figure C: MRO adjusted invoices and remittances in 2023/Q4

### Regulatory Functions

The EA 2023, section 34(2)(d), empowers the Commission to license and regulate persons engaged in the generation, transmission, system operation, distribution, supply and trading of electricity in the NESI. Additionally, the Commission regulates market entry or exit by sector players and issues Regulations, Guidelines and Orders that guide the operations of licensees in the sector.

a. **Regulations/Orders:** The Commission updated one (1) Regulation and issued two (2) new Orders in 2023/Q4 which are listed below:

- NERC-R-117-2023 – Mini-grid Regulations, 2023.
- NERC/2023/022 – Revised Order on the Transitional Accounting Treatment of Tariff-Related Liabilities in the Financial Records of Market Participants.
- NERC/2023/036 – Revised Order on the Transitional Accounting Treatment of Tariff-Related Liabilities in the Financial Records of Market Participants which is an update of Order NERC/2023/022.

*The Commission updated one (1) Regulation and issued two (2) new Orders in 2023/Q4.*

- b. Licensing and Permits:** The Commission issued thirty-six (36) licences, permits and certifications in 2023/Q4. They include:
- Two (2) new off-grid generation licences (gross capacity- 7.5MW).
  - Two (2) new embedded generation licences (gross capacity- 40MW).
  - Renewal of one (1) embedded generation licence (20MW).
  - Three (3) new Independent Electricity Distribution Network (IEDN) licences.
  - Two (2) new trading licences.
  - Four (4) captive generation permits (gross capacity- 131.78MW).
  - Eight (8) mini-grid permits (gross capacity- 2.5MW)
  - Thirty-one (31) mini-grid registration certificates (gross capacity- 1.4MW).
  - Four (4) certifications for Meter Service Providers.
  - Two (2) certifications for Meter Asset Providers.

### Consumer Affairs

**a. Consumer Education and Enlightenment:** The Commission organises customer enlightenment programs to ensure continuous customer education and enlightenment as well as to inform customers about other general service delivery matters in the NESI. In 2023/Q4, the Commission convened two town hall meetings; one in Makurdi, Benue State (7th-9th November) and another in Ikeja, Lagos State (21st-23rd November). The major issues discussed at the meetings include service-based tariff provisions, capping of estimated bills for unmetered customers, metering frameworks, and customer redress mechanisms.

**b. Metering:** A total of 111,225 meters were installed in 2023/Q4, representing a decrease of 38,520 installations (-25.72%) compared to the 149,745 meters installed in 2023/Q3. Out of the 111,225 new meter installations, 110,132 meters were installed under the MAP framework, 1,072 meters were installed under the Vendor Financed framework, and 21 meters were installed under the NMMP framework. There were no meter installations under the DisCo Financed

framework. The metering by the respective DisCos in the quarter under review is presented in Figure D.

The Commission expects DisCos to utilise any of the five (5) meter financing frameworks that have been provided in the 2021 Meter Asset 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. This 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 historical consumption by metered customers.

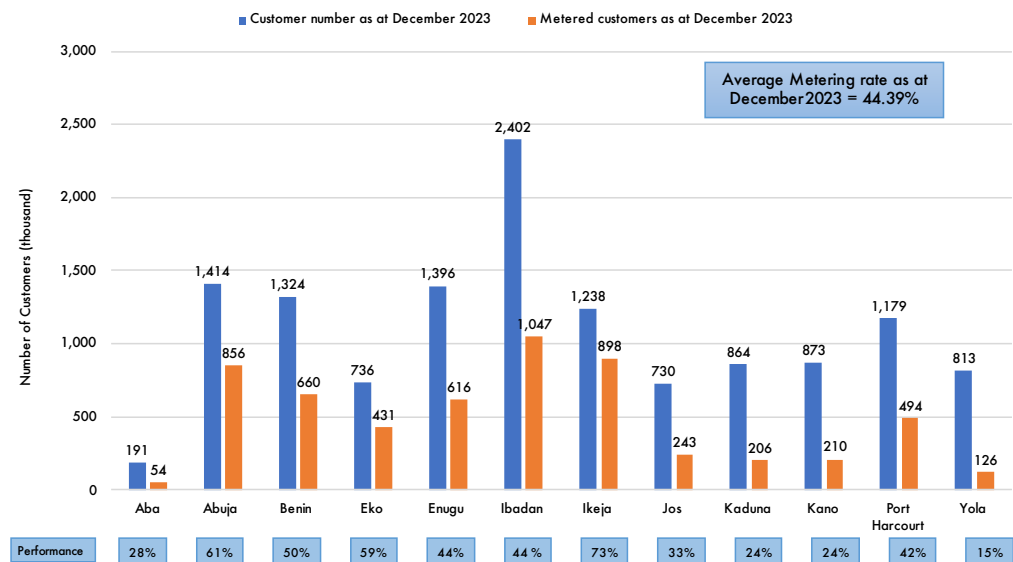


Figure D: Status of Customer metering as of December 2023

**c. Customer Complaints:** The DisCos cumulatively received 310,717 complaints from consumers in 2023/Q4. This represents a decrease of -23,230 (-6.96%) compared to the 333,947 complaints received in 2023/Q3. Metering, billing, and service interruption were the prevalent issues of customer complaints, accounting for more than 78% of the total complaints during the quarter.

*In 2023/Q4, the Forum Offices resolved 67.47% of the total appeals in 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 (DisCos-CCU). In 2023/Q4 the

Forum Offices received a total of 1,716 new appeals, added to the 1,042 pending appeals from 2023/Q3, this gives a total of 2,758 appeals (“active appeals”) 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 1,861 (67.47%) of the active appeals at Forum Offices nationwide; the resolution rate was +9.85pp higher than 57.62% achieved in 2023/Q3.

The Commission continues to pursue 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. To this end, the Commission has updated the customer service standards for the NESI, launched the Power Outage Reporting System (PORS) and is implementing the NESI call centre for swift resolution of complaints.

*Investigations have been launched into all reported accidents.*

**e. Health & Safety:** The total number of accidents in 2023/Q4 was fifty-four (54) resulting in 30 injuries and 36 fatalities. The Commission has launched investigations into all the accidents and will continue to work with all sector stakeholders to improve the overall health and safety of the NESI.

#### The Commission

*The Commission realised ₦6.43 billion as revenue and an expenditure of ₦4.69 billion in 2023/Q4.*

**a. Financial Report:** The total revenue realised by the Commission in 2023/Q4 was ₦6,435.27 million representing an increase of ₦465.15 million (+7.79%) compared to the ₦5,970.12 million realised in 2023/Q3. During the same period, the total expenditure of the Commission increased by ₦1,542.57 million (+48.88%) from ₦3,155.77 million in 2023/Q3 to ₦4,698.34 million.

The Commission recorded a positive net cash flow of ₦1,736.93 million in the quarter. This is the 18th consecutive quarter in which the Commission has recorded a positive cash flow.



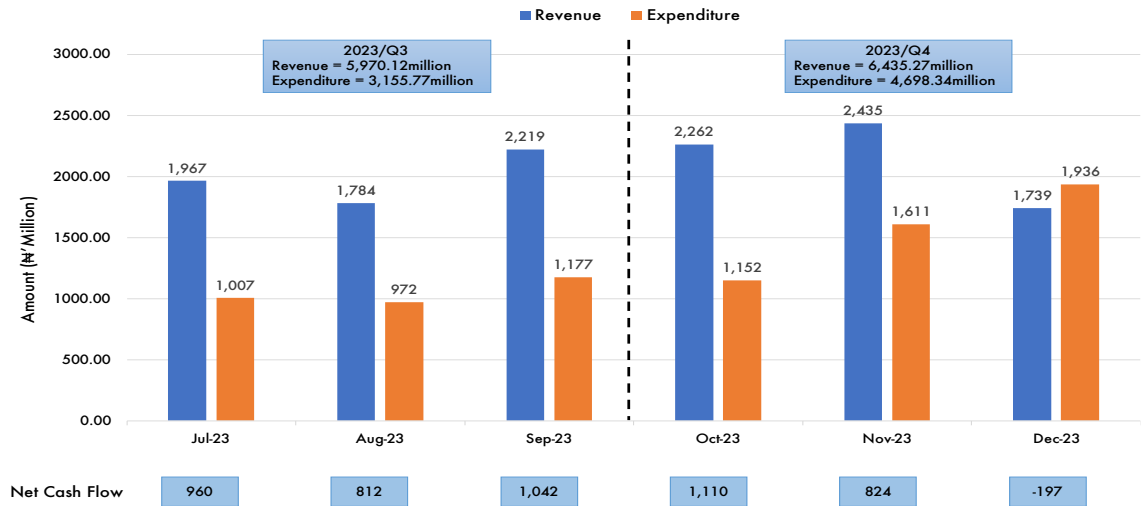
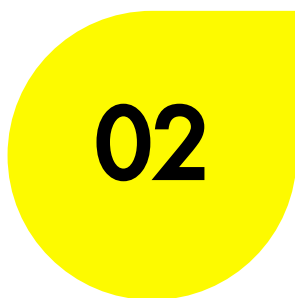
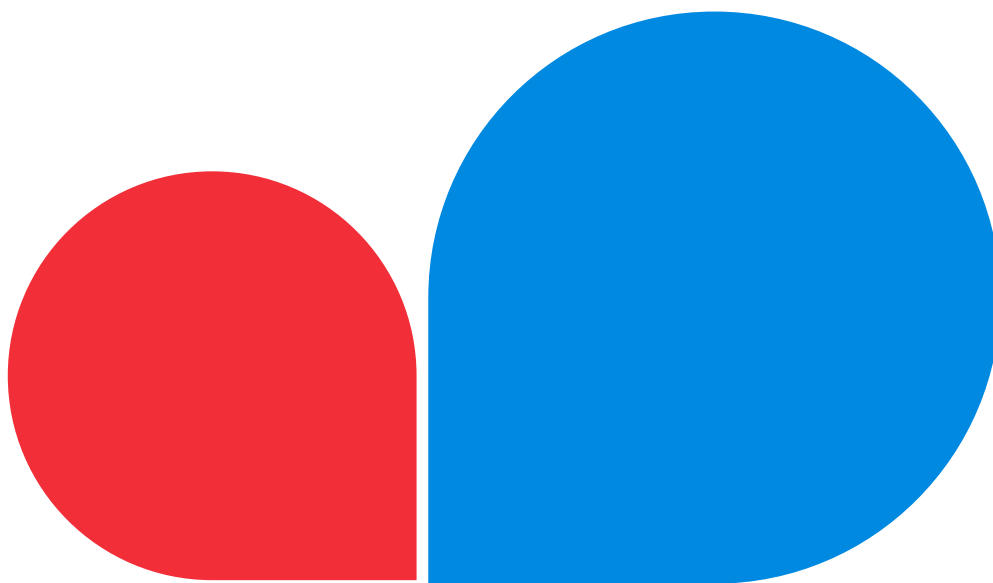


Figure E: Commission’s Revenue and Expenditure (July – December 2023)

## Key Facts on NESI Performance in Q4 of 2023

4,922.26MW	Average Available Generation Capacity; +710.82MW (+16.88%) increase compared to 4,211.44MW in 2023/Q3
9,789.87GWh	Total Quarterly Generation; +1,125GWh (+12.98%) increase compared to 8,664.82GWh in 2023/Q3
4,433.82MWh/h	Average Hourly Generation; +509.54Wh/h (+12.98%) increase compared to 3,924.2M8Wh/h in 2023/Q3
90.08%	Load Factor; -3.10pp decrease compared to 93.18% in 2023/Q3
27.61%	Share of total quarterly generation from Hydropower Plants; +2.12pp increase compared to 25.49% in 2023/Q3
8.49%	Transmission Loss Factor; +0.55pp increase compared to 7.94% in 2023/Q3 and +0.92pp above the MYTO allowance of 7.25%
3,713.16MWh/h	Total Energy Received by the DisCos; +495.33MWh/h (+14.12%) increase compared to 3,253.83MWh/h in 2023/Q3
6,432.22GWh	Energy Billed; +750.11GWh (+13.20%) increase compared to 5,682.11GWh in 2023/Q3
₦294.95 billion	Total Revenue Collected by the DisCos; ₦27.34 billion (+10.21%) increase compared to ₦267.61 billion in 2023/Q3
78.45%	Cumulative Billing Efficiency across all DisCos; -0.64pp decline compared to 79.09% in 2023/Q3
73.79%	Cumulative Collection Efficiency across all DisCos; -2.77pp decrease compared to 76.56% in 2023/Q3
42.11%	Aggregate Technical, Commercial and Collection Loss; +2.66 pp increase compared to 39.45% in 2023/Q3
₦270.05 billion	Combined Invoice from NBET (MRO adjusted) and MO to DisCos; ₦61.35 billion (+29.40%) increase compared to ₦208.70 billion in 2023/Q3

₦188.70 billion	Total Amount Remitted by DisCos; ₦30.27 billion (+19.11%) increase compared to ₦158.43 billion in 2023/Q3
69.88%	DisCos' Overall Remittance Performance; -6.03pp decrease compared to 75.91% in 2023/Q3
111,225	Number of New Meters Installed; 38,520 fewer installations (-25.72%) compared to the 149,745 meters installed in 2023/Q3
310,717	Total complaints received; -23,230 (-6.96%) decrease compared to 333,947 complaints received in 2023/Q3
67.47%	Forum Office Complaint Resolution Rate; +9.85pp increase compared to 57.62% in 2023/Q3
54	Number of Accidents; 13 more accidents compared to 41 in 2023/Q3
36	Number of Fatalities; 2 more deaths compared to 34 in 2023/Q3
30	Number of Injuries; 2 more injuries compared to 28 in 2023/Q3
₦6.43 billion	Total revenue realised by the Commission; ₦0.46 billion (+7.71%) increase compared to ₦5.97 billion in 2023/Q3
₦4.69 billion	Total Expenditure by the Commission; ₦1.53 billion (+48.42%) increase compared to ₦3.16 billion in 2023/Q3



# State of the Industry

## 2.0 STATE OF THE INDUSTRY

Pursuant to Section 34(1)(e) of the Electricity Act 2023 which states that "the Commission shall ensure the safety, security, reliability, and quality of service in the production and delivery of electricity to consumers", 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 to ensure they provide stable, reliable, and safe electricity to all consumers.

### 2.1 Operational Performance

The operational performance of the NESI is a measure of how effectively available resources are utilised to generate electricity. Optimum operational performance is essential to ensure the generation, wheeling and supply of adequate, affordable and safe electricity. In evaluating the operational performance of the NESI in 2023/Q4, the following Key Performance Indicators (KPIs) were considered:

- Available generation
- Plant availability factor
- Total quarterly generation
- Generation load factor
- Generation mix

#### 2.1.1 Available Generation

In 2023/Q4 the average available generation capacity of the 27 grid-connected power plants increased by +16.88% (+710.82MW) from the 4,211.44MW recorded in 2023/Q3 to 4,922.26MW in 2023/Q4; this increase was driven by the increased availability of twenty-two (22) out of the twenty-seven (27) grid-connected power plants. The average available generation capacity of selected power plants in 2023/Q4 relative to 2023/Q3 is presented in Figure 1.

There were increases in the average available capacities of Kainji (+50.35%), Afam VI (+27.74%), Delta GS (+26.96%), Jebba (+16.66%), Shiroro (+11.68%), and Azura IPP (+4.77%) power plants in 2023/Q4 compared to 2023/Q3. Conversely, the available generation capacity of Egbin ST power plant decreased by -3.19% in 2023/Q4 compared to 2023/Q3. Cumulatively, the average available capacities of the remaining nineteen (19) power plants categorised as "Others" increased by +17.76% in 2023/Q4 compared to 2023/Q3.

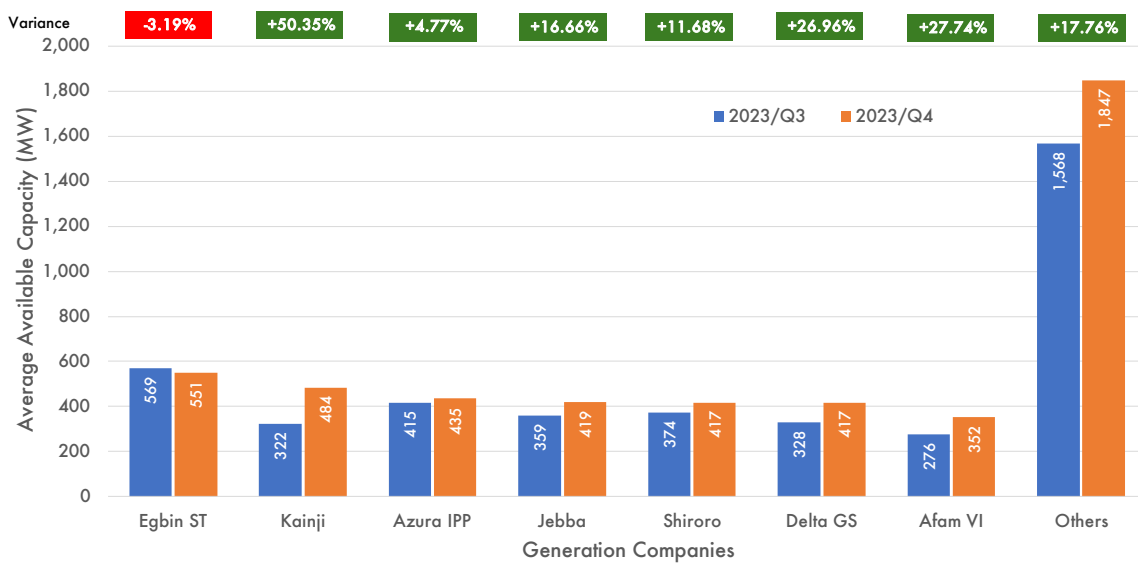


Figure 1: Average Available Capacity (MW) in 2023/Q3 vs. 2023/Q4

### 2.1.2 Plant Availability Factor

The availability factor of a plant is measured as a ratio of the maximum rated output of the plant declared by the operator (available capacity) relative to the maximum rated output specified by the manufacturer (installed capacity). The available capacity of a plant may change from time to time due to several factors including i) atmospheric conditions at the plant; ii) mechanical availability of the plant (planned and unplanned outages); iii) feedstock availability, etc. The formula for the plant availability factor (PAF) is represented by equation 1:

$$\text{Plant availability factor} = \frac{\text{average available capacity (MW)}}{\text{installed capacity (MW)}} \times 100 \quad (1)$$

The plant availability factor is a critical parameter for evaluating the overall health of the upstream segment of the NESI. In 2023/Q4, the overall plant availability factor of all grid-connected plants was 38.84%. While this represents an increase of 5.53 percentage points (pp) from the 33.31% recorded in 2023/Q3, it still shows that more than 60% of the installed capacity in the NESI was not available. The lack of generation capacity at the upstream segment occasioned by the low PAF poses major risks for any attempts to boost the volume of energy supplied to the consumers through the National Grid.

Overall, ten (10) plants had availability factors above 50% with the Azura IPP plant recording the highest availability factor of 94.34% (PAF of all grid-connected plants

is contained in Table 1). On the opposite end of the scale, Alaoji NIPP recorded a 0% PAF because it was unavailable throughout the quarter due to gas unavailability while Afam IV - V had an availability factor of 5.47%.

**Table 1: Plant Availability Factor (%) in 2023/Q3 vs. 2023/Q4**

Plant	Installed capacity (MW)	Average available capacity (MW) 2023/Q4	Plant availability factor (%) 2023/Q3	Plant availability factor (%) 2023/Q4	Change in Plant availability factor (%)
Azura IPP	461.00	434.89	90.04	94.34	4.3
Dadin Kowa	40.00	37.31	81.14	93.28	12.14
Ibom	191.00	153.26	34.83	80.24	45.41
Paras	96.00	73.51	88.20	76.58	-11.62
Jebba	570.00	419.21	63.04	73.55	10.51
Shiroro	600.00	417.33	62.28	69.56	7.28
Rivers IPP	180.00	123.01	50.03	68.34	18.31
Kainji	760.00	483.90	42.35	63.67	21.32
Okpai	480.00	291.22	55.26	60.67	5.41
Afam VI	650.00	352.49	42.45	54.23	11.78
Geregu	435.00	208.13	44.93	47.85	2.92
Delta GS	900.00	416.74	36.47	46.30	9.83
Egbin ST(GAS)	1,320.00	550.68	43.10	41.72	-1.38
Omotosho	304.00	110.90	35.27	36.48	1.21
Omoku	150.00	52.91	34.23	35.27	1.04
Taopex Energy	60.00	20.14	19.75	33.57	13.82
Odukpani	625.00	205.09	26.30	32.81	6.51
Olorunsogo	304.00	89.87	26.98	29.56	2.58
Trans Amadi	100.00	25.48	16.94	25.48	8.54
Sapele GT NIPP	452.00	94.26	18.21	20.85	2.64
Geregu NIPP	435.00	86.09	8.06	19.79	11.73
Omotosho NIPP	500.00	83.60	25.01	16.72	-8.29
Sapele ST	720.00	73.91	11.99	10.27	-1.72
Olorunsogo NIPP	690.00	53.44	2.64	7.74	5.1
Ihovbor NIPP	450.00	25.16	9.11	5.59	-3.52
Afam IV - V	726.00	39.73	5.04	5.47	0.43
Alaoji NIPP	473.00	0.00	0.20	0.00	-0.2
<b>Total</b>	<b>12,672.00</b>	<b>4,922.26</b>	<b>33.31</b>	<b>38.84</b>	<b>5.53</b>

With an average PAF of 38.84%, the Commission is very concerned by the high level of unavailability of the majority of the grid-connected plants. Analyses undertaken by the Commission indicate that the largest driver of plant unavailability was mechanical outages with an average of 38.04% (4,802.80 MW) of the total

installed capacity of grid-connected plants being unavailable to due “long-term mechanical outage<sup>3</sup>” in 2023/Q4. Mechanical unavailability of generation units is a major problem that has plagued the NESI arising from the age of many of the plants (the average plant in the NESI is 21 years old) as well as challenges with the maintenance of the units which could be partly attributable to the liquidity shortfalls in the upstream segment of the NESI over the past 8 years.

