

Electricity on Demand



2023

3RD 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

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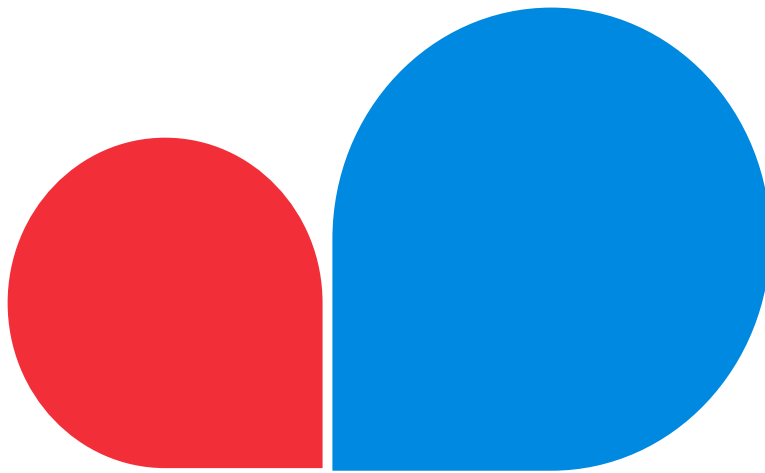
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List of Abbreviations

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



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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/Q3 include the available generation capacity, plant availability factor, quarterly generation performance, load factor, and generation mix of the twenty-seven grid-connected power plants. Other parameters reported include the grid performance, in terms of grid frequency and voltage stability during the quarter.

The average available generation capacity in 2023/Q3 was 4,211.44MW

a. Available Generation Capacity: There were twenty-seven (27) grid-connected power plants in 2023/Q3 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 4,211.44MW representing a -4.02% decrease (-176.47MW) compared to the 4,387.91MW recorded in 2023/Q2, represented in figure A.

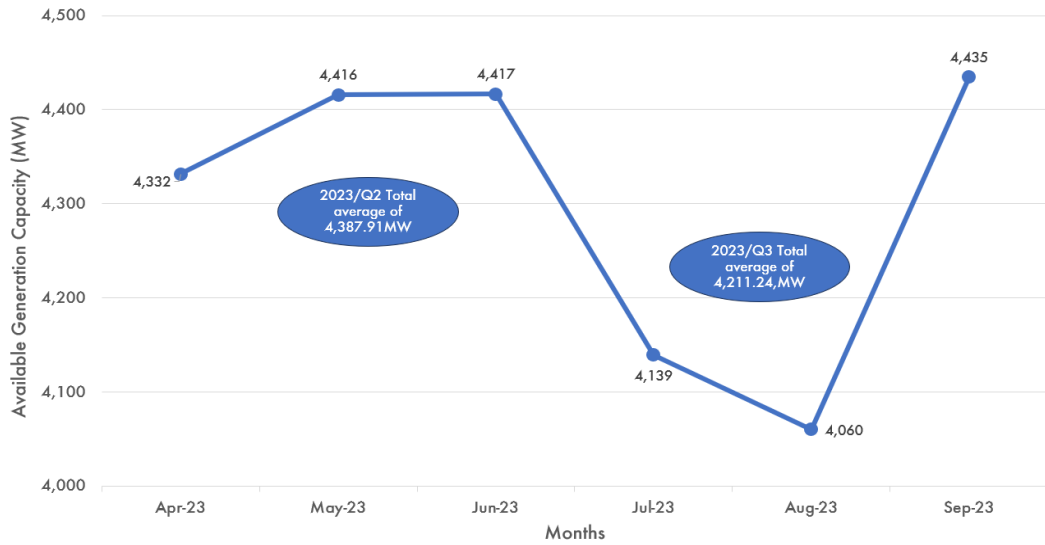


Figure A: Available Generation Capacity (April - September 2023)

The significant decline in available generation capacity in the month of July was because Ihovbor, Geregu NIPP, Afam IV&V and Sapele plants were shut down for most of the month due to mechanical faults. Afam IV & V (~60MW) was out due to defective blades from the 2nd to 31st of July, Sapele had one unit (ST3) out on maintenance after a fire outbreak and Geregu NIPP (~135MW) was out due to mechanical faults and gas constraints throughout July.

b. Quarterly Generation Performance: In 2023/Q3, the average hourly generation of available units decreased by -3.34% (-135.66MWh/h) from 4,059.94MWh/h in 2023/Q2 to 3,924.28MWh/h. The total electricity generated in the quarter also declined by -2.28%¹ (-202.23GWh) from the 8,867.05GWh generated in 2023/Q2 to 8,664.82GWh (Figure B). The decline in energy generation was primarily due to the reduction in the available generation capacity of the grid-connected power plants. Gas supply constraints and mechanical faults remain the major factors affecting the amount of energy generated by gas-fired thermal plants.