For thermal plants, another key contributory factor to the limited PAF observed in 2023/Q4 was the continued lack of reliable gas supply to the plants due to gas infrastructure constraints on the national gas network and the absence of fully effective Gas Supply Agreements (GSA). As of the end of December 2023, only five (5) plants out of the twenty-three (23) thermal plants are operating with fully effective GSAs. This means that the remaining eighteen (18) plants secure gas on a “best endeavour basis<sup>4</sup>” which puts them at great risk of having their supply curtailed by the suppliers when there is a reduction in the gas production.

While the PAF of hydropower plants is often determined by seasonality and resultant impact on river flows, Q4 marks the end of the rainy season at which point the dams of most of the hydropower plants are expected to be full. In spite of that, the hydropower plants collectively recorded a PAF of 75.01% in 2023/Q4 with Kianji recording the lowest at 63.67%. This indicates that the hydropower plants recorded significant mechanical outages across the quarter.

In an effort to increase the overall availability of plants, it is critical for the System Operator (“SO”) to implement the provisions of section 22.3 of the Grid Code on scheduling of outages in a way that does not negatively affect available generation on the grid. Furthermore, GenCos must engage with the gas subsector to align outages on the gas infrastructure (e.g. pipeline maintenance activities) with planned plant outages.

### 2.1.3 Total Quarterly 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. Plants are only dispatched when the load on the grid is sufficient to offtake the energy

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<sup>3</sup> Any capacity that has not been operated in the past 1 year due to mechanical faults falls into this category

<sup>4</sup> Best endeavour basis refers to a situation where parties (i.e., GenCos and Gas suppliers) transact without a fully effective contract, therefore there are limited service requirements and obligations between parties.



while operating within acceptable technical limits. The factors that determine the dispatch of a plant include:

- Plant availability (mechanical and feedstock)
- Load offtake on the grid
- Financial competitiveness of the plant in the economic merit order dispatch

The average hourly generation on the grid in 2023/Q4 was 4,433.82MWh/h, which translates to 9,789.87GWh in total generation (equation 2). Both the hourly generation and total generation increased by +12.98%<sup>5</sup> respectively in 2023/Q4 compared to generation in 2023/Q3; the hourly generation increased by +509.54MWh/h compared to 3,924.28MWh/h recorded in 2023/Q3 while the total generation increased by +1,125.05GWh compared to the 8,664.84GWh generated in 2023/Q3.

$$\text{Total generation} = \text{Ave. hourly generation (MWh)} \times 24\text{hrs} \times \text{total number of days in the quarter} \quad (2)$$

There was an increase in the total generation of twenty-two (22) of the twenty-seven (27) grid-connected power plants in 2023/Q4 compared to 2023/Q3. The increase in the total generation in 2023/Q4 was due to the increase in the available capacity of the power plants earlier reported. The performance of the seven (7) power plants with the highest gross generation in 2023/Q4 is presented in Figure 2. Relative to 2023/Q3, the average hourly and gross generation of Kainji (+46.57%), Delta GS (+24.43%), Shiroro (+26.96%), Jebba (+12.57%), Afam VI (+10.46%), and Azura (+4.85%) power plants increased in 2023/Q4. Conversely, the average hourly and gross generation of Egbin ST reduced (-11.21%) in 2023/Q4 compared to 2023/Q3. Cumulatively, the average hourly and gross generation of the remaining nineteen (19) power plants categorised as “others” increased by +13.36% across the two quarters.

The significant increase in the output from the hydropower plants (Kainji, Shiroro and Jebba) is consistent with expectations that the reservoirs feeding the plants were sufficiently refilled during the rainy season.

<sup>5</sup> The percentage change in total generation and average hourly generation is the same across Q4/2023 vs Q3/2023 because the number of days in each of the quarters is the same (92 days). When there is a difference between the number of the days of the quarters being compared, the percentage in total generation will be different from the percentage change in average hourly generation.

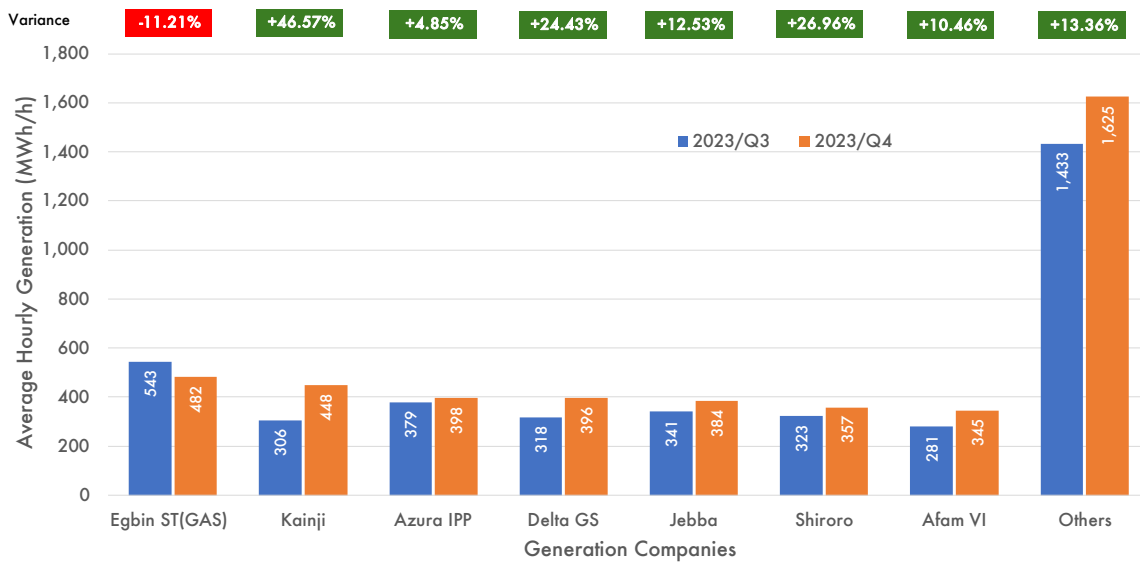


Figure 2: Average Hourly Generation (MWh/h) in 2023/Q3 vs. 2023/Q4

Cumulatively, the output from thermal plants increased by +9.77% (+630.96 GWh) during the quarter, with eighteen (18) out of the twenty-three (23) thermal plants recording increases in their total generation (Table 2). Out of the five (5) thermal plants that recorded reductions in generation, Ihovbor NIPP (-52.95%), Omotosho NIPP (-42.79%), and Sapele ST (-21.06%) recorded the largest reductions.

Total generation from Ihovbor power plant in 2023/Q4 dropped to 38.03GWh compared to 80.84GWh generated in 2023/Q3 which was driven by gas constraints and mechanical faults. One of the four (4) units of the plant was shut down for 71 days out of the 92 days in the quarter due to abnormal noise from the auxiliary compartment. Generation from Omotosho NIPP was 143.12GWh in 2023/Q4 compared to 250.00GWh in 2023/Q3. The decrease was due to the unavailability of the four (4) units of the plants for 27 days (29%) of the 92 days in 2023/Q4 as a result of gas and line constraints. Generation from Sapele ST decreased to 152.20GWh in 2023/Q4 compared to 192.80GWh in 2023/Q3 due to mechanical faults. One of the six (6) units of the plant (ST1) was on maintenance, while another unit (ST3) was shut down on emergency for 21 days in 2023/Q4 due to a fire outbreak.

Table 2: Total Generation (GWh) in 2023/Q3 vs. 2023/Q4

Plant	Total Generation 2023/Q3 (GWh)	Total Generation 2023/Q4 (GWh)	Net change (GWh)
Kainji	674.81	988.78	313.97
Delta GS	701.95	873.42	171.47
Afam VI	619.66	761.07	141.42
Odukpani	314.45	444.43	129.98
Geregu NIPP	63.47	179.05	115.58
Jebba	753.41	848.10	94.69
Olorunsogo NIPP	31.98	121.10	89.12
Shiroro	713.34	787.96	74.62
Ibom	87.46	155.50	68.04
Rivers IPP	185.69	236.55	50.85
Azura IPP	837.61	878.22	40.61
Afam IV - V	65.38	101.21	35.83
Geregu	403.82	429.19	25.37
Sapele GT NIPP	148.61	173.63	25.03
Paras	110.41	131.39	20.98
Olorunsogo	187.16	199.08	11.92
Dadin Kowa	66.91	77.71	10.80
Trans Amadi	43.70	54.07	10.37
Okpai	525.05	534.13	9.08
Omotosho	230.33	237.91	7.57
Taopex Energy	28.10	34.18	6.08
Alaoji NIPP	0.15	0.40	0.25
Omoku	147.87	144.19	-3.68
Sapela ST	192.80	152.20	-40.59
Ihovbor NIPP	80.84	38.03	-42.80
Omotosho NIPP	250.15	143.12	-107.03
Egbin ST(GAS)	1,199.72	1,065.23	-134.49
<b>TOTAL</b>	<b>8,664.82</b>	<b>9,789.87</b>	<b>1,125.05</b>

#### 2.1.4 Generation Load Factor

The load factor is a measure of the utilisation of a power plant's available capacity, calculated as the ratio of the average electricity generated over a period to the maximum possible generation (assuming all the available capacity is utilised all the time over the period). A higher load factor means better capacity utilisation thereby 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 (also known as

the dispatch rate) reflects both the demand for energy and a plant's ability to supply it. The formula for load factor is represented by equation 3:

$$\text{Load Factor} = \frac{\text{Total Energy Generated (MWh)}}{\text{Ave. Available Capacity (MW)} \times 24 \text{hrs} \times \text{period (in days)}} \times 100 \quad (3)$$

The overall load factor for all grid-connected power plants in 2023/Q4 was 90.08%; meaning that 9.92% of available energy (MWh) was not dispatched during the quarter. The 90.08% load factor recorded in 2023/Q4 represents a decrease of -3.10pp from the 93.18% load factor recorded in 2023/Q3. A reduction in load factor, when there is a significant increase in available capacity, is consistent with the trend observed in the NESI over previous quarters since the average daily generation has mainly hovered around 4,110MWh since 2021.

The load factors of the seven (7) power plants with the highest dispatch rates in 2023/Q4 are presented in Figure 3 – four (4) power plants (Omoku, Afam IV – V, Olorunsogo NIPP, and Olorunsogo) recorded dispatch rates of 100% while sixteen (16) other power plants recorded dispatch rates above 90%. All hydropower plants except Shiroro (86%) recorded dispatch rates above 90% pursuant to the Commission's Order (Order No: NERC/182/2019)<sup>6</sup> on mandatory and priority dispatch of hydropower plants. The low dispatch rate of the Shiroro plant was because one of its four (4) units was shut down throughout the quarter to replace faulty switches and recalibrate relays.

<sup>6</sup> The Order stipulates that hydropower plants which are the cheapest energy generation source, should be dispatched with priority to reduce wholesale energy costs for consumers

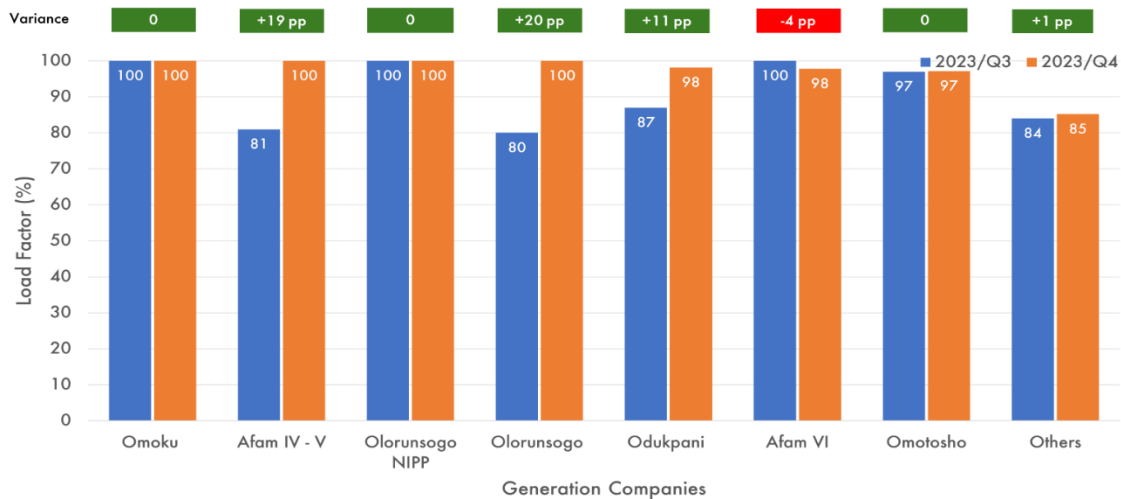


Figure 3: Plants Load Factor (%) in 2023/Q3 vs. 2023/Q4

### 2.1.5 Generation Mix

The electricity generation mix refers to the combination of fuels used to generate electricity over a period. 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 elements of the energy trilemma: i) Energy Security<sup>7</sup>; ii) Energy Sustainability<sup>8</sup>; and iii) Energy Affordability/Equity<sup>9</sup>. The formula for the share of electricity generated by fuel source is given by equation 4:

$$\text{Share of fuel}_i = \frac{\text{Total electricity generated from fuel } i \text{ (MWh)}}{\text{Total electricity generated from all fuel sources (MWh)}} \times 100 \quad (4)$$

The share of electricity generated from different fuel sources in 2023/Q3 and 2023/Q4 are presented in Figure 4. The contribution from hydropower plants to total generation increased by +22.38% (+494.14GWh) in 2023/Q4 compared to 2023/Q3. However, this only translated to a +2.12pp increase in the contribution of hydropower to the energy mix over the same period [25.49% (2,208.47GWh) in 2023/Q3 compared to 27.61% (2,702.56GWh) in 2023/Q4] arising from the sharp increase in total generation explained above. An analysis of the quarterly

<sup>7</sup> This reflects a nation's capacity to meet current and future energy demands reliably, withstand and bounce back from system shocks with minimum disruption to supplies.

<sup>8</sup> This represents the transition of a nation's energy system towards mitigating and avoiding potential environmental harm and climate change impacts.

<sup>9</sup> This reflects a nation's ability to provide universal access to affordable, fairly priced and abundant energy for domestic and commercial use.

contribution of hydropower to the energy mix over the past five (5) years shows that the average contribution from hydropower in the last quarter of the year (Q4) was higher than other quarters (Q1-Q3), which can be attributed to the seasonality of rainfall.

The reservoirs supplying hydropower plants are sufficiently refilled during the rainy season. The NCC tracks the daily water levels at all hydropower plants and manages the dispatch of the plants to ensure that there is sufficient water in the plants' reservoirs to allow them to run during the peak of the dry season albeit with limited output compared to the wet season. This is critical to grid stabilisation as it allows for year-round security of supply from the hydropower plants.

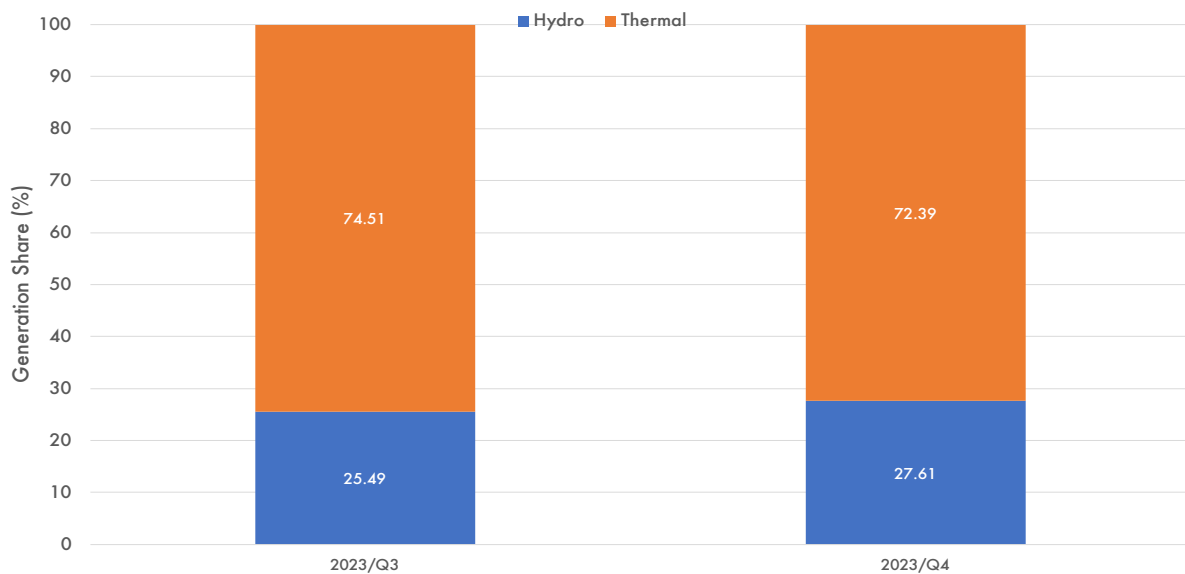


Figure 4: Electricity Generated by Energy Sources in 2023/Q3 vs. 2023/Q4

## 2.2 Grid Performance

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

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

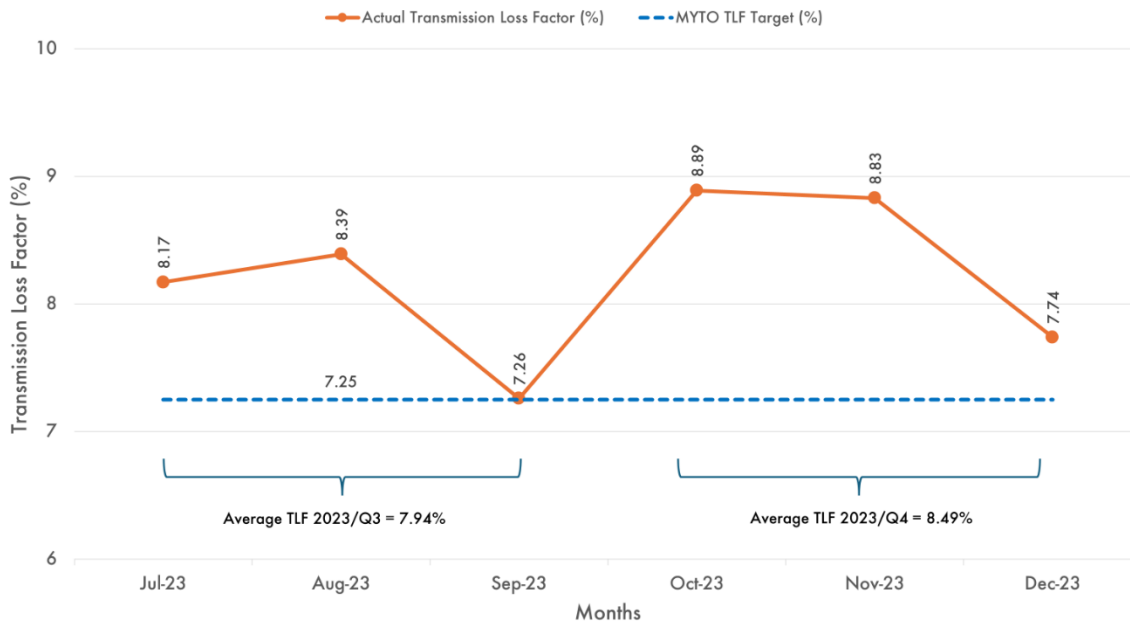
### 2.2.1 Transmission Loss Factor

Transmission Loss Factor (TLF) refers to the proportion of the total energy sent out by the power plants that were either lost in transmission or utilised in the transmission station 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 over a given period. The formula for TLF is represented by equation 5:

$$\text{TLF} = \left( 1 - \frac{\text{Energy delivered to all DisCos} + \text{Energy Exported}}{\text{Energy Sent out by all GenCos}} \right) \times 100 \quad (5)$$

The average TLF in 2023/Q4 was 8.49%, as shown in Figure 5. A TLF of 8.49% indicates that for every 100MWh of energy injected into the grid, 8.49MWh of energy was undelivered to DisCos and international customers due to losses in the transmission network or consumption at the transmission substation. The TLF recorded in the quarter (8.49%) represents an increase of +0.55pp from 7.94% recorded in 2023/Q3, indicating a decline in the TSP's overall operational performance.

The 8.49% TLF recorded in 2023/Q4 represents an under-performance of -0.92pp relative to the MYTO target for 2023 (7.25%). The 7.25% TLF target set by the Commission for 2023 represents the maximum efficient loss in transmission that is paid by the customers. Exceeding the TLF target means that the Transmission Service Provider (TSP) will not earn its full revenue requirement because there is no provision to recover revenues needed to cover excess (inefficient) losses from customers.



**Figure 5: Actual Transmission Loss Factor (%) vs. MYTO TLF Target (%) July - Dec 2023**

The root causes of the higher-than-expected TLF are yet to be formally ascertained. The Commission has directed TCN (TSP and SO) to work on a mechanism to identify the drivers of TLF so that they can develop solutions to maintain the TLF on the grid within the limits approved in its tariff.

### 2.2.2 Grid Frequency

Frequency is a crucial power quality parameter that industrial customers are particularly concerned about due to the sensitivity of their heavy-duty machinery. In industrial production assembly lines, the machines are designed to operate only within pre-set frequency tolerance limits and therefore often have a low tolerance for frequency fluctuations. As specified in section 10.1.2 of the Grid Code, the standard frequency for operation on the Grid is 50Hz. The code further provides that under normal circumstances, the grid can operate within a deviation of  $\pm 0.5\%$  i.e. between a lower limit of 49.75Hz and an upper limit of 50.25Hz. Section 10.1.2 of the Grid Code further provides that in extreme circumstances, the grid may operate within a deviation of  $\pm 2.5\%$  i.e. system frequency may reach a lower bound stress limit of 48.75Hz and an upper bound stress limit of 51.25Hz.

In 2023/Q4, the highest daily system frequency of 51.08Hz was recorded on the 17<sup>th</sup> of October, while the lowest daily system frequency of 48.01Hz was recorded on the 11<sup>th</sup> of December. A system's stability over a given period is measured by its



ability to operate as close as possible to the 50Hz benchmark set in the Grid Code; this means that the lower the range between the average upper daily system frequency and the average lower daily system frequency, the more stable the system has been.

During 2023/Q4, the average upper daily system frequency was 50.66Hz, while the average lower daily system frequency was 49.06Hz, which translates to a range of 1.61Hz. Comparatively, in 2023/Q3, the average upper daily system frequency was 50.71Hz, while the average lower system frequency was 49.00Hz, with a range of 1.71Hz. The -10% (-0.10Hz) reduction in the average quarterly frequency range recorded in 2023/Q4 relative to 2023/Q3 indicates there was an improvement in system operation performance.

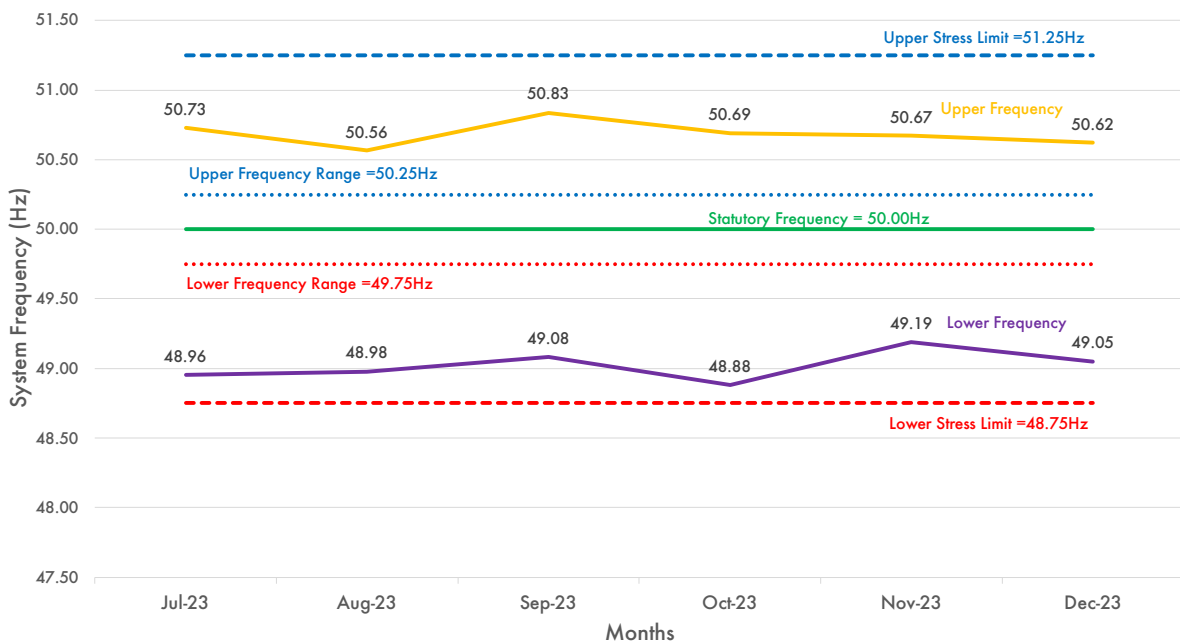


Figure 6: Monthly System Frequency from Jul - Dec 2023

Figure 6 shows that the monthly average upper and lower bounds of the system frequency were all outside the normal operation limits but within the stress limits throughout the quarter. The consistent operation of the grid outside the normal frequency limits during the quarter indicates an imbalance in the supply and demand of electricity on the grid which is primarily caused by the lack of a Supervisory Control and Data Acquisition (SCADA) system. The System Operator (SO) has invested in an IoT-based solution to improve real-time visibility into the operations of the Grid. However, the inability to remotely operate the entire system as would be possible under the SCADA system continues to pose challenges to the SO's ability to operate the grid within the allowed normal frequency limits.

### 2.2.3 Voltage Fluctuation

To guarantee the quality of electricity delivered to end users, the Grid Code specifies a nominal system voltage of 330kV with a tolerance range of  $\pm 5\%$  (313.50kV to 346.50kV in the lower and upper bounds respectively). Fluctuations in grid voltage, including spikes, dips, flickers, and brownouts, 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 compelling the industrial customers to seek alternative sources of power generation.

The system voltage pattern from July to December 2023 is illustrated in Figure 7. The average upper and lower operating voltage bounds for the transmission network in 2023/Q4 were 347.88kV and 298.17kV respectively; both values are outside the respective allowable limits which indicates that the grid performance did not comply with the standard specified in the Grid Code. By way of comparison, the range between the Grid's upper and lower operating voltage for 2023/Q4 was 49.71kV which is lower than the 53.75kV (average upper and lower voltages of 353.28kV and 299.53kV respectively) that was recorded in 2023/Q3. Just as in the case of system frequency explained in section 2.2.2, this indicates that overall, there was an improvement in system operation performance in 2023/Q4 relative to 2023/Q3.

The Commission continues to engage with TCN and other stakeholders to ensure sustained efforts at keeping the system voltage within the regulated limits, providing a safe and reliable electricity supply to end users.

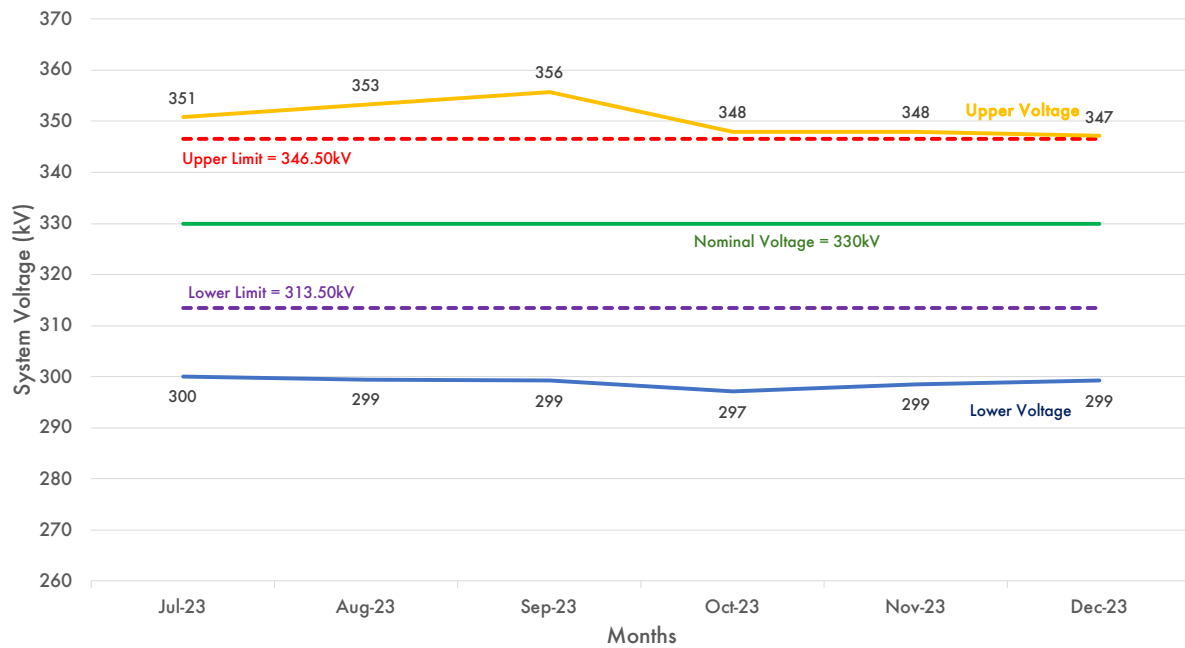


Figure 7: Monthly System Voltage (kV) from Jul - Dec 2023

#### 2.2.4 System Collapse

The national power grid is a vast network of electrical transmission lines that link power stations to end-use customers across the nation and is designed to function within specific stability boundaries, including voltage ( $330\text{kV} \pm 5.0\%$ ) 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 ranging from a partial collapse of a section of the grid to a full system-wide blackout.

While the SO is responsible for ensuring that all parameters are maintained within their respective tolerance thresholds, the primary parameter that the SO tracks to avoid system disturbances is frequency. When the electricity demand is higher than the supply, the grid frequency drops. Conversely, if supply surpasses demand, the frequency increases. In reaction to the grid operating at a frequency outside of the normal operation range (especially when the frequency is too low), safety settings on generation units can cause the units to shut down. This often exacerbates the frequency imbalance on the grid thereby leading even more generation units to shut down thereby causing a full or partial system collapse.

The details of the only grid collapse that was recorded in 2023/Q4 are contained in Table 3.

Table 3: System Collapse in 2023/Q4

SN	Date	Immediate Cause	Remote Cause	Inference
1	11 December, 2023	Between 13:48hrs & 13:49hrs, there was a simultaneous tripping of four (4) 330kV circuits (Olorunsogo/Ikeja West, Osogbo/Ihovbor, Osogbo/Ikeja West, and Afam/Alaoji). This resulted in the loss of 878.13MW due to the separation of Egbin, Olorunsogo Ph I, & II and Paras power plants located on the western axis of the grid. As a result, the grid frequency dropped from 50.25Hz to 48.01Hz which led to cascaded trippings of several thermal and hydropower plants and the eventual collapse of the grid.	Investigations indicate that the incident was potentially triggered by two (2) remote causes: First, the multiple tripping of interconnected 330kV circuits is suspected to be a result of relay maloperation or poor coordination. Second, the simultaneous tripping of Egbin, Olorunsogo I & 2, and Paras power plants would have resulted from a disruption in gas supply via the western axis of the ELPS gas pipeline.	TCN's preliminary report on the system collapse of 11 <sup>th</sup> December 2023, recommended that a comprehensive investigation be undertaken to identify the underlying cause of the tripping of the multiple 330kV circuits and some generating units. Further details on this are expected to be covered in the TCN's full investigation report.

The susceptibility of the grid to system collapse is exacerbated by the lack of a SCADA system. A robust SCADA system provides real-time monitoring and control capabilities of the entire grid network, allowing the SO to promptly optimise grid performance in response to grid disturbances. This increases the resilience of the grid and minimises potential disruptions that could lead to a collapse. In addition to the SCADA, engagements are also ongoing about the possibility of configuring the network to allow for islanded grid operations during emergencies. This enables specific grid segments to operate independently, preventing failures from one segment from spreading across the entire grid network. In the event of a localised disturbance, the ability to isolate affected areas through islanding ensures a continuous power supply to unaffected segments, thereby preventing cascading failures.

To improve the security of the grid, TCN must undertake routine review of the calibration of the system relays (including the relays under the under-frequency load-shedding scheme). Furthermore, there needs to be strict enforcement of the free governor operations of the GenCos in line with the provisions of the Grid Code. Collectively both these actions will ensure that grid is well positioned to respond to rapid changes in generation/off-take balance thereby preventing grid disturbances.

## 2.3 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 critical because funds are required to keep all the players along the value chain operational. In evaluating the commercial performance of the NESI for 2023/Q4, the following parameters were considered:

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

### 2.3.1 Energy offtake performance

The Partial Activation of Contract (PAC) regime, which took effect in July 2022, defines the target volume of energy to be off-taken by DisCos at any time as their Partially Contracted Capacity (PCC). As explained in prior reports, under the PAC regime, DisCos have take-or-pay obligations on their PCC which means that they must pay for available capacity irrespective of their offtake. This structure is consistent with international best practices for long-term contract-based power procurement and ensures that GenCos earn capacity payments to compensate them for availability.

The PAC regime also mandates GenCos or TCN to compensate DisCos through Liquidated Damages (LD) in the event of capacity shortfalls. Under the single-buyer model being operated in the NESI, when there is a shortfall in generation, LDs from GenCos are treated as net-offs in the invoices issued to NBET thereby reducing the net payables due from DisCos.

When there is sufficient generation capacity, every DisCo will be directed by the SO to offtake its entire PCC. When generation falls below the required target, the SO prorates the available capacity among all DisCos based on their respective PCCs<sup>10</sup> – “Available PCC”. The ratio between a DisCo’s energy offtake and the available

<sup>10</sup>Commencing 2023/Q3, the Commission developed a mechanism whereby the top 3 DisCos get their full allocation provided that generation is above 4,100MW which is the minimum grid stability requirement; the rest of the capacity is pro-rated based on PCC for the remaining DisCos. When available generation is below 4,100MW, generation allocation to all the DisCos is pro-rated based on PCC.

PCC is known as the “energy offtake performance”. The formula for determining a DisCo’s energy offtake performance is represented by equation 6:

$$\text{Energy Offtake performance (\%)} = \left( \frac{\text{Energy Offtake}}{\text{Available PCC}} \right) \times 100 \quad (6)$$

Considering the large disparity between available capacity and customer demand, it is expected that DisCos will offtake their PCC at all times provided that the generation is available. However, the Commission continues to observe with concern that many DisCos do not take their full PCC due to a combination of technical limitations as well as load rejection by the DisCos largely due to commercial reasons i.e., high commercial and collection losses in certain areas.

To curtail the practice of load rejection, the Commission included load offtake as a key metric in its KPI Order –Order on Performance Monitoring Framework (NERC/316-326/2022) which was issued to DisCos effective October 2022. The Order, which expired at the end of 2023/Q3, provided that persistent load non-offtake to certain thresholds (less than 90% offtake) may trigger regulatory actions against the management of erring DisCos. A review of DisCos’ performance at the expiration of the Order (end of 2023/Q3) showed that seven (7) DisCos - Abuja, Benin, Ibadan, Ikeja, Kaduna, Kano and Yola DisCos achieved compliance targets throughout the period (2022/Q4 - 2023/Q3). The worst performing DisCo was Enugu with a compliance rate of 75% i.e. complied in 9 out of the 12 months.

It is noteworthy that when DisCos have offtake ratios below 100%, this means that they incur increased wholesale energy costs as they still have to pay NBET/GenCos for unused capacity for which they have no avenue to recover revenues from customers.

In 2023/Q4, the average energy offtake by DisCos at their trading points was 3,713.16MWh/h, which represents an increase of +14.12% (+459.34MWh/h) when compared to 3,253.82MWh/h off-take in 2023/Q3. The increase in energy offtake by the DisCos can be attributed to the increase in available energy during the quarter as explained in section 2.1.3.

However, despite the increase in available energy and increase in the total amount of energy offtake by the DisCos during the quarter, respective DisCos still took less than their available PCC translating to <100% offtake performance. A quarter-on-quarter analysis showed that the overall energy offtake performance of the DisCos decreased by -3.08pp in 2023/Q4 (93.40%) relative to the 96.48% performance recorded in 2023/Q3. Seven (7) DisCos recorded decreases in their offtake performances between 2023/Q3 and 2023/Q4 with Eko, Ibadan and Jos DisCos

recording the highest decreases of -19.87pp, -8.91pp and -5.86pp respectively. Yola and Abuja DisCos recorded significant increases of +6.66pp and +5.07pp respectively, in their energy offtake performance between 2023/Q3 and 2023/Q4 (Table 4).

**Table 4: DisCo energy offtake performance in 2023/Q3 vs. 2023/Q4**

DisCos	2023/Q3			2023/Q4		
	Energy Offtake (MWh/h)	Available PCC (MWh/h)	Offtake Performance %	Energy Offtake (MWh/h)	Available PCC (MWh/h)	Offtake Performance %
Abuja	480.07	528.33	90.87	565.22	589.12	95.94
Benin	272.82	289.37	94.28	301.00	322.79	93.25
Eko	424.82	378.46	112.25	470.56	509.40	92.38
Enugu	263.85	284.56	92.72	308.70	351.26	87.88
Ibadan	405.10	383.79	105.55	447.62	463.19	96.64
Ikeja	524.79	562.85	93.24	557.93	591.74	94.29
Jos	168.39	185.58	90.74	192.82	227.16	84.88
Kaduna	188.41	194.56	96.84	247.24	256.78	96.28
Kano	188.19	203.84	92.32	240.54	257.06	93.57
PH	239.08	251.36	95.11	261.70	289.07	90.53
Yola	98.31	110.00	89.37	119.82	124.77	96.03
All DisCos	3,253.83	3,372.71	96.48	3,713.16	3,975.34	93.40

Notwithstanding, all the DisCos except Enugu and Jos DisCos took more than 90% of their PCC during the quarter. However, achieving less than 100% offtake performance translates to increased energy costs for the DisCos because the DisCos are mandated to pay for capacity that is made available but not off-taken.

The Commission will continue to undertake regulatory activities geared towards pushing DisCos towards improving their operational capacities to facilitate the maximum utilisation of energy that is made available by the upstream segment of the sector.

### 2.3.2 Energy Billed and Billing Efficiency

Billing Efficiency measures the proportion of energy billed to customers (including metered and unmetered customers) relative to the total energy supplied to a given area over a period. The key drivers of billing losses are: i) technical - energy loss in distribution lines; ii) commercial - DisCo's inability to account for 100% of the energy supplied. Commercial losses could either be a result of theft on the part of the customer i.e. a meter bypass, or other factors under the DisCo's control such as poor customer enumeration, and the proliferation of inaccurate meters. A billing efficiency of 70% means that only ₦70.00 worth of electricity is billed out of ₦100.00 worth

of electricity distributed by DisCos. The formula for billing efficiency is represented by equation 7:

$$\text{Billing Efficiency} = \left( \frac{\text{Total energy billed to customers (kWh)}}{\text{Total energy received by the Network (kWh)}} \right) \times 100 \quad (7)$$

The total energy offtake by all DisCos in 2023/Q4 was 8,198.65GWh and the total energy billed was 6,432.22GWh, which translates to a billing efficiency of 78.45%. A billing efficiency of 78.45% implies that for every ₦100 worth of energy received by DisCos in 2023/Q4, ₦21.55 was not billed to end users. Comparatively, the total energy received and billed in 2023/Q3 were 7,184.45GWh and 5,682.11GWh respectively, which translated to a billing efficiency of 79.09%. This means that at the aggregated level, the NESI recorded a -0.64pp decline in billing efficiency between 2023/Q3 and 2023/Q4.

Over previous quarters, it has been observed that when there is an increase in energy offtake, there is usually a decrease in DisCos' billing efficiency for the same period probably caused by the fact that DisCos send more energy to areas where they suffer more commercial losses. The inverse relationship between increased energy offtake by DisCos and billing efficiency may pose challenges to the long-term growth of the NESI unless DisCos make significant progress towards improving energy accounting and addressing the major causes of commercial losses.

In 2023/Q4, across all the DisCos, Yola recorded the highest billing efficiency of 95.67%, while Kaduna recorded the lowest billing efficiency of 44.37%. A quarter-on-quarter comparison of billing efficiency showed that eight (8) DisCos recorded a decline in their billing efficiencies in 2023/Q4 relative to 2023/Q3, while Yola (+14.44pp), Ibadan (+4.74pp), and Eko (+1.83pp) DisCos recorded improvements in their billing efficiencies in 2023/Q4 relative to 2023/Q3 (Table 5).



**Table 5: Energy Received and Billing Efficiency by DisCos in 2023/Q3 vs. 2023/Q4**

DisCos	Total Energy Offtake (GWh)		Total Energy Billed (GWh)		Billing Efficiency (%)	
	2023/Q3	2023/Q4	2023/Q3	2023/Q4	2023/Q3	2023/Q4
Abuja	1,060.00	1,248.00	776.00	884.00	73.21	70.83
Benin	602.39	664.61	517.53	566.18	85.91	85.19
Eko	938.00	1,039.00	826.00	934.00	88.06	89.89
Enugu	582.59	681.61	442.72	509.40	75.99	74.73
Ibadan	894.46	988.35	681.69	800.06	76.21	80.95
Ikeja	1,158.73	1,231.92	1,007.17	1,069.74	86.92	86.84
Jos	371.81	425.75	302.84	337.84	81.45	79.35
Kaduna	416.00	545.90	220.45	242.22	52.99	44.37
Kano	415.51	531.11	292.29	361.88	70.35	68.14
Port Harcourt	527.89	577.83	439.08	473.78	83.18	81.99
Yola	217.06	264.57	176.34	253.12	81.23	95.67
All DisCos	7,184.45	8,198.65	5,682.11	6,432.22	79.09	78.45

DisCos have the responsibility of developing strategies to improve their billing efficiencies including reinforcing DisCos' infrastructure to reduce technical losses, improving consumer enumeration and customer service, improving metering rate, implementing measures that will encourage timely bill payments and rolling out of initiatives to curb energy theft. The Commission will continue to implement measures that drive the DisCos to prioritise efforts at improving the quality of energy accounting thereby reducing energy losses.

### 2.3.3 Revenue and Collection Efficiency

Collection efficiency is the ratio of the amount that has been collected from customers relative to the amount billed to them by the DisCos. The significant under-recovery of the invoices issued to customers by DisCos is driven by a lack of willingness of customers to pay bills when due, unsatisfactory DisCos' services and inadequate customer metering among other challenges. 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 8:

$$\text{Collection Efficiency} = \left( \frac{\text{Total Revenue Collected (₦)}}{\text{Total Billed Amount (₦)}} \right) \times 100 \quad (8)$$

The total revenue collected by all DisCos in 2023/Q4 was ₦294.95 billion out of the ₦399.69 billion that was billed to customers. This translates to a collection efficiency of 73.79%. In comparison, the total revenue collected by all DisCos in 2023/Q3 was ₦267.61 billion out of the ₦349.55 billion billed to customers which translated to a 76.56% collection efficiency. The 73.79% collection efficiency recorded in 2023/Q4 is -2.77pp lower than the efficiency recorded in 2023/Q3 (76.56%).

The summary of the revenue collection performance of all DisCos in 2023/Q3 and 2023/Q4 is contained in Table 6. Ten (10) DisCos recorded reductions in collection efficiency in 2023/Q4 when compared to 2023/Q3 with Yola DisCo recording the highest decrease of -10.31pp. Only Port Harcourt DisCo recorded an improved collection efficiency of (+0.30pp) during the period.

**Table 6: Revenue Collection Performance (%) of DisCos in 2023/Q3 vs. 2023/Q4**

DisCos	Total Billings (₦' Billion)		Revenue Collected (₦' Billion)		Collection Efficiency (%)	
	2023/Q3	2023/Q4	2023/Q3	2023/Q4	2023/Q3	2023/Q4
Abuja	50.73	57.47	41.29	46.23	81.38	80.44
Benin	31.41	34.36	21.20	22.39	67.49	65.12
Eko	51.81	59.68	43.69	50.19	84.33	84.10
Enugu	25.90	30.63	20.04	23.33	77.37	76.16
Ibadan	39.77	46.46	28.72	31.82	72.20	68.48
Ikeja	58.35	62.90	57.25	59.75	98.12	95.00
Jos	21.12	23.42	10.14	10.96	48.03	46.82
Kaduna	12.10	14.87	7.74	9.07	64.00	61.00
Kano	19.15	23.32	12.94	14.32	67.55	61.40
Port Harcourt	26.55	28.85	18.50	20.18	69.66	69.96
Yola	12.66	17.74	6.10	6.71	48.16	37.85
All DisCos	349.55	399.69	267.61	294.95	76.56	73.79

Data from previous quarters have shown that increases in load offtake and the resultant increase in billing to consumers often translate to reduced collection efficiency. As explained above, this is largely driven by the fact that with increased energy offtake, DisCos supply the energy to areas that generally have lower metering rates which translates to increased collection inefficiencies.