The total electricity generated in 2023/Q3 was 8,664.82GWh

¹ It is important to note that the percentage change in quarterly total generation vs. quarterly average hourly generation is marginally different due to the difference in number of days in these quarters - 2023/Q2 had 91 days while 2023/Q3 had 92 days.



Figure B: Total Generation (April – September 2023)

The significant decrease in the total amount of energy generated in September can be attributed to the reduced energy generation by five (5) plants (Shiroro, Egbin, Omotosho, Sapele NIPP and Afam VI) during the month which was due to mechanical faults and gas constraints.

c. Grid Performance: In 2023/Q3 the system frequency (average lower daily; 49.00Hz and average upper daily; 50.71Hz) was outside the normal operating limits (49.75Hz - 50.25Hz) but remained within the higher and lower bound stress limits (48.75Hz - 51.25Hz). The system voltage (average lower daily; 299.53kV and average upper daily; 353.28kV) was 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.

There were two incidences of system collapse during the quarter following 353 days of continuous grid operations. In line with the Grid Code, the Commission has directed the SO to submit a detailed report containing the root causes of the incidents leading to the system collapse as well as mitigation plans, to avoid a recurrence of similar incidents in the future.

Commercial Performance

The commercial performance of 2023/Q3 report covers energy offtake performance, billing efficiency, collection efficiency, aggregate technical, commercial, and collection loss, as well as the market remittance of 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/Q3, the average energy offtake by DisCos at their trading points was 3,253.83MWh/h which was an increase of +0.08% (+2.52MWh/h) compared to the 3,251.31MWh/h recorded in 2023/Q2.

b. Billing Efficiency: The total energy received by all DisCos in 2023/Q3 was 7,184.45GWh, while the energy billed to end-use customers was 5,682.11GWh, translating into an overall billing efficiency of 79.09%. This represents a decrease of -2.44pp compared to the 81.53% billing efficiency recorded in 2023/Q2.

c. Collection Efficiency: The total revenue collected by all DisCos in 2023/Q3 was ₦267.61 billion out of ₦349.55 billion billed to customers. This translates to a collection efficiency of 76.56% which represents an increase of +1.02pp when compared to 2023/Q2 (75.54%). The increase in collection efficiency can be attributed to the implementation of various collection campaigns for improved remittance by post-paid customers.

d. Aggregate Technical, Commercial and Collection (ATC&C) Loss: ATC&C provides a consolidated report of how much revenue a DisCo has collected relative to how much it should have collected based on the volume of energy sold to customers. It is a critical parameter for the computation of allowed DisCo tariffs used to adjust for the "efficient losses" that DisCos are expected to incur for energy distribution and provision of supply services to end-user customers.

The ATC&C loss in 2023/Q3 was 39.45% comprising - technical and commercial loss (20.91%) and collection loss (23.44%). The ATC&C loss increased by +1.04pp compared to 2023/Q2 (38.41%).

During the quarter, all the DisCos recorded higher ATC&C losses than what is allowed in their tariff computation i.e. no DisCo achieved its

A total of ₦267.61 billion was collected by all DisCos in 2023/Q3 out of the ₦349.55 billion billed to customers.

efficient loss targets in 2023/Q3. Consequentially, each DisCo's revenue collection in 2023/Q3 fell short of what is required to finance sustainable long-term operations while also providing reasonable returns for investors

e. Market remittance: In 2023/Q3, the cumulative upstream invoice payable by DisCos was ₦208.70 billion, consisting of ₦167.40 billion² for generation costs from NBET and ₦41.30 billion for transmission and administrative services by the Market Operator (MO). Out of this amount, the DisCos collectively remitted a total sum of ₦158.43 billion (₦124.53 billion for NBET and ₦33.90 billion for MO) with an outstanding balance of ₦50.27 billion. This translates to a remittance performance of 75.91% in 2023/Q3 which is down by 19.30pp compared to the 95.21% recorded in 2023/Q2. The disaggregated DisCos remittance performance to the market for 2023/Q3 is presented in Figure C.