The most proven method for reducing collection losses and improving revenue recovery is the installation of meters (especially prepaid meters for non-maximum demand customers). Therefore, DisCos are expected to utilise one or more metering frameworks provided for in the NERC MAP and NMMP metering regulation (2021) to improve end-use customer metering in their franchise area. This will reduce commercial and collection losses and will ensure the flow of funds to upstream market participants in the sector.

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.

#### 2.3.4 Aggregate Technical, Commercial and Collection (ATC&C) Loss

The Aggregate Technical, Commercial and Collection (ATC&C) loss is a summation of billing losses incurred by a DisCo due to its inability to bill 100% of energy delivered to customers (technical and commercial losses) and the collection losses arising from the DisCo's inability to collect 100% of the bills issued to customers. The ATC&C loss is a critical performance-setting parameter for tariff computation because it represents the efficient loss which the DisCos are allowed to recover from customers. The MYTO makes allowance for specific ATC&C loss level targets for each DisCo which usually reduces over time as investments are made with a view of reducing the efficient losses. ATC&C loss is made up of the following components:

- a. Technical Loss: heat loss due to load flow in electrical lines and transformation loss in transformers.
- b. Commercial Loss: due to discrepancy in meter reading, erroneous billing, unmetered consumption, or energy theft;
- c. Collection Loss: unpaid bills.

The formula for ATC&C loss is represented by equation 9:

$$\text{ATC\&C Loss} = [1 - (\text{billing efficiency} \times \text{collection efficiency})] \times 100 \quad (9)$$

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) will earn more returns on its set tariffs. Conversely, any DisCo that fails to meet 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.

The aggregate ATC&C loss recorded across all 11 DisCos in 2023/Q4 was 42.11%, which comprised 21.55% in technical and commercial losses, and 26.21% in collection loss (Table 7). This level of ATC&C loss implies that over the course of 2023/Q4, cumulatively, ₦42.11 out of every ₦100.00 worth of energy received by a DisCo was unrecovered due to a combination of distribution network losses, energy theft, low revenue collection and unwillingness of customers to pay their bills.

The ATC&C loss for 2023/Q4 (42.11%) increased by +2.66pp compared to 39.45% recorded in 2023/Q3. This is a reflection of the reduced billing and collection efficiencies recorded during the quarter compared to 2023/Q3 as indicated in the earlier sections of the report. Nine (9) DisCos recorded increases in ATC&C loss in 2023/Q4 compared to 2023/Q3 with the highest increases recorded by Kaduna (+6.84pp) and Kano (+5.68pp). Only Eko (-1.32pp) and Ibadan (-0.42pp) recorded a decrease in ATC&C loss during the period (Table 7).

The aggregate ATC&C loss of 42.11% recorded in 2023/Q4 is 22.05pp higher than the allowed efficient loss target (20.06%) applied in the computation of the tariffs in the MYTO. This means that cumulatively, DisCos recorded losses that are 22.05pp higher than what was allowed to be recovered from the customers – these inefficient losses that are not recoverable from customers will adversely affect DisCos' profitability.

It is noteworthy that none of the DisCos achieved their target ATC&C in 2023/Q4 with the widest variance (actual – target) being recorded by Kaduna (66.33pp), Kano (42.31pp) and Jos (35.57pp). The failure of the DisCos to meet their allowed loss targets means they are unable to meet revenue requirements, thereby compromising their long-term financial position. The Commission is working with all the DisCos to take remedial actions through customer enumeration and increased revenue assurance to improve their ATC&C loss.

**Table 7: ATC&C Loss (%) by DisCos in 2023/Q3 vs. 2023/Q4**

DisCo	MYTO Target (%)	ATC&C (%)		Variance (pp)	
	2023	2023/Q3	2023/Q4	2023/Q3	2023/Q4
Abuja	19.27	40.42	43.02	21.15	23.75
Benin	17.37	42.02	44.52	24.65	27.15
Eko	14.18	25.72	24.40	11.54	10.22
Enugu	11.31	41.21	43.08	25.74	31.77
Ibadan	15.47	44.98	44.56	29.51	29.09
Ikeja	11.37	14.71	17.50	3.34	6.13
Jos	27.27	60.88	62.84	33.61	35.57
Kaduna	6.60	66.09	72.93	60.09	66.33
Kano	15.85	52.48	58.16	36.63	42.31
Port Harcourt	21.45	42.06	42.64	20.61	21.19
Yola	60.60	60.88	63.79	0.28	3.19
All DisCos					
MYTO Level	20.06				
Total Technical, Commercial & Collection losses	-	39.45	42.11		
Technical & Commercial losses	-	20.91	21.55		
Collection losses	-	23.44	26.21		

### 2.3.5 Market Remittance

The escrow mechanism set up by the CBN in 2013, as part of the Nigerian Electricity Market Stabilisation Facility (NEMSF) intervention, provides that all the revenues of the DisCos are escrowed. The DisCos only have access to their revenues after relevant deductions to fulfil their loan obligations have been fulfilled. This escrow mechanism also provides 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 and TCN. This was to cover the cost of energy taken 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.

#### 2.3.5.1 Market Remittance to NBET

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 subsidies. For ease of administration, the subsidy is only applied to the generation cost payable by DisCos to NBET, while the transmission and administrative service cost payable by DisCos to the MO is recovered 100%. The share of the NBET invoice to be covered by DisCos is determined by the percentage of the generation cost they can recover from the allowed tariff and set out as their Minimum Remittance Obligation (MRO) in the periodic Tariff Orders issued by the Commission.

The applicable MROs (%), total NBET invoices and final obligation for each DisCo during 2023/Q4 are summarised in Table 8. It is important to note that due to the absence of cost-reflective tariffs across all DisCos, the Government incurred a subsidy obligation of ₦252.76 billion in 2023/Q4 (average of ₦84.25 billion per month), which is an increase of ₦48.16 billion (23.54%) compared to the ₦204.60 billion (average of ₦68.20 billion per month) incurred in 2023/Q3; this increase is largely attributable to the Government's policy to harmonise exchange rates<sup>11</sup> while

<sup>11</sup> For tariff calculation, the Commission applies the official FX rate as published by the Central Bank of Nigeria. Data from the CBN website show that the FX rate moved from an average of ₦460 to \$1 in May to an average of ₦900 to \$1 by December 2023.

also directing that end-user customer tariffs remain at the December 2022 approved rates.

In 2023/Q4, the MRO-adjusted invoice from NBET to the DisCos was ₦223.32 billion<sup>12</sup> while the total remittance made was ₦156.15 billion, which translates to a 69.92% remittance performance. Comparatively, in 2023/Q3, the MRO-adjusted invoice from NBET to DisCos was ₦167.40 billion and the total remittance was ₦124.53 billion, which translated to a 74.39% remittance performance. This means that although remittance increased in absolute terms, the remittance performance of DisCos to NBET decreased by -4.47pp between 2023/Q3 and 2023/Q4 driven by a significant increase in the invoice from NBET to DisCos<sup>13</sup>.

**Table 8: NBET Invoice and MRO Adjusted final Obligation of DisCos for 2023/Q4**

DisCos	NBET Invoice (₦' billion)	MRO (%)	Final Obligation (₦' billion)
Abuja	71.74	56.12	40.26
Benin	38.52	42.63	16.42
Eko	60.96	51.94	31.66
Enugu	40.80	51.48	21.00
Ibadan	56.28	42.65	24.00
Ikeja	71.02	52.85	37.53
Jos	26.07	33.02	8.61
Kaduna	31.11	42.21	13.13
Kano	31.10	43.86	13.64
Port Harcourt	33.53	45.88	15.39
Yola	14.95	11.13	1.66
All DisCos	476.08	46.91	223.32

Disaggregated remittance performance of the DisCos to NBET in 2023/Q4 showed that Yola and Eko DisCos recorded the highest remittance rates of 100% and 97.16% respectively, while on the other end of the scale, Kaduna DisCo recorded only a 9.28% remittance rate (Figure 8). A quarter-on-quarter analysis showed that only Benin (+5.53pp) and Abuja (+2.72pp) DisCos recorded an improvement in remittance performance to NBET in 2023/Q4 compared to 2023/Q3.

<sup>12</sup> Total NBET invoice for 2023/Q4 without adjustment for MRO is ₦476.08 billion

<sup>13</sup> The key drivers of the increase in NBET invoices are i) a 14% increase in energy received by DisCos ii) an increase in the FX rate.

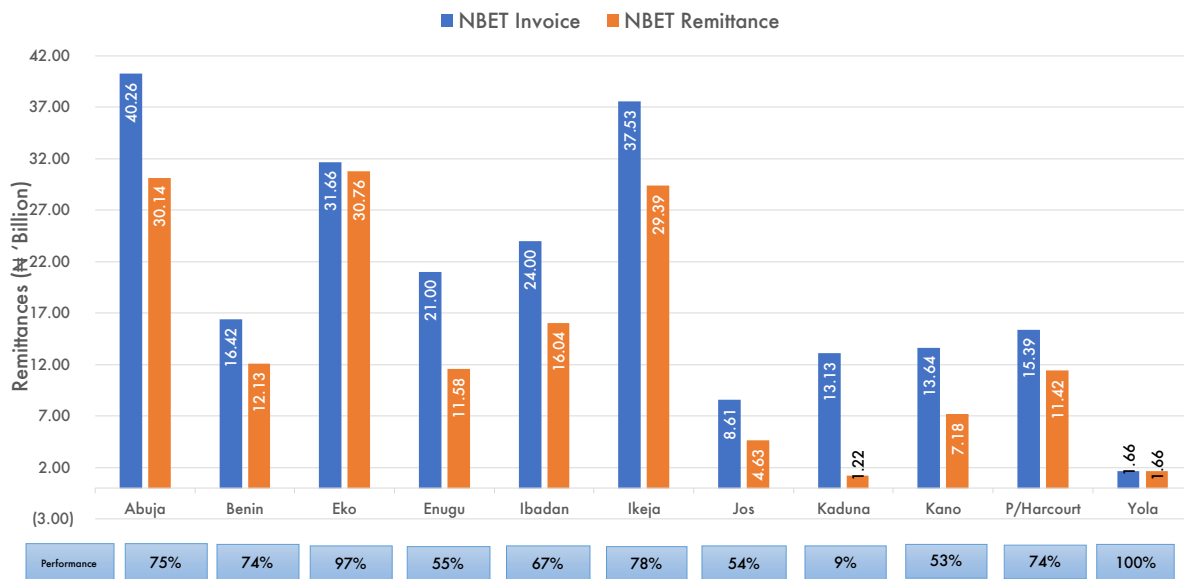


Figure 8: DisCos Remittance Performances to NBET in 2023/Q4

To sustain power sector operations, the Commission recognises the significance of enhancing market remittances and is providing DisCos with revenue-boosting initiatives. The SBT framework provides an opportunity for DisCos to incrementally improve the quality and reliability of energy supplied to clusters of end-use customers as well as increase revenues without universal increases in tariffs.

The ongoing DisCos investments in infrastructure and metering initiatives will also result in a greater volume of reliable energy supplied to customers, improved revenue assurance, collections, and market remittances.

In line with the requirement for payment securities in the Market Rules for payment securities by the DisCos, the Commission continues to engage NBET to ascertain the adequacy of the Bank Guarantees of the DisCos. NBET has also been advised to follow the provisions of its agreement with the DisCos to recover underpayments from the guarantees where applicable.

#### 2.3.5.2 Market Remittance to MO

The Market Operator issues invoices to DisCos for energy transmission and administrative services. In 2023/Q4, DisCos made a total remittance of ₦32.55 billion against the cumulative invoice of ₦46.73 billion issued by the MO. This payment translates to 69.66% remittance performance and is a -12.43pp decrease when compared to 82.09% remittance performance recorded in 2023/Q3 when DisCos remitted ₦33.90 billion out of ₦41.30 billion invoice issued by the MO. Disaggregated remittance performance of the DisCos to MO showed that Eko and

Ikeja DisCos recorded the highest remittance performances of 95.38% and 80.86% respectively while Kaduna had the lowest remittance performance of 9.22% (Figure 9)

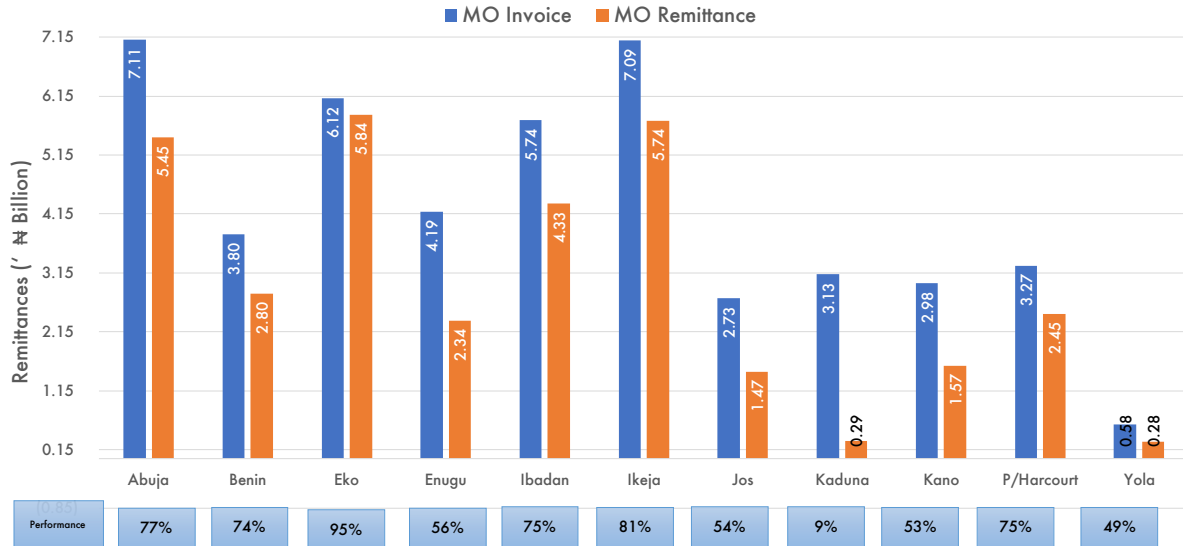


Figure 9: DisCos Remittance Performances to MO in 2023/Q4

Between 2023/Q3 and 2023/Q4, only Jos (+1.79pp) and Eko (+1.18pp) DisCos recorded improvements in remittance performance to MO. The remaining nine (9) DisCos recorded a decline in MO remittance performance with Yola (-50.91pp), Ibadan (-24.87pp), Benin (-24.64pp), and Ikeja (-15.64pp) recording the most significant decline.

2.3.5.3 Market Remittance to NBET and MO

The cumulative DisCos’ remittance to NBET and MO in 2023/Q4 is presented in Table 9.



Table 9: DisCos Remittance Performances to NBET and MO in 2023/Q4

DisCos	MRO Adjusted Invoice (₦' Billion)			Actual Remittance (₦' Billion)			Remittance Performance (%)	
	NBET	MO	NBET + MO	NBET	MO	NBET + MO	2023/Q4	2023/Q3
Abuja	40.26	7.11	47.37	30.14	5.45	35.59	75.13	74.87
Benin	16.42	3.80	20.22	12.13	2.80	14.93	73.80	74.79
Eko	31.66	6.12	37.78	30.76	5.84	36.60	96.87	100.38
Enugu	21.00	4.19	25.19	11.58	2.34	13.92	55.25	59.17
Ibadan	24.00	5.74	29.74	16.04	4.33	20.37	68.49	76.81
Ikeja	37.53	7.09	44.62	29.39	5.74	35.13	78.70	89.06
Jos	8.61	2.73	11.34	4.63	1.47	6.10	53.51	54.50
Kaduna	13.13	3.13	16.26	1.22	0.28	1.50	9.27	14.19
Kano	13.64	2.98	16.62	7.18	1.57	8.75	52.67	65.61
P/Harcourt	15.39	3.27	18.66	11.42	2.45	13.87	74.34	78.98
Yola	1.66	0.58	2.24	1.66	0.28	1.94	86.88	100.00
All DisCos	223.32	46.73	270.05	156.15	32.55	188.70	69.88	75.91

#### 2.3.5.4 Market Remittance by Other Customers

The remittances made by international, bilateral, and special customers for invoices issued in 2023/Q4 by the MO are detailed in Table 10. None of the four (4) international customers<sup>14</sup> being supplied by GenCos in the NESI made payment against the cumulative invoice of \$12.02 million issued by the MO for services rendered in 2023/Q4 (Table 10). It is however noteworthy that some international customers made payments during 2023/Q4 for outstanding MO invoices from previous quarters. The details of these payments are contained in Appendix VIII.

There were also no remittances by bilateral customers against the cumulative invoice of ₦1,952.63 million issued to them by the MO for services rendered in 2023/Q4 (Table 10).

The recurrent delay of remittances by international and bilateral customers should prompt the MO to invoke the provision of the market rules to curtail the payment indiscipline being exhibited by the various market participants.

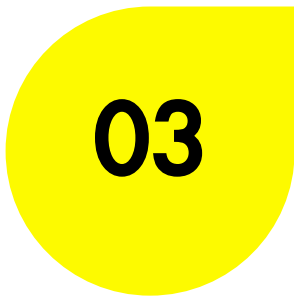
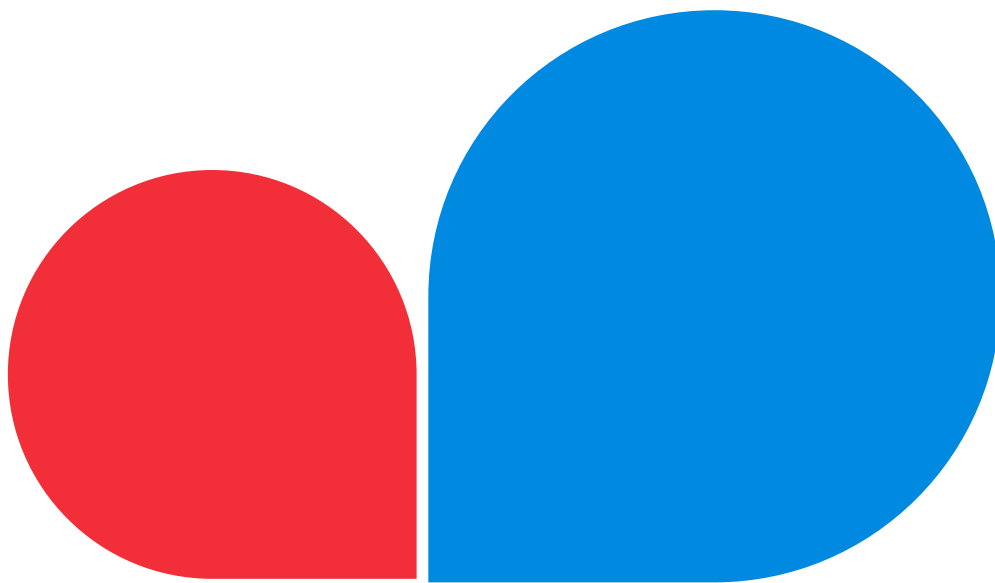
The special customer (Ajaokuta Steel Co. Ltd and the host community) did not make any payment towards the ₦0.72 billion (NBET) and ₦0.07 billion (MO) invoices received in 2023/Q4. This continues a longstanding trend of non-payment by this customer and the Commission has communicated the need for intervention on this issue to the relevant FGN ministries.

<sup>14</sup> Supply of Electricity to Niger Republic under MAINSTREAM-NIGELEC was suspended on the 1<sup>st</sup> of August 2023 due to the boycott announced by ECOWAS, as a result of the military coup.

Table 10: Invoices and Remittances of Other Customers in 2023/Q4

Customers	NBET			MO		
	Invoice (Million) 2023 /Q4	Remittance (Million) 2023 /Q4	Performance (%) 2023 /Q4	Invoice (Million) 2023 /Q4	Remittance (Million) 2023 /Q4	Performance (%) 2023 /Q4
	<b>International Customers</b>					
PARAS-SBEE (\$)	-	-	-	2.86	0.00	0.00
TRANSCORP-SBEE (\$)	-	-	-	4.98	0.00	0.00
MAINSTREAM-NIGELEC (\$)	-	-	-	0.00	0.00	0.00
ODUKPANI-CEET (\$)	-	-	-	4.17	0.00	0.00
Total	-	-	-	12.02	0.00	0.00
<b>Bilateral Customers</b>						
MSTM/INNER GALAXY (₦)	-	-	-	854.48	0.00	0.00
MSTM/KAM IND. (₦)	-	-	-	47.69	0.00	0.00
MSTM/KAM INT. (₦)	-	-	-	0.00	0.00	0.00
NDPHC/SUNFLAG (₦)	-	-	-	9.78	0.00	0.00
NDPHC/WEEWOOD (₦)	-	-	-	75.02	0.00	0.00
NORTH SOUTH/STAR P (₦)	-	-	-	34.67	0.00	0.00
TRANS AMADI/ OAU (₦)	-	-	-	28.89	0.00	0.00
MSTM/ADFV (₦)	-	-	-	38.41	0.00	0.00
OMOTOSHO II/EKEDC (₦)	-	-	-	0.00	0.00	0.00
OMOTOSHO II/PULKIT (₦)	-	-	-	20.63	0.00	0.00
MAINSTREAM/PRISM (₦)	-	-	-	206.57	0.00	0.00
ALAOJI GENCO/APLE (₦)	-	-	-	324.67	0.00	0.00
TAOPEX/KAM INT (₦)	-	-	-	67.28	0.00	0.00
TAOPEX/KAM STEEL (₦)	-	-	-	99.23	0.00	0.00
MSTM ZEBERCED (₦)	-	-	-	36.01	0.00	0.00
TRANS AMADI (FMPI) (₦)	-	-	-	6.07	0.00	0.00
JEBBA/QUANTUM STEEL	-	-	-	28.64	0.00	0.00
Total	-	-	-	1,952.63	0.00	0.00
<b>Special Customer</b>						
AJAOKUTA STEEL (₦)	718.75	0	0	74.56	0	0

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'electricite, respectively.