f. Remittance by Special and Cross-border Customers: In 2023/Q3, none of the four (4) international customers being supplied by GenCos in the NESI made any payment against the cumulative invoice of \$11.16 million issued to them by the MO for services rendered in 2023/Q3. Similarly, none of the sixteen (16) bilateral customers operating in the NESI made any payment against the cumulative invoice of ₦2,814.68 million issued to them by the MO for services rendered in 2023/Q3³.

² The NBET portion of the total invoice issued to DisCos has been adjusted for the Minimum Remittance Obligation (MRO) of the DisCos. Full details on the MRO applied for the quarter can be found in the commercial section of the report.

³ It is noteworthy that the bilateral customers made payments during 2023/Q3 for outstanding MO invoices from previous quarters. The details of these payments are contained in Appendix VIII.

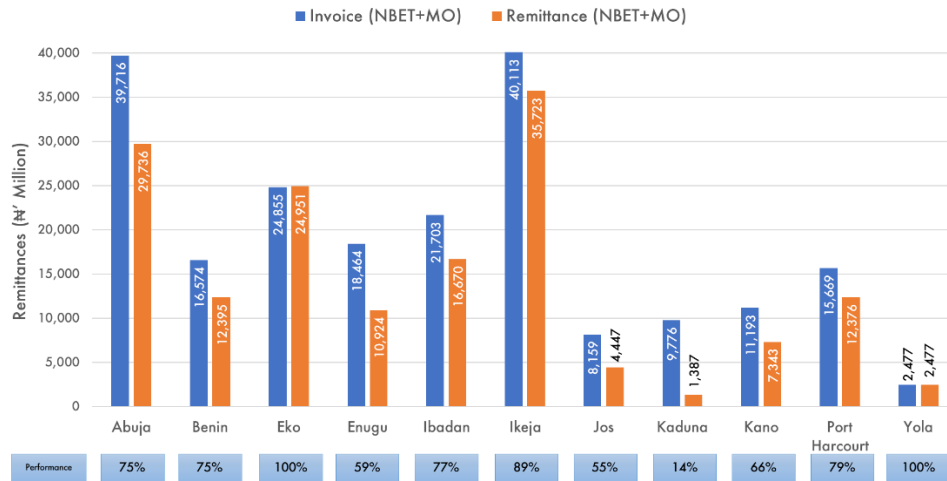


Figure C: MRO adjusted invoices and remittances in 2023/Q3

Regulatory Functions

The EA 2023, section (2)(d), empowers the Commission to regulate the activities of licensees, monitor their performance and enforce compliance with industry standards for a fair, safe, and viable electricity market. 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 accordingly.

a. **Regulations/Orders:** The Commission issued three (3) new Orders in 2023/Q3. These Orders are:

- **NERC/2023/005** –Order on Migration of Token Identifier of Standard Transfer Specification Meters from Key Revision 1 to Key Revision 2.
- **NERC/2023/006** –Order on Deployment of Customer Engagement Platforms.
- **NERC/2023/020** – Order on the Price Review of MAP Meters.

The Commission did not issue any new Regulation in 2023/Q3.

b. **Licensing and Permits:** The Commission issued thirty-six (36) licences, permits and certifications in 2023/Q3. They include:

- Five (5) new (8.81MW) and three (3) amendments (10.50MW) of off-grid generation licences
- One (1) new (5MW) and one (1) renewal (10MW) licence for embedded generation

The Commission issued three (3) new Orders in 2023/Q3.

- One (1) new and one (1) renewal licence for Independent Electricity Distribution Network (IEDN)
- One (1) new licence for trading
- Three (3) captive generation permits (7.07MW)
- Five (5) mini-grid permits (1.8MW)
- Ten (10) certifications for Meter Service Providers
- Five (5) certifications for Meter Asset Providers.

Consumer Affairs

a. Consumer Education and Enlightenment: The Commission continued to implement customer enlightenment programs within the quarter. This is in line with its commitment to ensure continuous customer education and enlightenment. The programs are also used to inform customers of other general service delivery matters in the industry. In July 2023, the Commission convened a stakeholder workshop on the constitutional amendment and EA 2023 to discuss strategies and methods for the effective implementation of the EA 2023.

A total of 148,389 meters were installed in 2023/Q3.

b. Metering: A total of 148,389 meters were installed in 2023/Q3, representing a decrease of 32,670 installations (-18.04%) compared to the 181,059 meters installed in 2023/Q2. The new installations resulted in a 0.35pp increase in net end-user metering rate in the NESI between 2023/Q2 (44.16%) and 2023/Q3 (44.51%). During the quarter, 147,736 meters were installed under the MAP framework while 207 meters were installed under the NMMP framework. The Vendor Financed framework recorded 446 meter installations while no meter installations were recorded 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 consumption by metered customers.

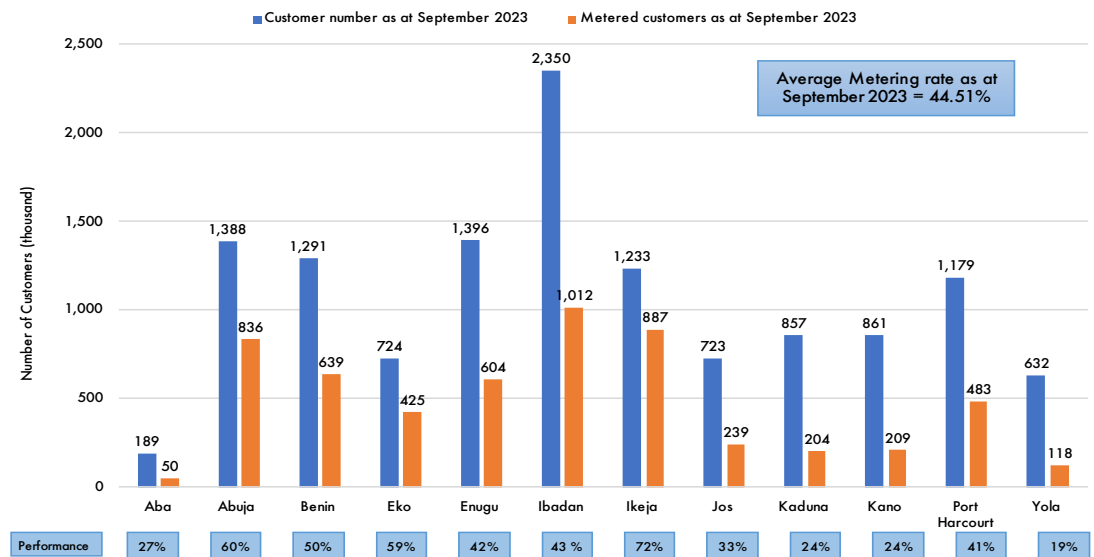


Figure D: Status of Customer metering as of September 2023

c. Customer Complaints: The DisCos cumulatively received 333,947 complaints from consumers in 2023/Q3. This represents an increase of 8,049 (+2.47%) compared to the 325,898 complaints received in 2023/Q2. In total, the DisCos resolved 317,179 complaints corresponding to a 94.98% resolution rate (96.18% recorded in 2023/Q2). Metering, billing, and service interruption were the prevalent issues of customer complaints, accounting for more than 78% of the total complaints during the quarter.

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). The Forum Offices received a total of 1,774 new appeals in 2023/Q3 with 942 pending appeals from 2023/Q2 to give a total of 2,716 appeals from customers who were dissatisfied with DisCos' decision on the complaints lodged at the CCU. During the period, the forum panels held seventy-six (76) sittings and resolved 1,565 (57.62%) of the appeals filed at Forum Offices nationwide; the resolution rate was - 1.04pp lower than 58.66% achieved in 2023/Q2.

In 2023/Q3, the Forum Offices resolved 57.62% of the total appeals in seventy-six (76) sittings.

The Commission continues to take measures that will ensure a more efficient customer complaint resolution process starting with improvements in the quality of complaint resolution at the CCU of the DisCos. To this end, an additional Forum Office was commissioned in Ado Ekiti during the quarter. The Commission also launched the Power Outage Reporting System (PORS) during the quarter. The system is a mobile application designed for electricity customers to report outages in real time to their DisCos for rapid resolution.