# Regulatory Functions

## 3.0 REGULATORY FUNCTIONS

Section 34 of the Electricity Act (EA) 2023 empowers the Commission to “license and regulate persons engaged in the generation, transmission, system operation, distribution, supply and trading of electricity” in the NESI. Section 227 of the Act also empowers the Commission to “make Regulations prescribing all matters which by this Act are required or permitted to be prescribed or which, in the opinion of the Commission, are necessary or convenient to be prescribed for carrying out or giving effect to this Act”.

### 3.1 Regulations/Orders

Regulations are a set of rules that the Commission may issue periodically to optimise the performance of licensees to give effect to the objects of the EA 2023. Orders are a series of directions/instructions that the Commission issues to licensees to perform certain actions or desist from acting in a particular manner. While Regulations provide the structure and procedures for enforcing laws, Orders are more situational and immediate in their impact. In 2023/Q4, the Commission issued the updated Mini-Grid Regulations. The new Regulation incorporates the recent changes made in the EA 2023. Some of the major highlights of the new Regulations are:

- i. The incorporation of portfolio applications, allowing developers to register multiple sites in a single submission.
- ii. Revised compensation mechanism for isolated mini-grid developers for when DisCo extend their network to the mini-grid site
- iii. A refined Monitoring and Evaluation (M&E) framework, enforcement and reporting procedures.
- iv. To forestall delays in application processing by DisCos, a maximum of 15 business days is allowed for DisCos to respond to developers' applications for information on a site.
- v. New caps for technical and non-technical losses have been set for tariff determination using the MYTO model

The Commission also issued two (2) Orders during the quarter. The Orders are

1. Order No: NERC/2023/022 – Revised Order on the Transitional Accounting Treatment of Tariff-Related Liabilities in the Financial Records of Market

Participants. The Order was issued on the 24th of October 2023 and effective the 25th of October 2023. The objectives of this Order are to;

- i. Provide a guideline for the transitional accounting treatment of tariff-related liabilities in the financial records of market participants.
- ii. Update the list of funding sources available to NBET for payment of tariff shortfall liability whose utilisation attracts issuance of corresponding credit notes to DisCos.
- iii. Remove the encumbrances relating to tariff shortfall liabilities in the books of DisCos to improve their creditworthiness for the purpose of raising capital towards the improvement of electricity networks and service delivery.

The Order is a revision to the Commission's Order NERC/196/2020 and updates the list of tariff shortfall-related funding sources available to NBET whose utilisation attracts issuance of credit notes to the DisCos. This will resolve the continued accumulation of tariff-related shortfalls during the transition to cost-reflective tariffs and prevent the accrual of new liabilities in the financial records of DisCos.

2. Order No: NERC/2023/036- Revised Order on the Transitional Accounting Treatment of Tariff-Related Liabilities in the Financial Records of Market Participants. The Order which was issued on the 28<sup>th</sup> of December 2023 is an update of the Commission's Order NERC/2023/022 and is effective from January 2024 settlement cycle. The objectives of this Order are to;

- i. Ensure that no new tariff shortfall liability accrues in the financial records of DisCos
- ii. Completely remove the encumbrances relating to tariff shortfall liabilities in the books of DisCos to improve their creditworthiness for the purpose of raising capital towards the improvement of electricity networks and service delivery.
- iii. Provide further guidelines for the transitional accounting treatment of tariff-related liabilities in the financial records of market participants.
- iv. Update the list of funding sources available to NBET and authorise NBET to issue credit notes to DisCos against payments made to Generation companies (GenCos) covering tariff shortfall liabilities to include funds provided under any of the following sources;

- Payment Assurance Facility (PAF) or other funding sources in the Power Sector Recovery Programmes (PSRP) financing plan
- Direct budgetary appropriation to NBET
- Payments made by the Federal Ministry of Finance (FMoF) to GenCos to settle NBET's obligation arising from tariff shortfall
- Other payments by FMoF from other miscellaneous sources
- Payment made by NBET from any other sources not explicitly listed herein

The Commission continued to monitor compliance with the provisions of other existing regulations, orders, and standards governing the NESI during the quarter.

### 3.2 Licences and Permits Issued or Renewed

In addition to issuing licences for electricity generation, transmission, distribution, trading and system operations in the NESI, the Commission also issues permits for captive power generation and mini-grid development. In 2023/Q4 the Commission issued two (2) new embedded generation licences (gross capacity - 40MW), two (2) new off-grid generation licences (gross capacity - 7.5MW), three (3) new Independent Electricity Distribution Network (IEDN) licences and two (2) new trading licences. The Commission also amended and renewed one (1) off-grid embedded generation license (gross capacity - 20MW) during the quarter (Table 11).

Table 11: Licences issued in 2023/Q4

SN	Licensee	Location	Capacity (MW)	License Type	Fuel Type
<b>New</b>					
1	Ibadan Hybrid Power Limited	Oyo State	30	Embedded	Gas
2	Alaro Power Free Zone Enterprise	Lagos State	10	Embedded	Gas
3	Ibadan Hybrid Distribution Limited	Oyo State	NA	IEDN	NA
4	Isolo Power Supply Company Limited	Lagos State	NA	IEDN	NA
5	Zeta Technical Services Limited	Lagos State	NA	IEDN	NA
6	Rensource Commercial and Industrial Limited	Abuja	5	Off-grid	Solar
7	CrossBoundary Nigeria Limited	Oyo State	2.5	Off-grid	Solar
8	Adefolunsho Energy Network Limited	NA	NA	Trading	NA
9	Midbelt Energy Company Limited	NA	NA	Trading	NA
<b>Renewal</b>					
10	Isolo Power Generation Limited	Lagos State	20	Amendment and Renewal	Gas

### 3.3 Captive Power Generation Permits

Captive power generation permits are issued to entities that aim to own and maintain power plants for generating power for consumption and not for sale to a third party. The Commission issued four (4) captive power generation permits in 2023/Q4 with a total nameplate capacity of 131.78MW. Details of the permit holders, location and plant capacities are listed in Table 12.

Table 12: Captive Generation Plants approved in 2023/Q4

S/N	Company Name	Location	Capacity (MW)
1	First Global Commerce Solutions Limited	Lagos State	77.00
2	Wacot Rice Argungu Limited	Kebbi State	1.58
3	Mangal Industries Limited	Kogi State	50.00
4	Open Access data centre Limited	Lagos State	3.20

The licencing of First Global Commerce Solutions Limited to provide uninterrupted power for the rail system in Lagos State is the first of its kind in the transport sector.

The adoption of an electric rail system will contribute to the government's effort to decarbonise the economy and transition away from fossil-fuel based mass transport systems. The Commission will continue to support initiatives and projects that incorporate the utilisation of clean energy and facilitate the achievement of the Country's commitment to achieve net zero emissions by 2060.

### 3.4 Mini-grid Permits and Registration Certificates

Pursuant to section 165(1)(m) of the EA 2023 which states that the Commission shall "award license of mini-grid concessions to renewable energy companies to exclusively serve a specific geographical location indicating aggregate electricity to be generated and distributed from a site with obligation to serve customers to request service", the Commission continues to encourage the development and utilisation of renewable energy by issuing permits and registration certificates for mini-grid development.

A permit is issued to a mini-grid developer for the construction, operation, maintenance, and where applicable ownership of mini-grids with distribution capacity above 100kW and generation capacity up to 1MW, while a registration certificate is issued to a mini-grid developer for one or more systems with distribution capacity below 100kW. Following the satisfactory evaluation of mini-grid applications, the Commission issued eight (8) mini-grid permits and thirty-one (31) registration certificates in 2023/Q4. The details of the permits and registration certificates are presented in Table 13.



Table 13: Mini-grid Permits and Registration Certificates issued in 2023/Q4

S/N	Name	Location	Type	Capacity (kW)
<b>Permits</b>				
1	A4 & T Power Solutions Limited	Ondo State	Isolated	339.00
2	A4 & T Power Solutions Limited	Ondo State	Isolated	979.00
3	Metikon Engineering Limited	Cross River State	Interconnected	278.40
4	Metikon Engineering Limited	Cross River State	Interconnected	278.40
5	Husk Power Energy System Nigeria Limited	Nasarawa State	Isolated	100
6	Independent Energy Projects Financial Limited	Plateau State	Isolated	169
7	Independent Energy Projects Financial Limited	Plateau State	Isolated	169
8	International Energy Services Limited	Nasarawa	Isolated	186
<b>Registration Certificates</b>				
9	Maskh Nigeria Limited <sup>15</sup>	Bauchi State	Isolated	190
10	Acob Lightning Technology Limited <sup>16</sup>	Kaduna State	Isolated	350
11	NxtGrid Nigeria Limited	Edo State	Isolated	13.65
12	NxtGrid Nigeria Limited	Edo State	Isolated	50.05
13	NxtGrid Nigeria Limited	Ondo State	Isolated	77.35
14	Sholep Energy Limited	Osun State	Isolated	100
15	Orahachi Investment Limited	Kogi State	Isolated	50
16	Ochuvus Nigeria Limited	Niger State	Isolated	100
17	Ochuvus Nigeria Limited	Enugu State	Isolated	100
18	Community Energy Social Enterprises Limited	Osun State	Isolated	74
19	Community Energy Social Enterprises Limited	Osun State	Isolated	74
20	Community Energy Social Enterprises Limited	Osun State	Isolated	49
21	Community Energy Social Enterprises Limited	Osun State	Isolated	49
22	Sandstream Nigeria Limited	Kano State	Isolated	169

<sup>15</sup> Registration certificates were approved for nine (9) sites respectively within Itas, Gadau, Ganjuwa & Katogun local governments of Bauchi State.

<sup>16</sup> Registration certificates were approved for ten (10) sites respectively within Kauru local government of Kaduna State.

### 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.

The Commission certified four (4) MSPs – three (3) meter installer companies, and one (1) meter manufacturer in 2023/Q4. In addition, the Commission also granted two (2) MAP permits during the quarter. Details of the certified MSPs and MAPs are contained in Table 14.

**Table 14: Meter Service/Asset Providers certified in 2023/Q4**

S/N	Name	Authorisation Type
<b>Meter Service Providers</b>		
1	Fulenell Nigeria Limited	Installer A1
2	Beresford Integrated Services Ltd	Installer A1
3	Goldengates options Ltd	Installer C1
4	Direct Credit E- Solution Nigeria Limited	Manufacturer
<b>Meter Asset Providers</b>		
5	G. Unit Engineering Limited	MAP Permit
6	KAYZ Consortium Limited	MAP Permit

Class "A1" Certification authorises 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 authorises 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

Pursuant to Section 34(2)(c) of the EA 2023, which mandates the Commission to "establish appropriate consumer rights and obligations regarding the provision and use of electricity services", the Commission conducts public awareness and consultations with NESI stakeholders. Public Consultations are intended to educate customers on the Commission's activities, its Orders and Regulations as well as on customer rights and obligations.

In November 2023, a peer review meeting was held with the compliance and regulatory officers of licensees to discuss the reporting obligations of licensees as well as health and safety matters. During the meeting, licensees' scorecards on compliance with health and safety standards, forum office decisions, and key performance indicators were discussed while highlighting areas of improvement. The Commission shall continue to ensure that all licensees comply with the subsisting performance standards in the NESI.

### 3.7 Compliance and Enforcement

Section 64(1) of the EA 2023 mandates all licensees to comply with the provisions of their license, regulations, codes, orders and other requirements issued by the Commission. In furtherance to this, the Commission carried out enforcement actions against licensees in 2023/Q4 for violations of rules and infractions.

In line with Section 76 of the EA 2023, the Commission issued rectification directives to licensees for different breaches/defaults (full list and further details can be found in Table 15).

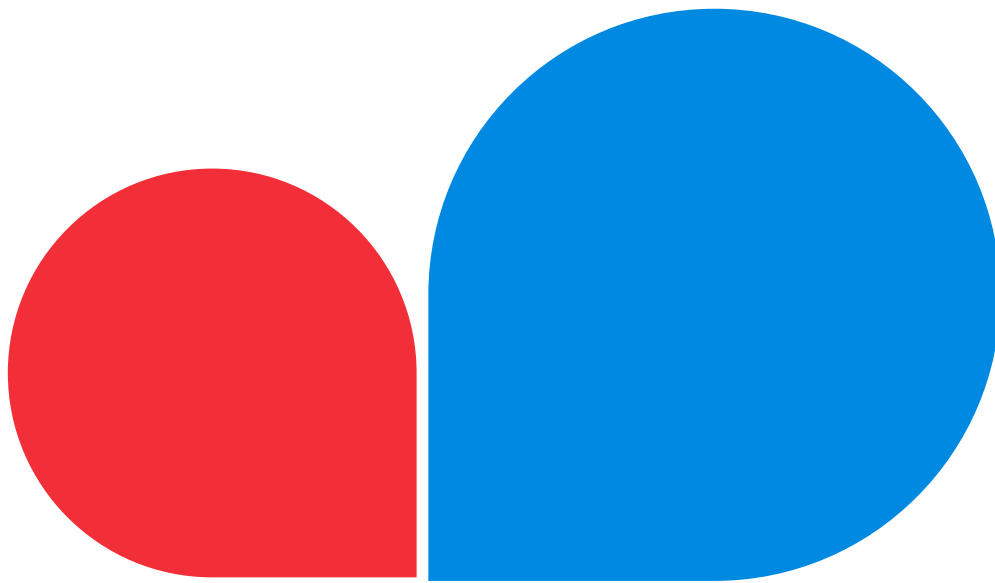
Furthermore, pursuant to section 76 of the EA 2023, the Commission issued a NICE to Ikeja DisCo on 29<sup>th</sup> November 2023 for its failure to meter 11 customers that had paid for meters within the timeframe approved under the Meter Asset Provider (MAP) framework. The Commission is currently reviewing Ikeja DisCo's response which was received on 13<sup>th</sup> December 2023.

### 3.8 Alternative Dispute Resolution

Following Market Rule 42.3.7, 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. No disputes were brought before the DRP during this quarter.

Table 15: Rectification directives issued in 2023/Q4

SN	Rectification	Licensee	Issued Date	Deadline Date	Outcome
1	Non-compliance with three (3) rulings of the Ikeja Forum Office.	Ikeja DisCo	29 November 2023	12 December 2023	Responses from Ikeja DisCo are being reviewed by the Commission.
2	Non-compliance with the Forum and Commission's decisions	Enugu DisCo	16 October 2023	30 October 2023	The response is being reviewed by the Commission for adequacy of submissions.
3	Non-compliance with the Commission's ruling in Appeal No: ANFO/NERC/423/2018	Enugu DisCo	16 October 2023	30 October 2023	The response is being reviewed by the Commission for adequacy of submissions.
4	Non-compliance with the Commission's ruling in Appeal No: ANFO/2022/08/B975	Abuja DisCo	18 October 2023	31 October 2023	The response is being reviewed by the Commission for adequacy of submissions



**04**

# Consumer Affairs

## 4.0 CONSUMER AFFAIRS

### 4.1 Consumer Education and Enlightenment

The Commission's main consumer education and enlightenment mechanisms are town hall and customer complaints resolution meetings. These are used to enlighten consumers/stakeholders on the Commission's activities, regulations, customer rights and obligations as well as to ensure swift resolution of complaints. These fora also provide avenues for the Commission to gather feedback from customers which are utilised by the Commission in its decision-making processes.

In 2023/Q4, the Commission held town hall meetings in Makurdi (7th-9th November) and Ikeja (21st-23rd November). Some of the major issues that were discussed at these town hall meetings include:

- Serviced Based Tariff (SBT) provisions
- Capping of estimated bills for unmetered customers
- Electricity customer rights and obligations
- Electricity customer redress mechanisms
- Unauthorised electricity access
- Metering frameworks and
- Strategies by the Commission to ensure improved overall service delivery to customers.

The Commission also continued the airing of radio jingles across radio stations throughout the country. These jingles educate customers on complaints redress mechanisms and give addresses of NERC Forum Offices.

### 4.2 Metering End-Use Customers

As of 31st December 2023, only 5,842,726 (44.39%) out of the 13,162,572 registered electricity customers across the 12 DisCos were metered (breakdown contained in Table 16).

Table 16: Metering Progress as at 2023/Q4

DisCos	Total No. of Registered Customers	No. of Metered Customers	Metering Rate
Aba	191,405	54,462	28.45%
Abuja	1,414,356	856,435	60.55%
Benin	1,324,373	659,511	49.80%
Eko	736,146	431,336	58.59%
Enugu	1,396,440	616,210	44.13%
Ibadan	2,401,864	1,046,873	43.59%
Ikeja	1,238,295	898,202	72.54%
Jos	730,402	243,049	33.28%
Kaduna	864,128	206,076	23.85%
Kano	872,656	210,338	24.10%
Port Harcourt	1,179,194	494,246	41.91%
Yola	813,313	125,988	15.49%
<b>Total</b>	<b>13,162,572</b>	<b>5,842,726</b>	<b>44.39%</b>

During 2023/Q4, 111,225 end-user customers were metered which translates to a -25.72% decrease compared to the 149,745 meter installations recorded in 2023/Q3. Ibadan, Abuja and Ikeja DisCos recorded the highest number of meter installations accounting for 30.11%, 19.66% and 12.62% respectively, of the total installations. Relative to 2023/Q3, three (3) DisCos recorded improvements in the number of meter installations with Ibadan (+28.76%) and Benin (+12.17%) recording the greatest improvements. Conversely, Ikeja (-66.78%) and Eko (-48.82%) recorded the biggest decline in the number of meters installed in 2023/Q4 compared to 2023/Q3 (Table 17).

Table 17: Meter Deployment by DisCos 2023/Q3 vs. 2023/Q4

DisCos	Total No. Metered Customers as of 2023/Q4	No. of Customers Metered in 2023/Q3	No. of Customers Metered in 2023/Q4	Change in Metering
Abuja	856,435	30,838	21,868	-29.09%
Benin	659,511	9,702	10,883	12.17%
Eko	431,336	4,121	2,109	-48.82%
Enugu	616,210	15,388	11,559	-24.88%
Ibadan	1,046,873	26,012	33,493	28.76%
Ikeja	898,202	41,917	13,926	-66.78%
Jos	243,049	3,491	2,826	-19.05%
Kaduna	206,076	2,530	2,689	6.28%
Kano	210,338	527	442	-16.13%
Port Harcourt	494,246	13,899	10,208	-26.56%
Yola	125,988	1,320	1,222	-7.42%
Total	5,842,726 <sup>17</sup>	149,745 <sup>18</sup>	111,225	-25.72%

Out of the 111,225 end-use customers metered in 2023/Q4, 99.02% of customers were metered under the MAP framework, 0.96% were metered under Vendor Financed, and 0.02% were metered under the NMMP framework<sup>19</sup>. Further details

<sup>17</sup> This value has incorporated 54,462 metered customers under APLE franchise area.

<sup>18</sup> Upon data reconciliation, the number of meters installed across all metering schemes in 2023/Q3 was 149,745 as against 148,389 reported in the 2023/Q3 report.

<sup>19</sup> There are 5 metering frameworks contained in the Commission's updated MAP & NMMP Regulations (NERC-R-113-2021). They are:

- Meter Asset Provider: This framework aims to provide for the provision and maintenance of end-user meters as a service by third-party investors on which customers benefitting from such meters pay a Metering Service Charge (MSC) to cover the cost of metering service.
- National Mass Metering Programme: This is a policy intervention with support from the CBN for the provision of long-term (10-year tenure) single-digit interest loans to DisCos strictly for the provision of locally manufactured/assembled meters to customers.
- Vendor Finance: This is a mutual agreement between a DisCo and a Local Meter Manufacturer/Assembler (LMMA) or Meter Asset Provider (MAP) on a deferred payment arrangement where the base cost of meters shall not exceed the regulated price approved by the Commission.
- Self-funded by DisCos: This involves procurement of meters from other sources outside the MAP and NMMP framework. The allowable costs of meters, accessories, installation and warranties should not exceed the regulated pricing approval by the Commission and the terms of supply should not be in conflict with terms of existing MAP and NMMP contracts.
- Other External Efficient Meter Financing: The Commission has also approved other external meter financing that are efficient, cost-effective, and in tune with the terms of existing MAP and NMMP contracts.



on the metering progress under the NMMP, MAP as well as Vendor and DisCo financed frameworks are presented in appendices X, XI and XII respectively.

Under the MAP framework, a total of 110,132 meters were installed in 2023/Q4 representing a -25.45% decrease compared to the 147,734 MAP meter installations recorded in 2023/Q3. Ibadan (33,493) and Abuja (21,786) DisCos recorded the highest number of installations under the MAP framework during the quarter with 30.41% and 19.78% of total installations respectively. Kano, Yola and Eko DisCos recorded the least installations under the MAP framework with 442, 1,222 and 2,109 installations respectively.

In 2023/Q4, only Kaduna metered customers under the NMMP framework; 21 customers were metered representing a decrease of -89.86% from 207 customers that were metered in 2023/Q3 under the framework. Abuja, Eko, Ibadan, Ikeja, Jos and Port Harcourt DisCos have exhausted their meter allocations under the NMMP phase 0 and hence have achieved 100% utilisation rate. Benin, Kaduna and Yola still have significant allocations under the NMMP and should explore the framework for closing their respective metering gap.

A total of 1,072 customers were metered under the Vendor financed framework in 2023/Q4. Till date, Abuja, Benin and Ikeja are the only DisCos that have taken advantage of this metering framework. During the quarter, Abuja recorded 82, Benin recorded 214 while Ikeja recorded 776 installations. These correspond to -79.03%, +167.50% and -41.79% change respectively compared to the 391, 80 and 1,333 installations in 2023/Q3. There were no meter installations under the DisCo financed framework in 2023/Q4.

### 4.3 Customers Complaints

The number of complaints received by DisCos in 2023/Q3 and 2023/Q4 are contained in Table 18. The total number of complaints received in 2023/Q4 was 310,717 across all DisCos. Ibadan received the highest number of complaints (54,218) representing 17.45% of total complaints received. APLE received the least number of complaints (2,110) representing 0.68% of total complaints received.

Table 18: Complaints Received by DisCos in 2023/Q3 vs. 2023/Q4

DisCos	No. of Complaints Received in 2023/Q3	No. of Complaints Received in 2023/Q4	Change in No. of complaints received	% change in No. of complaints received
Abuja	30,752	30,051	-701	-2.28%
APLE	1,919	2,110	191	+9.95%
Benin	12,184	8,890	-3,294	-27.04%
Eko	47,551	42,364	-5,187	-10.91%
Enugu	51,365	52,561	1,196	+2.33%
Ibadan	59,901	54,218	-5,683	-9.49%
Ikeja	28,244	24,857	-3,387	-11.99%
Jos	20,462	18,287	-2,175	-10.63%
Kaduna	8,010	7,506	-504	-6.29%
Kano	13,985	13,257	-728	-5.21%
PH	55,760	53,467	-2,293	-4.11%
Yola	3,814	3,149	-665	-17.44%
<b>Total</b>	<b>333,947</b>	<b>310,717</b>	<b>-23,230</b>	<b>-6.96%</b>

APLE (+9.95%) and Enugu (+2.33%) DisCos recorded increases in the number of customer complaints received in 2023/Q4 compared to 2023/Q3. Conversely, the remaining ten (10) DisCos recorded decreases in the number of customer complaints received with significant decreases recorded by Benin (-27.04%), Yola (-17.44%) and Ikeja (-11.99%).

The most common issues among the 310,717 complaints received by DisCos in 2023/Q4 were metering (57.13%), billing (13.80%), and service interruption (9.90%). These three (3) complaints categories cumulatively accounted for over 78% of the total complaints in the quarter ([Figure 10](#)).

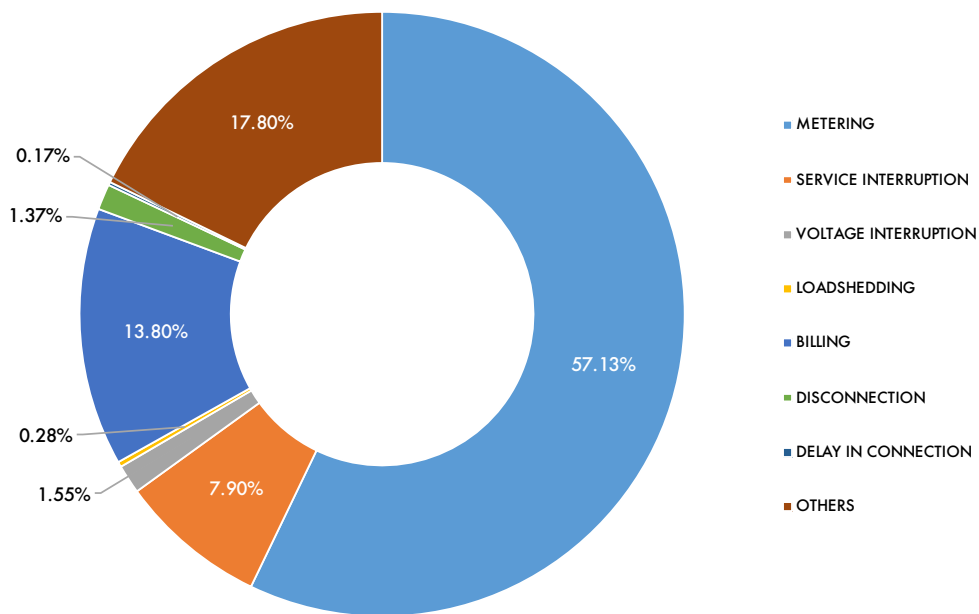


Figure 10: Category of Complaints Received by DisCos in 2023/Q4

In furtherance of its mandate as contained in section 119(1)(c) of the EA 2023 which states that “the Commission shall develop in consultation with licensees, the customer complaints handling standard and procedure”, the Commission continues to monitor complaint handling and resolution processes adopted by DisCos. DisCos submit monthly customer complaints reports which the Commission reviews to identify cases where regulatory intervention is necessary. Furthermore, the customer service standards in the NESI were updated and contained in the Customer Protection Regulations (CPR) issued by the Commission in March 2023 to conform with international best practices.

In an effort to improve customer experience in the NESI, the Commission is implementing the “NESI call centre” which will provide a centralised portal for customers to pass complaints directly to their service providers. The call centre will give the Commission near real-time visibility into the filing and resolution of customer complaints by the DisCos which will enhance the monitoring of DisCos’ compliance with customer service standards.

As reported in 2023/Q3, the Commission also launched its Power Outage Reporting System (PORS), a mobile application for electricity customers to report outages in real-time as well as their supply duration which will determine the DisCos’ entitlement

to their cost-reflective tariff. The Commission will maximise the features of the PORS to strictly monitor DisCos' compliance with service delivery standards including outage recovery and other key performance indicators.

#### 4.4 Forum Offices

The Commission set up Forum Offices to hear and resolve customer complaints not satisfactorily resolved at the DisCos' Customer Complaints Units (DisCo-CCU). This is one of the major initiatives of the Commission to ensure effective and timely resolution of customer complaints in the NESI as mandated by section 119(1)(c) of the EA 2023. As of 31st December 2023, the Commission had thirty-two (32) operational Forum Offices in thirty (30) states and the FCT, Abuja. The details including names, addresses and contacts of the Commission's Forum Offices are contained in Appendix XIV.

The Forum Office is managed by the forum secretariat while the hearings are conducted by five (5) forum panel members who are not staff of the Commission, as stipulated in the CPR 2023. The forum panels hear and resolve customer complaints in the state in which it is situated and when there is no Forum Office in a state, the Commission determines which neighbouring Forum Office will oversee customer complaints from the state. The composition of the forum panel is as follows:

1. A legal practitioner with experience in alternative dispute resolution nominated by the Nigerian Bar Association (NBA).
2. A financial expert nominated by either the Manufacturers Association of Nigeria, Nigerian Association of Chambers of Commerce, Industry, Mines and Agriculture (NACCIMA) or any other reputable organisation.
3. A qualified electrical engineer nominated by either the Council for Regulation of Engineering in Nigeria (COREN) or the Nigerian Society of Engineers (NSE).
4. A nominee of the Federal Competition and Consumer Protection Commission (FCCPC).
5. A representative of an NGO based in the distribution company's operating area nominated by the Commission.

The summary of the appeals received across the Forum Offices is presented in Table 19. Through 2023/Q4, there were 2,758 active appeals (1,042 pending appeals from 2023/Q3 and 1,716 new appeals in 2023/Q4) across the 32 Forum Offices of the Commission. This represents an increase of +1.55% compared to the 2,716

active appeals in the previous quarter (2023/Q3) which can be attributed to the increase in the backlog of appeals carried over. Compared to 2023/Q3, the pending appeals carried over in the quarter (2023/Q4) increased by 100 (+10.62%) while new appeals decreased by 58 (-3.27%). The Forum Office serving Ibadan DisCo reported the highest number of active appeals (891) while the Forum Office serving Jos DisCo reported the fewest (29) in 2023/Q4.

Cumulatively, the Forum Offices resolved 67.47% of the total active appeals in 2023/Q4, which is an increase of +9.85pp from the 2023/Q3 resolution rate (57.62%). The Commission will continue its efforts to ensure that the forum panels sit regularly to increase the resolution rate and reduce the number of pending appeals carried over across quarters. The total number of Forum sittings in 2023/Q4 was 81 compared to 76 sittings in 2023/Q3.

**Table 19: Appeals handled by Forum Offices in 2023/Q4**

DisCos	Forum Offices	Appeals Received <sup>1</sup>	Appeals Resolved <sup>2</sup>	Appeals Pending <sup>3</sup>	No of Sittings
Abuja	Abuja, Lafia & Lokoja	70	54	16	8
Aple	Umuahia	3	0	3	0
Benin	Asaba & Benin	137	68	67	5
Eko	Eko	156	101	55	4
Enugu	Abakaliki, Akwa, Enugu, Owerri, & Umuahia	329	245	63	18
Ibadan	Ibadan, Abeokuta, Ilorin & Osogbo	891	589	238	19
Ikeja	Ikeja	692	470	222	8
Jos	Bauchi, Gombe, Jos & Makurdi	29	20	6	2
Kaduna	Gusau, Kaduna, Kebbi & Sokoto	61	39	21	1
Kano	Jigawa, Kano & Katsina	44	35	4	3
P/Harcourt	Calabar, Port Harcourt & Uyo	275	198	74	10
Yola	Yola	71	42	27	3
<b>All DisCos</b>	<b>All Forum Offices</b>	<b>2,758</b>	<b>1,861</b>	<b>796</b>	<b>81</b>

<sup>1</sup>Appeals received include outstanding appeals from the preceding quarter. <sup>2</sup> Appeals resolved excludes 28 appeals withdrawn and 73 appeals rejected. <sup>3</sup> Appeals are still within the regulatory timeframe of 2 months to resolve.

The breakdown of the various categories of appeals received at the Forum Offices in 2023/Q4 are contained in Figure 11. Similar to 2023/Q3, appeals related to billing were the most prevalent, accounting for 60.43% of the total appeals received

(2023/Q3 - 60.99%). Appeals related to metering and disconnection represented 25.00% and 6.00% of the appeals, respectively. The Commission is working on interventions to improve the quality of customer complaint resolution at the DisCo-CCU to resolve effectively and reduce the number of appeals filed at the Forum Offices.

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.

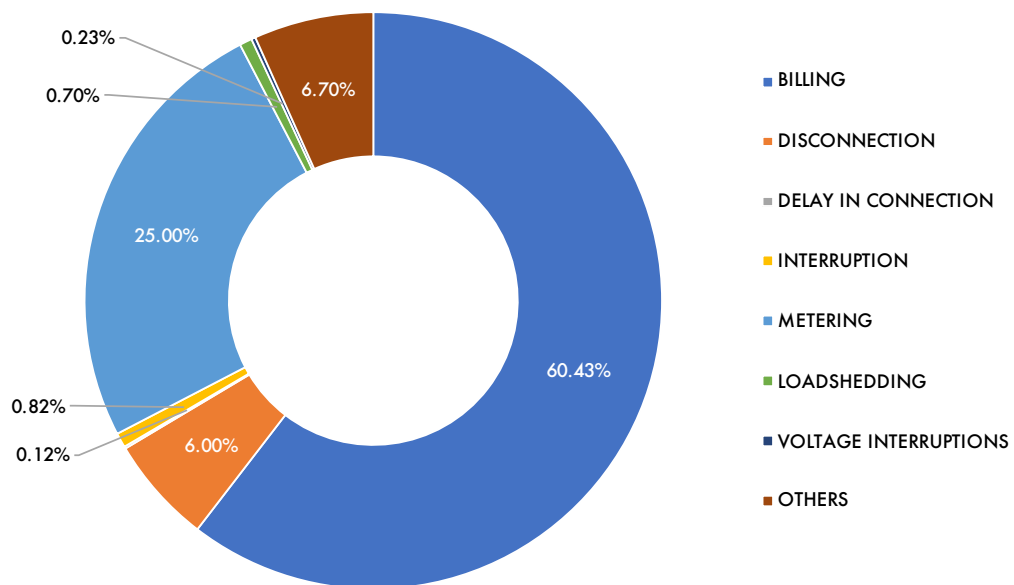


Figure 11: Category of Complaints Received by Forum Offices in 2023/Q4

#### 4.5 Health and Safety

Pursuant to Section 34(1)(e) of the EA 2023 which mandates the Commission to “ensure the provision of safe and reliable electricity to consumers”, the Commission monitors the health and safety performance of the NESI. All the 93 mandatory health and safety reports expected to be received in 2023/Q4 were submitted by licensees. The 100% reporting compliance by licensees is a result of the Commission’s continued efforts to ensure that licensees comply with the reporting requirements contained in the terms and conditions of their respective licenses.

Statistics of accidents in the NESI in 2023/Q4 are presented in Table 20; relative to 2023/Q3, the number of accidents increased by +31.71% (41 to 54), the number of fatalities increased by +5.88% (34 to 36) and the number of injuries increased by +7.14% (28 to 30). Although the number of accidents increased significantly between 2023/Q3 and 2023/Q4, the number of injuries and deaths did not increase proportionately which indicates that overall, the severity of incidents recorded in 2023/Q4 were less than 2023/Q3.

**Table 20: Health and Safety (H&S) Reports in 2023/Q3 vs. 2023/Q4**

Item	2023/Q3	2023/Q4	Net Change
Number of Accidents	41	54	+13
Number of fatalities (employees & third parties)	34	36	+2
Number of Injuries	28	30	+2

In addition to the eleven (11) DisCos, First Independent Power Company Limited (FIPL) also recorded an accident during 2023/Q4 - all the other licensees did not record any accidents during the quarter. Out of the fifty-four (54) accidents reported in the quarter, the licensees with the highest number of casualties were Jos (18), Yola (10) and Eko (8) which represented 27.27%, 15.15%, and 12.12% respectively. Conversely, Kaduna and FIPL had the least casualties (1 each) within the quarter. The casualties resulting from the accidents recorded during the quarter are detailed in Figure 12.

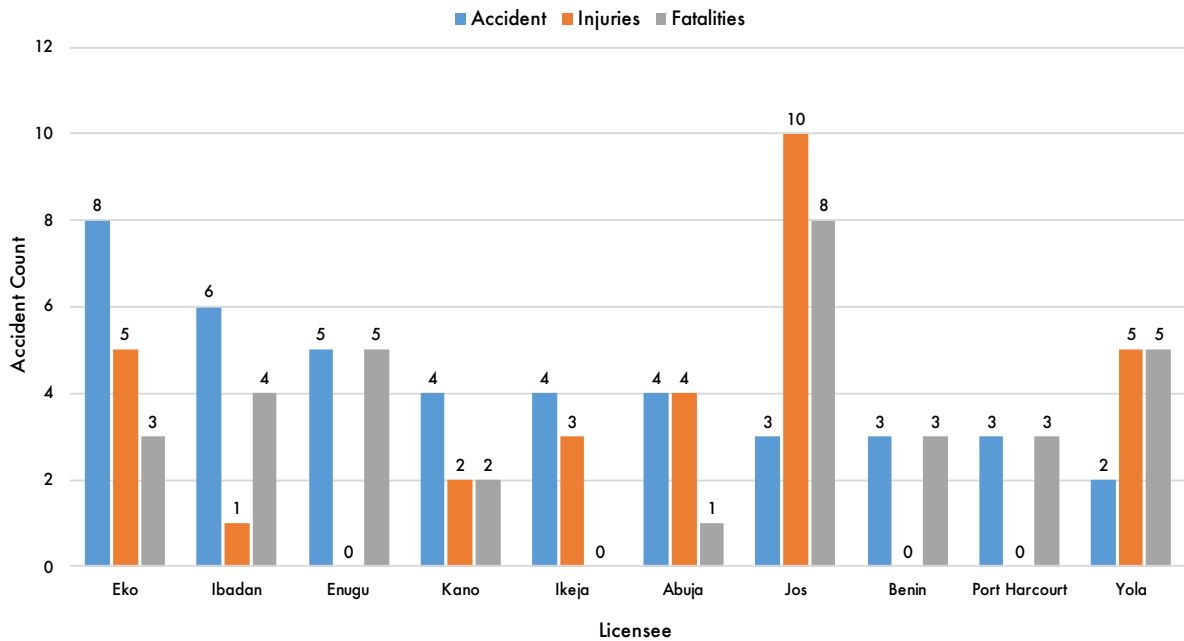


Figure 12: Accident Report for 2023/Q4

The details of the major causes of casualties (deaths and injuries) recorded in 2023/Q4 are listed below:

- Wire snaps: 17 deaths and 16 injuries
- Illegal/unauthorised access: 7 deaths
- Acts of vandalism: 5 deaths and 1 injury
- Unsafe acts/conditions: 4 deaths and 7 injuries
- Falls from height: 3 deaths and 6 injuries

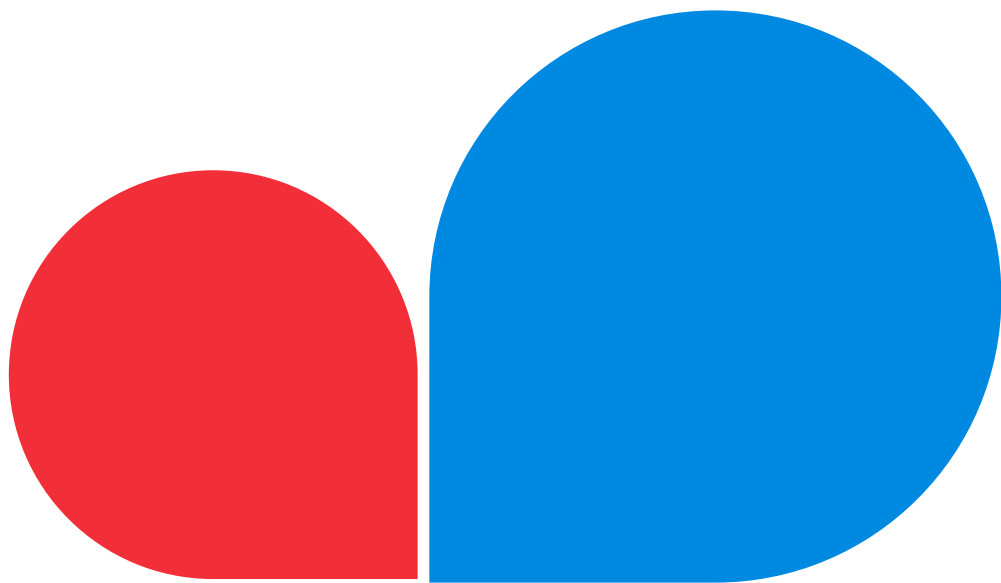
The Commission has initiated investigations into all reported accidents and will enforce appropriate actions against licensees where necessary. Furthermore, the Commission continues to closely monitor the implementation of licensees' accident reduction strategy for the NESI while the sector's health and safety code is undergoing a review process.

The Commission continues to intensify efforts at implementing various programs aimed at improving the health and safety performance of the NESI. The Commission holds biannual health and safety managers meetings to review the health and safety performance of the NESI. The meeting brings together health and safety managers of licensees (GenCos, DisCos, IEDNs, Captive generators, etc.,) to discuss health and safety matters affecting their operations. During the quarter (2023/Q4), the



Commission held the meeting for 2023/H2 from 8-10 November 2023. The major issues discussed at the meeting include – licensees’ accident reduction strategies, enforcement of the regular and proper use of PPEs and the infrastructural upgrade roadmap. The Commission also coordinates the standardisation of protective schemes, conducts public enlightenment on H&S matters in the NESI, and also engages government agencies on Right of Way (RoW) violations.

The Commission oversees settlement processes between licensees and families of accident victims in the NESI. This is to ensure transparency of the settlement process as well as to help the victim’s family secure fair compensation for losses suffered. The Commission facilitated the payment of compensation for ten (10) accident victims and their families during the quarter.



**05**

# The Commission

## 5.0 COMMISSION

### 5.1 Financial Report

The summary of the Commission's revenue and expenditure in 2023/Q3 and 2023/Q4 is presented in Table 21. The Commission had a total revenue of ₦6,435.27 million and a total expenditure of ₦4,698.34 million in 2023/Q4.

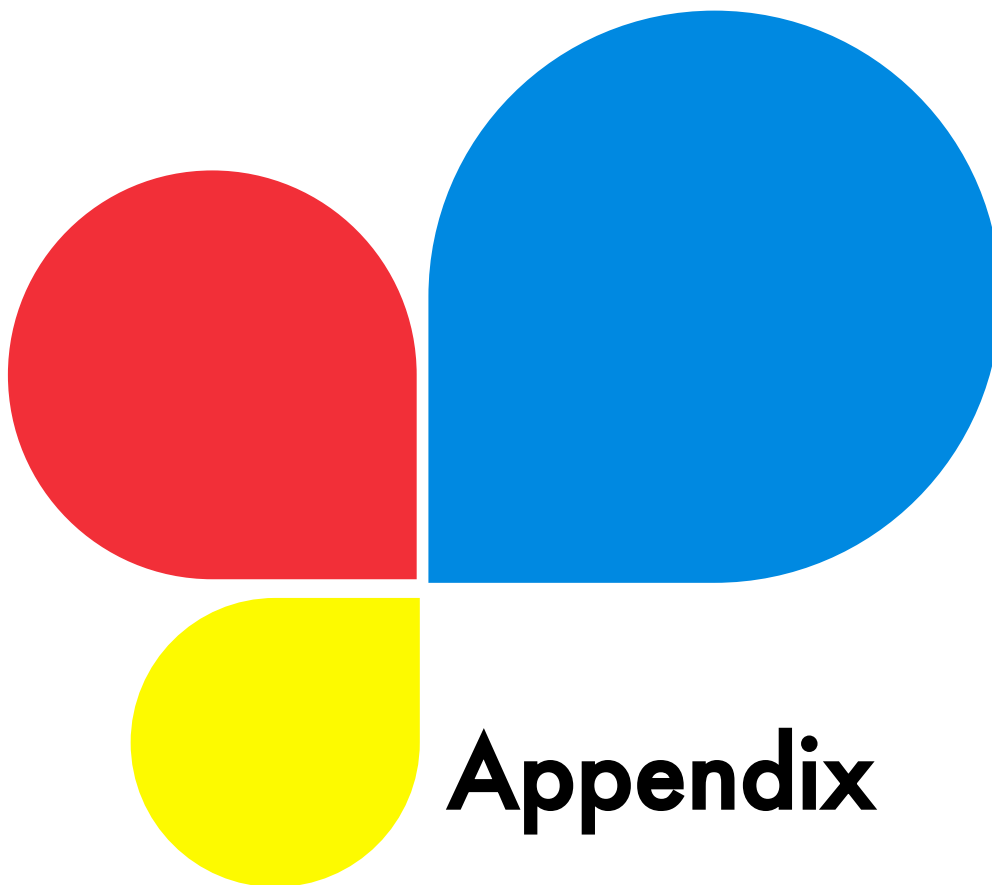
The total revenue in 2023/Q4 was ₦465.15 million (+7.79%) higher than the ₦5,970.12 million realised in 2023/Q3. The improvement in revenue is attributable to the increase in operating levy and other Internally Generated Revenue (IGR) between 2023/Q3 and 2023/Q4. The operating levy increased by ₦179.69 million (+3.64%) while other IGRs increased by ₦285.46 million (+27.70%) between the quarters.

**Table 21: Quarterly Cash Flow of the Commission in 2023/Q4**

	Summary for 2023/Q4 (₦' Million)			2023/Q4	2023/Q3
	October	November	December		
<b>A. Revenue</b>					
Operating Levy (MC)	1,950.20	1,462.60	1,706.40*	5,119.20	4,939.51
Other IGR	311.90	972.03	32.13	1,316.07	1,030.61
<b>Total Revenue</b>	<b>2,262.10</b>	<b>2,434.63</b>	<b>1,738.53</b>	<b>6,435.27</b>	<b>5,970.12</b>
<b>B. Expenditure</b>					
Personnel Cost	601.78	883.83	1,609.33	3,094.95	2,202.08
Regulatory Expenses	508.23	637.10	281.19	1,426.52	828.93
Admin & General Maintenance	41.81	89.61	45.46	176.87	124.76
<b>Total Expenditure</b>	<b>1,151.82</b>	<b>1,610.54</b>	<b>1,935.98</b>	<b>4,698.34</b>	<b>3,155.77</b>
<b>C. Net Cash Flow (A-B)</b>	<b>1,110.28</b>	<b>824.09</b>	<b>(197.45)</b>	<b>1,736.93</b>	<b>2,814.36</b>

The outstanding liabilities at the end of 2023/Q4 was ₦824,683,667.19. These are the Commission's expenses that have accrued and are payable in subsequent quarters e.g. taxes, pensions, surplus revenue due to be transferred to REA, etc. \*Figure is an estimate based on the preceding two months.

The Commission's total expenditure (capital and recurrent) increased by ₦1,542.57 million (+48.88%) from ₦3,155.77 million in 2023/Q3 to ₦4,698.34 million in 2023/Q4. This can be attributed to an increase in regulatory expenses, personnel costs as well as administration and general maintenance costs. In terms of cash flow, the Commission recorded a +₦1,736.93 million net balance in 2023/Q4 which represents a -38.28% decrease compared to the +₦2,814.36 million recorded in 2023/Q3. It is noteworthy that 2023/Q4 makes it the 18th consecutive quarter in which the Commission has recorded a positive quarterly net cash flow position.



## Appendix I: Definition of Terms

Term	Definition
Accident	This is an incident that happens unexpectedly and unintentionally, typically resulting in damage, injury, or fatality
Available Capacity	This is the maximum rated output (MW) of a power plant over a specified period declared by the operator when restricted by factors such as feedstock availability, mechanical availability, environmental conditions, etc.
Bilateral customers	These are customers who purchase electricity directly from GenCos without a middleman (e.g., bulk trader).
Cost-reflective tariff	This is a tariff that if charged to consumers will allow for 100% recovery of the costs incurred in the production, transmission, distribution, and supply of electricity as well as guaranteeing regulatory approved profit margin for the operators.
Energy offtake	This is the process by which distribution companies receive and supply energy to end-use consumers
Feedstock	This refers to the type of fuel (e.g., gas, water) required to power a generating plant
Installed capacity	This is the maximum rated output of a power plant under specific conditions designated by the manufacturer
Load factor	This is a measure of the utilisation of a power plant's capacity, calculated as the ratio of the average electricity generated over a period to the maximum possible generation (assuming all the available capacity is utilised).
Mini-grid	This is an electricity supply system with its own power generation capacity, supplying electricity to more than one customer and which can operate in isolation from or be connected to a distribution network
Orders	A series of directives/instructions issued by the Commission to Licensees in response to a particular event/situation
Plant Availability Factor	This is a parameter that measures the proportion of a plant's installed capacity which is available for the generation of electric energy.
Regulations	A set of rules that the Commission may issue from time to time to optimise the performance of licensees to give effect to the object of the EA 2023
Service-based tariff	Service-based tariff is a pricing system under which consumers are charged varying tariffs dependent on the average number of hours of supply they receive per day.
Total Energy Generated	This refers to the total energy generated (GWh) by a power plant during the period under review

## Appendix II: Energy Generation in 2023/Q3 vs. 2023/Q4

GenCos	Available Capacity (MW)		Average Daily Generation (MWh)		Quarterly Generation (GWh)	
	2023/Q3	2023/Q4	2023/Q3	2023/Q4	2023/Q3	2023/Q4
AES	-	-	-	-	-	-
Afam IV_V	36.56	39.73	710.64	1,100.16	65.38	101.21
Afam_VI	275.94	352.49	6,735.39	8,272.56	619.66	761.07
Alaoji NIPP	0.94	0.00	1.64	4.32	0.15	0.40
Azura-Edo IPP	415.08	434.89	9,104.49	9,545.76	837.61	878.22
Dadin Kowa	31.65	37.31	727.28	844.8	66.91	77.71
Delta	328.25	416.74	7,629.92	9,493.68	701.95	873.42
Egbin	568.86	550.68	13,040.38	11,578.56	1,199.72	1,065.23
Gbarain NIPP	-	-	-	-	-	-
Geregu Gas	195.44	208.13	4,389.38	4,665.12	403.82	429.19
Geregu NIPP	35.05	86.09	689.85	1,946.16	63.47	179.05
Ibom Power	66.52	153.26	950.67	1,690.32	87.46	155.50
Ihovbor NIPP	41.02	25.16	878.64	413.52	80.84	38.03
Jebba	359.35	419.21	8,189.25	9,218.40	753.41	848.10
Kainji	321.84	483.90	7,334.88	10,747.68	674.81	988.78
Odukpani	164.38	205.09	3,417.89	4,830.72	314.45	444.43
Okpai	265.27	291.22	5,707.09	5,805.84	525.05	534.13
Olorunsogo Gas	82.01	89.87	2,034.34	2,163.84	187.16	199.08
Olorunsogo NIPP	18.22	53.44	347.60	1,316.40	31.98	121.10
Omoku	51.34	52.91	1,607.27	1,567.20	147.87	144.19
Omotosho Gas	107.23	110.90	2,503.61	2,586.00	230.33	237.91
Omotosho NIPP	125.07	83.60	2,719.04	1,555.68	250.15	143.12
Paras Energy	11.85	73.51	305.48	1,428.24	28.10	131.39
Rivers IPP	90.06	123.01	2,018.38	2,571.12	185.69	236.55
Sapele GT NIPP	82.62	94.26	1,615.28	1,654.32	148.61	173.63
Sapele ST	86.32	73.91	2,095.60	1,887.36	192.80	152.20
Shiroro	373.69	417.33	7,753.70	8,564.88	713.34	787.96
Taopex Energy	11.85	20.14	284.40	371.52	28.10	34.18
Trans Amadi	16.94	25.48	474.99	587.76	43.70	54.07
<b>Total</b>	<b>4,211.44</b>	<b>4,922.26</b>	<b>94,182.81</b>	<b>106,411.70</b>	<b>8,664.82</b>	<b>9,789.87</b>

## Appendix III: Average Age of Power Plants in the NESI

Plant	Installed Capacity (MW)	Year of Commission	Age of Plant (Years-as at 2023)
Kainji	760	1968	55
Sapele ST	720	1981	42
Afam IV-V	726	1982	41
Jebba	570	1985	38
Egbin ST(Gas)	1320	1985	38
Dadin Kowa hydro	39	1988	35
Shiroro	600	1990	33
Delta GS	900	1990	33
Taopex	60	2005	18
Okpai	480	2005	18
Rivers IPP	180	2005	18
Ibom	191	2005	18
Omoku	150	2005	18
Odukpani	625	2005	18
Geregu	435	2007	16
Afam VI	650	2008	15
Paras	68	2009	14
Trans Amadi	100	2010	13
Omotosho	304	2012	11
Omotosho NIPP	500	2012	11
Sapele GT NIPP	452	2012	11
Alaoji NIPP	473	2012	11
Ihovbor NIPP	450	2013	10
Geregu NIPP	435	2013	10
Olorunsogo	304	2015	8
Olorunsogo NIPP	690	2017	6
Azura IPP	461	2018	5

## Appendix IV: Monthly energy offtake and energy billed by DisCos in 2023/Q3 and 2023/Q4

DisCos	Energy Offtake (GWh)						Energy Billed (GWh)						Billing Efficiency	
	2023/Q3			2023/Q4			2023/Q3			2023/Q4			2023/Q3 (%)	2023/Q4 (%)
	July	Aug	Sept	Oct	Nov	Dec	July	Aug	Sept	Oct	Nov	Dec		
Abuja	353	360	347	417	415	416	262	249	265	299	301	284	73.21	70.89
Benin	199	201	202	226	212	227	171	173	174	192	180	195	85.91	85.19
Eko	315	330	293	337	354	348	269	294	263	304	317	313	88.06	89.89
Enugu	196	199	188	229	211	242	143	154	146	167	160	183	75.99	74.73
Ibadan	287	288	319	335	342	312	219	234	229	255	270	276	76.21	80.95
Ikeja	390	405	364	412	415	405	333	354	320	358	360	351	86.92	86.84
Jos	125	123	124	146	132	148	102	100	101	114	106	119	81.45	79.35
Kaduna	141	142	133	189	185	172	80	72	68	77	83	82	52.99	44.37
Kano	131	140	144	175	178	178	96	98	99	109	125	128	70.35	68.14
Port Harcourt	171	186	171	188	182	208	142	154	143	155	150	169	83.18	81.99
Yola	75	71	71	95	97	72	57	57	62	91	94	68	81.24	95.67
<b>All Discos</b>	<b>2,383</b>	<b>2,445</b>	<b>2,356</b>	<b>2,749</b>	<b>2,723</b>	<b>2,727</b>	<b>1,873</b>	<b>1,939</b>	<b>1,871</b>	<b>2,121</b>	<b>2,145</b>	<b>2,165</b>	<b>79.09</b>	<b>78.45</b>



## Appendix V: Monthly revenue performance and collection efficiency by DisCos in 2023/Q3 and 2023/Q4

DisCos	Total Billing (₦' Million)						Revenue Collected (₦' Million)						Collection Efficiency	
	2023/Q3			2023/Q4			2023/Q3			2023/Q4			2023/Q3 (%)	2023/Q4 (%)
	July	Aug	Sept	Oct	Nov	Dec	July	Aug	Sept	Oct	Nov	Dec		
Abuja	17,170	16,245	17,319	19,335	19,609	18,530	13,548	12,912	14,826	15,685	15,343	15,206	81.38	80.44
Benin	10,362	10,533	10,517	11,749	10,920	11,694	6,844	7,323	7,033	7,500	7,609	7,269	67.49	65.12
Eko	16,783	18,475	16,547	19,189	20,090	20,398	14,630	14,284	14,775	16,229	16,819	17,139	84.33	84.10
Enugu	8,560	8,620	8,724	10,214	9,750	10,666	6,602	6,322	7,118	7,556	8,058	7,714	77.37	76.16
Ibadan	12,897	13,682	13,195	14,922	15,696	15,842	9,351	9,147	10,220	10,491	11,003	10,324	72.20	68.48
Ikeja	19,380	20,608	18,360	20,681	20,947	21,269	18,746	18,287	20,220	19,573	20,171	20,010	98.12	95.00
Jos	7,123	7,030	6,966	7,852	7,444	8,121	3,315	2,760	4,069	3,217	4,037	3,711	48.03	46.82
Kaduna	4,390	4,003	3,708	4,717	5,161	4,989	2,776	2,068	2,901	2,789	2,876	3,404	64.00	61.00
Kano	6,184	6,433	6,535	7,166	8,104	8,048	3,964	4,646	4,329	4,733	5,029	4,557	67.55	61.40
Port Harcourt	8,625	9,366	8,562	9,449	9,132	10,267	6,262	5,947	6,287	6,540	6,777	6,864	69.66	69.96
Yola	3,995	3,996	4,670	6,490	6,539	4,708	2,061	1,812	2,224	2,300	2,246	2,167	48.16	37.85
All DisCos	115,469	118,991	115,102	131,763	133,392	134,531	88,100	85,506	94,002	96,612	99,969	98,365	76.56	73.79

## Appendix VI: DisCos monthly invoices &amp; remittances to NBET in 2023/Q3 and 2023/Q4

DisCos	Invoice (₦' Billion)						Remittance (₦' Billion)						Remittance Performance	
	2023/Q3			2023/Q4			2023/Q3			2023/Q4			2023/Q3	2023/Q4
	July	Aug	Sept	Oct	Nov	Dec	July	Aug	Sept	Oct	Nov	Dec	(%)	(%)
Abuja	11.69	11.71	9.90	11.41	12.26	16.60	8.02	7.49	8.52	10.63	9.41	10.10	72	74
Benin	4.41	4.34	4.25	4.69	4.89	6.85	3.96	2.84	2.07	4.69	3.54	3.90	68	74
Eko	6.23	6.41	7.33	9.07	10.20	12.40	6.42	6.60	7.33	9.07	10.20	11.50	102	98
Enugu	4.93	4.97	5.12	6.18	6.34	8.47	2.70	2.74	3.43	3.60	4.01	3.97	59	55
Ibadan	5.16	5.36	6.27	7.00	7.84	9.16	3.52	3.72	4.50	4.97	4.71	6.37	70	67
Ikeja	11.75	11.92	9.69	10.40	11.46	15.67	9.69	9.83	9.69	9.74	11.46	8.19	88	78
Jos	1.85	1.81	2.15	2.54	2.64	3.43	0.78	0.94	1.50	1.16	1.90	1.57	55	54
Kaduna	2.22	2.22	2.86	3.96	4.21	4.96	0.47	0.09	0.52	0.32	0.42	0.48	15	9
Kano	2.61	2.75	3.34	4.04	4.39	5.21	1.41	2.36	2.02	2.17	2.59	2.42	67	53
Port Harcourt	4.23	4.47	3.88	4.26	4.61	6.53	3.69	3.36	2.75	3.53	3.35	4.53	78	74
Yola	0.52	0.50	0.53	0.67	0.72	0.28	0.52	0.50	0.53	0.67	0.72	0.28	100	100
All DisCos	55.61	56.45	55.33	64.22	69.54	89.56	41.18	40.47	42.87	50.54	52.30	53.30	74	70
Ajaokuta Steel (₦' M)	201.48	181.72	198.74	227.97	233.45	257.34	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. All data is based on MRO

## Appendix VII: DisCos monthly invoices &amp; remittances to MO in 2023/Q3 and 2023/Q4

DisCos	Invoice (₦' Billion)						Remittance (₦' Billion)						Remittance Performance	
	2023/Q3			2023/Q4			2023/Q3			2023/Q4			2023/Q3 (%)	2023/Q4 (%)
	July	Aug	Sept	Oct	Nov	Dec	July	Aug	Sept	Oct	Nov	Dec		
Abuja	2.09	2.19	2.14	2.33	2.31	2.46	2.21	1.67	1.84	2.17	1.78	1.50	89	77
Benin	1.16	1.16	1.26	1.28	1.19	1.33	2.06	0.84	0.62	1.18	0.86	0.76	98	74
Eko	1.55	1.57	1.76	2.00	2.01	2.11	1.45	1.48	1.67	1.90	1.92	2.02	94	95
Enugu	1.12	1.13	1.18	1.36	1.35	1.47	0.62	0.63	0.79	0.79	0.85	0.69	60	56
Ibadan	1.54	1.62	1.75	1.81	1.90	2.03	2.05	1.62	1.26	1.78	1.14	1.41	100	75
Ikeja	2.28	2.27	2.20	2.23	2.34	2.52	2.20	2.19	2.13	2.09	2.33	1.31	96	81
Jos	0.76	0.76	0.82	0.93	0.86	0.93	0.29	0.36	0.57	0.42	0.62	0.42	52	54
Kaduna	0.82	0.83	0.82	1.08	1.03	1.02	0.13	0.03	0.15	0.09	0.10	0.10	12	9
Kano	0.78	0.82	0.89	0.99	0.95	1.04	0.38	0.63	0.54	0.53	0.56	0.48	62	53
Port Harcourt	0.97	1.08	1.04	1.02	1.07	1.18	0.91	0.93	0.74	0.85	0.78	0.82	83	75
Yola	0.42	0.40	0.09	0.11	0.10	0.37	0.42	0.40	0.09	0.11	0.10	0.07	100	49
All DisCos	13.50	13.84	13.96	15.14	15.13	16.46	12.73	10.79	10.39	11.92	11.05	9.58	82	70
<i>Ajaokuta Steel (₦' M)</i>	29.88	26.72	24.31	23.17	21.12	21.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

## Appendix VIII: Monthly bilateral and international customers invoices &amp; remittances to MO in 2023/Q4

International Customers	Oct-23		Nov-23		Dec-23		2023/Q4		2023/Q4 Remittance Performance (%)	Other Remittances (\$'million)
	Invoice (\$'million)	Remittance (\$'million)	Invoice (\$'million)	Remittance (\$'million)	Invoice (\$'million)	Remittance (\$'million)	Invoice (\$'million)	Remittance (\$'million)		
PARAS - SBEE	0.75	0.00	0.98	0.00	1.14	0.00	2.87	0.00	0.00	0.00
TRANSCORP/SBEE	1.95	0.00	1.73	0.00	1.31	0.00	4.99	0.00	0.00	2.09
MAINSTREAM/NIGELEC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ODUKPANI/CEET	1.32	0.00	1.22	0.00	1.62	0.00	4.17	0.00	0.00	1.83
Total	4.02	0.00	3.93	0.00	4.07	0.00	12.03	0.00	0.00	3.92
Bilateral Customers	Invoice (₦'million)	Remittance (₦'million)	Invoice (₦'million)	Remittance (₦'million)	Invoice (₦'million)	Remittance (₦'million)	Invoice (₦'million)	Remittance (₦'million)	2023/Q4 Remittance Performance (%)	Other Remittances (₦'million)
ALAOJI GENCO/APLE	98.58	0.00	95.79	0.00	130.32	0.00	324.69	0.00	0.00	0.00
MSTM/ADTV	11.90	0.00	13.74	0.00	12.77	0.00	38.41	0.00	0.00	0.00
MSTM/INNER GALAXY	284.80	0.00	271.77	0.00	297.91	0.00	854.48	0.00	0.00	0.00
MSTM/KAM IND.	18.44	0.00	12.37	0.00	16.88	0.00	47.69	0.00	0.00	0.00
MSTM/KAM INT.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MAINSTREAM/PRISM	82.32	0.00	73.75	0.00	50.50	0.00	206.57	0.00	0.00	0.00
MSTM/ZEBERCED	11.94	0.00	12.06	0.00	9.62	0.00	33.62	0.00	0.00	0.00
NORTH SOUTH/STAR P	12.36	0.00	11.34	0.00	10.97	0.00	34.67	0.00	0.00	0.00
NDPHC/SUNFLAG	4.17	0.00	3.93	0.00	1.67	0.00	9.77	0.00	0.00	0.00
OMOTOSHO II/EKEDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OMOTOSHO II/PULKIT	6.55	0.00	7.55	0.00	6.53	0.00	20.63	0.00	0.00	0.00
NDPHC/WEEWOOD	27.39	0.00	25.68	0.00	21.94	0.00	75.01	0.00	0.00	0.00
TAOPEX/KAM INT	34.24	0.00	11.55	0.00	21.49	0.00	67.28	0.00	0.00	0.00
TAOPEX/KAM STEEL	34.26	0.00	35.27	0.00	29.69	0.00	99.22	0.00	0.00	0.00
TRANSAMADI/FMPI	1.95	0.00	1.11	0.00	3.02	0.00	6.08	0.00	0.00	0.00
TRANS AMADI/ OAU	8.15	0.00	10.40	0.00	10.43	0.00	28.98	0.00	0.00	0.00
JEBBA/QUANTUM STEEL	0.00	0.00	13.69	0.00	14.95	0.00	28.64	0.00	0.00	0.00
Total	637.05	0.00	600.00	0.00	638.69	0.00	1,875.74	0.00	0.00	0.00

Notes: 1. Other payments reflect payments made within 2023/Q3 to settle outstanding invoices from previous quarters

## Appendix IX: Meter installation for all Frameworks (MAP, NMMP, Vendor and DisCo Financed)

DisCos	Meters contracted	Meters installed in 2019	Meters installed in 2020	Meters installed in 2021	Meters installed in 2022	Meters installed in 2023/Q1	Meters installed in 2023/Q2	Meters installed in 2023/Q3	Meters installed in 2023/Q4	Total installations since 2019
Abuja	1,000,475	63,925	105,253	87,987	83,494	25,804	26,644	30,838	21,868	445,813
Benin	664,646	1,169	11,154	72,838	6,771	4,978	8,313	9,702	10,883	126,270
Eko	283,178	5,422	32,353	64,618	44,577	182,14	16,430	4,121	2,109	183,830
Enugu	713,926	17,410	54,603	96,836	57,751	23,487	22,822	15,388	11,559	300,106
Ibadan	1,106,294	4,771	38,403	94,309	146,044	32,808	33,470	26,012	33,493	409,286
Ikeja	1,186,114	22,876	160,469	125,460	145,364	46,790	47,080	41,917	13,926	604,442
Jos	606,096	15	4,673	88,827	19,190	2,920	3,368	3,491	2,826	124,532
Kaduna	519,152	43	8,258	17,942	34,385	2,488	2,332	2,530	2,689	71,468
Kano	562,747	22	3,314	80,969	3,476	481	606	527	442	89,837
Port Harcourt	220,044	7,775	36,546	92,543	33,549	12,087	12,795	13,899	10,208	219,402
Yola	749,376	-	478	5,955	30,386	9,256	7,199	1,320	1,222	55,684
<b>Total</b>	<b>7,612,048</b>	<b>123,428</b>	<b>455,504</b>	<b>828,284</b>	<b>604,987</b>	<b>175,281</b>	<b>181,059</b>	<b>149,745</b>	<b>111,225</b>	<b>2,630,670</b>

## Appendix X: Meter installation through the NMMP Framework as of 2023/Q4

DisCos	Meters contracted	Meters installed in 2019	Meters installed in 2020	Meters installed in 2021	Meters installed in 2022	Meters installed in 2023/Q1	Meters installed in 2023/Q2	Meters installed in 2023/Q3	Meters installed in 2023/Q4	Total installations since 2020
Abuja	100,475	-	17,777	82,698	-	-	-	-	-	100,475
Benin	90,870	-	-	71,734	6,108	-	-	140	-	80,156
Eko	79,178	-	69	56,915	15,694	4,099	2,215	14	-	79,010
Enugu	92,381	-	-	91,238	274	-	-	-	-	91,512
Ibadan	117,379	-	4,985	93,761	18,626	7	-	-	-	117,379
Ikeja	111,703	-	24	111,679	-	-	-	-	-	111,703
Jos	96,096	-	-	86,474	8,709	271	86	38	-	95,765
Kaduna	69,152	-	1,621	15,175	30,724	46	17	15	21	47,619
Kano	87,747	-	11	80,969	2,500	-	-	-	-	83,480
Port Harcourt	82,720	-	14,212	68,508	-	-	-	-	-	82,720
Yola	85,376	-	88	5,955	30,386	9,256	6,984	-	-	53,003
<b>Total</b>	<b>1,013,076</b>	<b>-</b>	<b>38,787</b>	<b>765,106</b>	<b>113,021</b>	<b>13,679</b>	<b>9,302</b>	<b>207</b>	<b>21</b>	<b>942,822</b>

## Appendix XI: Meter installation through the MAP Framework as of 2023/Q4

DisCos	Meters contracted	Meters installed in 2019	Meters installed in 2020	Meters installed in 2021	Meters installed in 2022	Meters installed in 2023/Q1	Meters installed in 2023/Q2	Meters installed in 2023/Q3	Meters installed in 2023/Q4	Total installations since 2019
Abuja	900,000	63,925	87,476	5,289	82,293	25,023	26,037	30,447	21,786	342,183
Benin	573,776	1,169	11,154	1,104	422	3,180	5,856	9,482	10,669	43,024
Eko	204,000	5,422	32,298	7,703	28,883	10,083	14,215	4,107	2,109	104,820
Enugu	621,545	17,212	54,752	5,405	57,372	23,487	22,822	15,388	11,559	207,997
Ibadan	988,915	4,771	33,418	548	127,418	32,801	33,470	26,012	33,493	291,907
Ikeja	1,074,411	23,265	160,616	13,781	145,364	46,790	47,080	40,584	13,150	490,630
Jos	500,000	13	3,769	27	3,317	2,649	3,223	3,453	2,826	19,277
Kaduna	450,000	129	7,352	2,767	3,565	2,411	2,293	2,515	2,668	23,700
Kano	475,000	22	3,303	-	976	481	606	527	442	6,357
Port Harcourt	137,324	7,775	22,334	24,035	33,549	12,087	12,795	13,899	10,208	136,682
Yola	664,000	-	-	-	-	-	-	1,320	1,222	2,681
<b>Total</b>	<b>6,588,971</b>	<b>123,703</b>	<b>416,472</b>	<b>60,659</b>	<b>483,159</b>	<b>158,992</b>	<b>168,397</b>	<b>147,734</b>	<b>110,132</b>	<b>1,669,258</b>

## Appendix XII: Meter installation through Vendor and DisCo Finance Frameworks as of 2023/Q4

DisCos	Vendor Finance						DisCo Finance								
	Meters installed in 2022	Meters installed in 2023/Q1	Meters installed in 2023/Q2	Meters installed in 2023/Q3	Meters installed in 2023/Q4	Total installations	Meters installed in 2019	Meters installed in 2020	Meters installed in 2021	Meters installed in 2022	Meters installed in 2023/Q1	Meters installed in 2023/Q2	Meters installed in 2023/Q3	Meters installed in 2023/Q4	Total installations since 2019
Abuja	1,201	781	607	391	82	3,155	-	-	-	-	-	-	-	-	-
Benin	241	1,798	536	80	214	3,090	-	-	-	-	-	-	-	-	-
Eko	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Enugu	-	-	-	-	-	-	106	193	193	105	-	-	-	-	597
Ibadan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ikeja	-	-	-	1,333	776	2,109	-	-	-	-	-	-	-	-	-
Jos	-	-	-	-	-	-	-	-	2,326	7,164	-	-	-	-	9,490
Kaduna	-	-	-	-	-	-	-	-	-	96	31	22	-	-	149
Kano	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Port Harcourt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yola	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1,442</b>	<b>2,579</b>	<b>1,143</b>	<b>1,804</b>	<b>1,072</b>	<b>8,354</b>	<b>106</b>	<b>193</b>	<b>2,519</b>	<b>7,365</b>	<b>31</b>	<b>22</b>	<b>-</b>	<b>-</b>	<b>10,236</b>



## Appendix XIII: Category of complaints received by DisCos in 2023/Q4

DisCos	Complaints Received	Complaint Categories							
		Metering	Interruption	Voltage	Loadshedding	Billing	Disconnection	Delay	Others
Abuja	30,051	12,739	1,588	318	385	1,365	2,133	-	11,523
APLE	2,110	1,141	58	5	1	697	116	6	86
Benin	8,890	132	1,225	188	172	3,132	104	-	3,937
Eko	42,364	35,424	1,675	355	8	2,871	161	350	1,520
Enugu	52,561	24,997	5,022	734	-	3,705	-	-	18,103
Ibadan	54,218	32,001	1,012	172	-	19,652	118	-	1,263
Ikeja	24,857	14,814	1,732	258	296	1,870	838	124	4,925
Jos	18,287	9,767	1,986	316	-	4,712	101	1	1,404
Kaduna	7,506	2,754	3,582	484	2	356	227	2	99
Kano	13,257	11,406	705	67	1	947	48	-	83
Port Harcourt	53,467	30,489	5,150	1,561	-	3,548	403	43	12,273
Yola	3,149	1,862	818	349	3	12	14	1	90
All DisCos	310,717	177,526	24,553	4,807	868	42,867	4,263	527	55,306

## Appendix XIV: List and addresses of NERC Forum Offices as of December 2023

S/N	Forum Office	Location	Telephone	Email
1	Abakaliki, Ebonyi State	3, Ezekuna Crescent, Off Nsugbe Street, Abakaliki Ebonyi State	9037808590	<a href="mailto:abakalikiforum@nerc.gov.ng">abakalikiforum@nerc.gov.ng</a>
2	Abeokuta, Ogun State	33, First Avenue, Ibara Housing Estate, Ibrar GRA, Abeokuta	9139381008	<a href="mailto:abeokutaforum@nerc.gov.ng">abeokutaforum@nerc.gov.ng</a>
3	Abuja, FCT	14, Road 131, Gwarinpa, Federal Capital Territory, Abuja	8146862225	<a href="mailto:abujaforum@nerc.gov.ng">abujaforum@nerc.gov.ng</a>
4	Ado-Ekiti, Ekiti State	Km 5, Iwokoro Road, Ado Ekiti, Ekiti State	9169978242	<a href="mailto:ado-ekitiforum@nerc.gov.ng">ado-ekitiforum@nerc.gov.ng</a>
5	Asaba, Delta State	Denis Osadebe Way, Beside Mobil Filling Station, Asaba, Delta State	9062277247	<a href="mailto:asabaforum@nerc.gov.ng">asabaforum@nerc.gov.ng</a>
6	Awka, Anambra State	Plot 80, Aroma Junction Layout, Opp. CBN, Awka, Anambra State	9037808594	<a href="mailto:awkaforum@nerc.gov.ng">awkaforum@nerc.gov.ng</a>
7	Bauchi, Bauchi State	37, Old Jos Road, GRA, Bauchi, Bauchi State	9062924607	<a href="mailto:bauchiforum@nerc.gov.ng">bauchiforum@nerc.gov.ng</a>
8	Benin, Edo State	34, Akpakpava Street, Benin City, Edo State	9037808592	<a href="mailto:beninform@nerc.gov.ng">beninform@nerc.gov.ng</a>
9	B/Kebbi, Kebbi State	8, Ahmadu Bello Way, Opp. Kebbi State Govt House, Kebbi State	9062863161	<a href="mailto:birninkebbiforum@nerc.gov.ng">birninkebbiforum@nerc.gov.ng</a>
10	Calabar, C/Rivers State	Plot 109, MCC Road by Ibok Street, Calabar, Cross River State	9062863159	<a href="mailto:calabarforum@nerc.gov.ng">calabarforum@nerc.gov.ng</a>
11	Dutse, Jigawa State	Dutse G.R.A, Dutse, Jigawa State	7031704827	<a href="mailto:jigawaforum@nerc.gov.ng">jigawaforum@nerc.gov.ng</a>
12	Eko, Lagos State	61, Odunlami Street, Off Marina, Lagos Island, Lagos State	8106807261	<a href="mailto:ekoforum@nerc.gov.ng">ekoforum@nerc.gov.ng</a>
13	Enugu, Enugu State	John Anichukwu Close, Plot 7 Mkpokiti Pocket Layout, Enugu, Enugu State	8146862230	<a href="mailto:enuguforum@nerc.gov.ng">enuguforum@nerc.gov.ng</a>
14	Gombe, Gombe State	Government Layout GDP/2, Along Ministry of Education Road, Gombe State	8140440079	<a href="mailto:gombeforum@nerc.gov.ng">gombeforum@nerc.gov.ng</a>
15	Gusau, Zamfara State	2 Canteen Daji, J. B. Yakubu Road, Gusau, Zamfara State	9062863163	<a href="mailto:gusauforum@nerc.gov.ng">gusauforum@nerc.gov.ng</a>
16	Ibadan, Oyo State	Jibowu Str, Opp. Magara Police Station, Iyaganku, G.R.A, Ibadan, Oyo State	8146862252	<a href="mailto:ibadanforum@nerc.gov.ng">ibadanforum@nerc.gov.ng</a>
17	Ikeja, Lagos State	199, Obafemi Awolowo Way, Alausa, Ikeja, Lagos State	8106807298	<a href="mailto:ikejaforum@nerc.gov.ng">ikejaforum@nerc.gov.ng</a>
18	Ilorin, Kwara State	30, Stadium Road, Off Taiwo Road, Ilorin, Kwara State	9062924603	<a href="mailto:ilorinform@nerc.gov.ng">ilorinform@nerc.gov.ng</a>
19	Jos, Plateau State	5a, Ray-field Road, Jos, Plateau State	9037808597	<a href="mailto:josforum@nerc.gov.ng">josforum@nerc.gov.ng</a>
20	Kaduna, Kaduna State	22, Ahmadu Bello Way, Opposite NNDC Building, Kaduna, Kaduna State	8106807299	<a href="mailto:kadunaforum@nerc.gov.ng">kadunaforum@nerc.gov.ng</a>
21	Kano, Kano State	2, Miller Road, Bompai, Nasarawa G.R.A, Kano, Kano State	8146862222	<a href="mailto:kanoforum@nerc.gov.ng">kanoforum@nerc.gov.ng</a>
22	Katsina, Katsina State	7, Abuja Crescent, Off Hassan Usman Katsina Road, Katsina, Katsina State	7031704821	<a href="mailto:katsinaforum@nerc.gov.ng">katsinaforum@nerc.gov.ng</a>
23	Lafia, Nasarawa State	Manyi Street, Off Jos Road, Bukan Sidi, Lafia, Nasarawa State	9062924599	<a href="mailto:lafiaforum@nerc.gov.ng">lafiaforum@nerc.gov.ng</a>
24	Lokoja, Kogi State	Hassan Kastina Rd, Opp. State Civil Service Commission, Zone 8 Police HQ, Lokoja, Kogi State.	9062924601	<a href="mailto:lokojaforum@nerc.gov.ng">lokojaforum@nerc.gov.ng</a>
25	Makurdi, Benue State	Hephzibah Plaza, Atom Kpera Road, Opp. Makurdi Int'l School, Benue State	9062277249	<a href="mailto:makurdiforum@nerc.gov.ng">makurdiforum@nerc.gov.ng</a>
26	Osogbo, Osun State	51, Isiaka Adeleke Way, Along Okefia-Alekuwodo Rd, Osogbo, Osun State	9062924604	<a href="mailto:osogboforum@nerc.gov.ng">osogboforum@nerc.gov.ng</a>
27	Owerri, Imo State	1, C.B Anyanwu Rd, Housing Area B, Exclusive Garden, Owerri	9062277245	<a href="mailto:owerriforum@nerc.gov.ng">owerriforum@nerc.gov.ng</a>
28	P/Harcourt, Rivers State	The Vhelberg Imperial Hotel, Plot 122 & 122a, Bank Anthony Avenue, Off Ordinance Rd, P/Harcourt	8146862223	<a href="mailto:phforum@nerc.gov.ng">phforum@nerc.gov.ng</a>
29	Sokoto, Sokoto State	1, Garba Duba Road, Sokoto, Sokoto State	9062863157	<a href="mailto:sokotoforum@nerc.gov.ng">sokotoforum@nerc.gov.ng</a>
30	Umuahia, Abia State	House 2, Adelabu Str., Amaokwe Housing Estate, Umuahia Ibeku, Abia State	9062277251	<a href="mailto:umuahiaforum@nerc.gov.ng">umuahiaforum@nerc.gov.ng</a>
31	Uyo, Akwa Ibom State	63, Osongama Road, Off Oron/Uyo Airport Road, Uyo, Akwa Ibom State	9062863165	<a href="mailto:uyoforum@nerc.gov.ng">uyoforum@nerc.gov.ng</a>
32	Yola, Adamawa State	5, Nguroje Str., Karewa Extension, Jimeta, Yola, Adamawa State	9037808535	<a href="mailto:yolaforum@nerc.gov.ng">yolaforum@nerc.gov.ng</a>

## Appendix XV: Appeals handled by Forum Offices in 2023/Q3 and 2023/Q4

S/N	Forum Offices	2023/Q3				2023/Q4			
		Appeals Received	Appeals Resolved	Appeals Pending	Resolution Rate	Appeals Received	Appeals Resolved	Appeals Pending	Resolution Rate
1	Abakaliki, Ebonyi State	117	69	47	58.97%	67	52	15	77.61%
2	Abeokuta, Ogun State	133	64	19	48.12%	122	17	42	13.93%
3	Abuja, FCT	51	31	20	60.78%	52	44	8	84.62%
4	Ado-Ekiti					3	1	2	33.33%
5	Asaba, Delta State	65	52	13	80.00%	68	22	44	32.35%
6	Awka, Anambra State	116	93	23	80.17%	97	83	14	85.57%
7	Bauchi, Bauchi State	5	3	2	60.00%	4	4	0	100.00%
8	Benin, Edo State	90	67	23	0.00%	66	45	21	68.18%
9	Calabar, C/Rivers State	35	27	7	77.14%	37	30	7	81.08%
10	Dutse, Jigawa State	17	17	0	100.00%	6	5	1	83.33%
11	Eko, Lagos State	136	90	45	66.18%	156	101	55	64.74%
12	Enugu, Enugu State	94	31	61	32.98%	125	78	26	62.40%
13	Gombe, Gombe State	10	0	7	0.00%	9	7	2	77.78%
14	Gusau, Zamfara State	11	7	4	63.64%	8	4	4	50.00%
15	Ibadan, Oyo State	124	81	43	65.32%	209	144	64	68.90%
16	Ikeja, Lagos State	632	331	301	52.37%	692	470	222	67.92%
17	Ilorin, Kwara State	98	69	29	70.41%	77	70	7	90.91%
18	Jos, Plateau State	12	11	1	91.67%	9	9	0	100.00%
19	Kaduna, Kaduna State	14	11	2	78.57%	16	6	9	37.50%
20	Kano, Kano State	91	83	8	91.21%	23	16	2	69.57%
21	Katsina, Katsina State	10	3	7	30.00%	15	14	1	93.33%
22	Kebbi, Kebbi State	22	2	18	9.09%	26	21	5	80.77%
23	Lafia, Nasarawa State	12	8	4	66.67%	13	7	6	53.85%
24	Lokoja, Kogi State	8	7	1	87.50%	5	3	2	60.00%
25	Makurdi, Benue State	11	5	0	45.45%	7	0	4	0.00%
26	Osogbo, Osun State	402	120	282	29.85%	483	358	125	74.12%
27	Owerri, Imo State	32	15	16	46.88%	26	22	4	84.62%
28	Port Harcourt, Rivers State	130	106	9	81.54%	92	84	5	91.30%
29	Sokoto, Sokoto State	20	15	5	75.00%	11	8	3	72.73%
30	Umuahia, Abia State	10	1	8	10.00%	14	10	4	71.43%
	Umuahia 2, Abia State	-	-	-	-	3	0	3	0.00%
31	Uyo, Akwa Ibom State	127	97	30	76.38%	146	84	62	57.53%
32	Yola, Adamawa State	81	49	32	60.49%	71	42	27	59.15%
	All Forum Offices	2,716	1,565	1,067	57.62%	2,758	1,861	796	67.48%

## Appendix XVI: Category of appeals received by Forum Offices in 2023/Q3 and 2023/Q4

Forum Office	2023/Q3								2023/Q4							
	Billing	Disconnection	Con. Delay	Interruption	Metering	Load Shedding	Voltage	Others	Billing	Disconnection	Con. Delay	Interruption	Metering	Load Shedding	Voltage	Others
Abakaliki, Ebonyi State	34	0	0	0	1	0	0	2	36	0	0	0	0	0	0	0
Abeokuta, Ogun State	38	9	0	7	21	8	1	23	40	1	0	4	37	11	1	9
Abuja, FCT	3	0	0	0	32	0	0	2	3	0	0	0	25	0	0	4
Ado-Ekiti, Ekiti State	-	-	-	-	-	-	-	-	3	0	0	0	0	0	0	1
Asaba, Delta State	46	2	0	0	2	0	0	0	43	1	1	0	6	0	0	4
Awka, Anambra State	73	2	0	0	12	0	0	0	57	9	0	0	7	0	0	1
Bauchi, Bauchi State	5	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Benin, Edo State	57	6	0	0	10	0	0	6	36	1	0	0	4	0	0	2
B/Kebbi, Kebbi State	14	1	0	0	3	0	0	5	14	1	0	1	10	0	0	4
Calabar, C/Rivers State	3	0	0	0	0	0	0	0	3	0	0	0	1	0	0	2
Dutse, Jigawa State	39	9	0	0	33	0	0	1	45	5	0	6	51	0	0	3
Eko, Lagos State	44	15	0	1	8	0	0	4	47	12	0	0	8	0	0	6
Enugu, Enugu State	3	0	0	0	6	0	0	0	1	0	0	0	1	0	0	0
Gombe, Gombe State	1	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0
Gusau, Zamfara State	55	7	0	1	18	0	0	4	112	5	0	0	46	0	0	3
Ibadan, Oyo State	257	17	0	2	71	1	0	32	269	24	0	0	82	0	0	16
Ikeja, Lagos State	45	3	0	0	23	0	0	11	31	1	0	0	14	0	0	2
Ilorin, Kwara State	5	0	0	0	5	0	0	0	3	0	0	1	2	0	1	4
Jos, Plateau State	5	1	0	1	4	0	0	1	5	3	0	0	3	0	0	3
Kaduna, Kaduna State	10	5	0	0	0	1	0	9	2	2	0	1	1	0	0	9
Kano, Kano State	7	0	0	0	0	0	0	0	2	2	0	0	2	0	1	1
Katsina, Katsina State	1	0	0	0	0	0	0	1	4	0	0	0	4	0	0	0
Lafia, Nasarawa State	3	0	0	0	4	0	0	0	6	0	0	0	2	0	0	1
Lokoja, Kogi State	3	3	0	0	0	0	0	0	1	1	0	0	0	0	0	1
Makurdi, Benue State	9	0	0	0	0	0	0	0	6	0	0	0	1	0	0	0
Osogbo, Osun State	166	12	0	0	60	0	0	36	113	5	0	0	75	0	0	8
Owerri, Imo State	15	1	0	0	8	0	0	3	6	3	0	0	1	0	0	0
P/Harcourt, Rivers State	55	7	5	0	6	1	0	10	60	5	0	1	11	1	0	5
Sokoto, Sokoto State	2	0	0	0	0	0	0	1	2	2	0	0	0	0	1	1
Umuahia, Abia State	6	0	0	0	1	0	0	0	4	1	1	0	0	0	0	0
Umuahia 2, Abia State									1	2	0	0	0	0	0	0
Uyo, Akwa Ibom State	48	12	0	0	14	0	4	23	59	15	0	0	18	0	0	24
Yola, Adamawa State	30	4	0	3	21	0	0	0	20	2	0	0	17	0	0	1
All Forum Offices	1,082	116	5	15	363	11	5	177	1,037	103	2	14	429	12	4	115

## Appendix XVII: Monthly cash flow of the Commission between July and December 2023

	Summary for 2023/Q3 (₦' Million)				Summary for 2023/Q4 (₦' Million)			
	Jul.	Aug.	Sep.	Total	Oct.	Nov.	Dec.	Total
<b>A. Revenue</b>								
Operating Levy (i.e., MC)	1,835.03	1,525.18	1,579.30	4,939.51	1,950.20	1,462.60	1,706.40	5,119.20
Other IGR	132.01	258.50	640.10	1,030.61	311.90	972.03	32.13	1,316.07
<b>Total Revenue</b>	<b>1,967.04</b>	<b>1,783.68</b>	<b>2,219.40</b>	<b>5,970.12</b>	<b>2,262.10</b>	<b>2,434.63</b>	<b>1,738.53</b>	<b>6,435.27</b>
<b>B. Expenditure</b>								
Personnel Cost	676.04	621.89	904.15	2,202.08	601.78	883.83	1,609.33	3,094.95
Regulatory Expenses	300.90	287.27	240.76	828.93	508.23	637.10	281.19	1,426.52
A & G Maintenance	29.63	62.94	32.19	124.76	41.81	89.61	45.46	176.87
<b>Total Expenditure</b>	<b>1,006.57</b>	<b>972.10</b>	<b>1,177.10</b>	<b>3,155.77</b>	<b>1,151.82</b>	<b>1,610.54</b>	<b>1,935.98</b>	<b>4,698.34</b>
<b>C. Net Cash Flow (A-B)</b>	<b>960.47</b>	<b>811.58</b>	<b>1,042.30</b>	<b>2,814.36</b>	<b>1,110.28</b>	<b>824.09</b>	<b>(197.45)</b>	<b>1,736.93</b>

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



**Nigerian Electricity Regulatory  
Commission**

**Plot 1387 Cadastral Zone A00  
Central Business District**

**PMB 136, Garki Abuja**



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