Investigations have been launched into all reported accidents.

e. Health & Safety: The total number of accidents in 2023/Q3 was forty-one (41) resulting in 34 injuries and 28 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 ₦6.07 billion as revenue and an expenditure of ₦3.16 billion in 2023/Q3.

a. Financial Report: The total revenue realised by the Commission in 2023/Q3 was ₦6,070.93 million representing an increase of ₦131.96 million (+2.22%) compared to the ₦5,938.97 million realised in 2023/Q2. During the same period, the total expenditure of the Commission increased by ₦691.97 million (+28.09%) from ₦2,463.80 million in 2023/Q2 to ₦3,155.77 million.

The Commission recorded a positive net cash flow of ₦2,915.16 million in the quarter. This is the 17th consecutive quarter in which the Commission has recorded a positive cash flow.

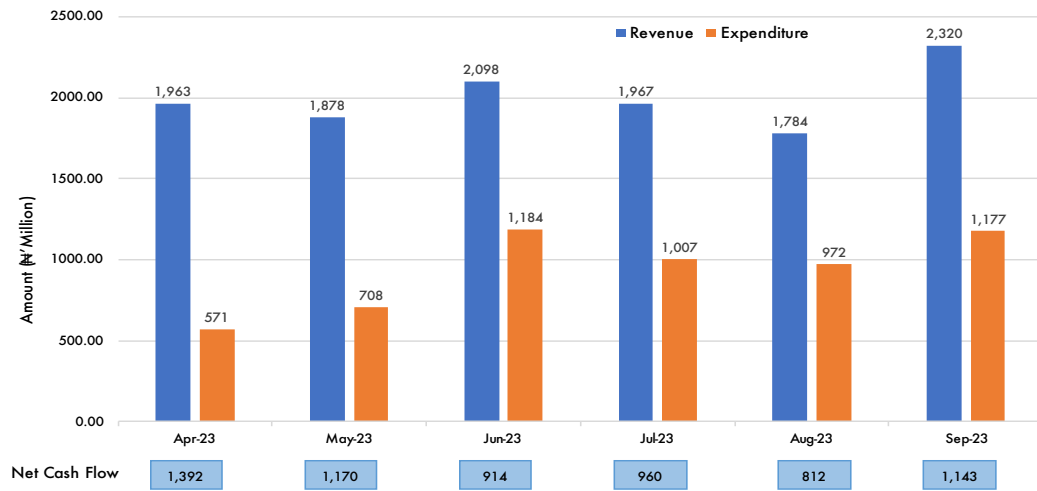


Figure E: Commission’s Revenue and Expenditure (April – September 2023)

Key Facts on NESI Performance in Q3 of 2023

4,211.44MW	Average Available Generation Capacity; -176.47MW (-4.02%) decrease compared to 4,387.91MW in 2023/Q2
8,664.28GWh	Total Quarterly Generation; -202.23GWh (-2.28%) decrease compared to 8,867.05GWh in 2023/Q2
3,924.28MWh/h	Average Hourly Generation; -135.66MWh/h (-3.34%) decrease compared to 4,059.94MWh/h in 2023/Q2
93.18%	Load Factor: 0.66pp increase compared to 92.53% in 2023/Q2
25.49%	Share of total quarterly generation from Hydropower Plants; 5.20pp increase compared to 20.29% in 2023/Q2
7.94%	Transmission Loss Factor: 0.40pp decrease compared to 8.34% in 2023/Q2 but 0.69pp above the MYTO allowance of 7.50%
3,253.83MWh/h	Total Energy Received by the DisCos; +2.52MWh/h (+0.08%) increase compared to 3,251.31MWh/h in 2023/Q2
5,682.11GWh	Energy Billed; -107.1GWh (-1.85%) decrease compared to 5,789.21GWh in 2023/Q2
₦267.61 billion	Total Revenue Collected by the DisCos; -₦0.25 billion (-0.09%) decrease compared to ₦267.86 billion in 2023/Q2
79.09%	Cumulative Billing Efficiency across all DisCos; -2.44pp decline compared to 81.53% in 2023/Q2
76.56%	Cumulative Collection Efficiency across all DisCos; +1.02pp increase compared to 75.54% in 2023/Q2
39.45%	Aggregate Technical, Commercial and Collection Loss; +1.04pp increase compared to 38.41% in 2023/Q2
₦208.70 billion	Combined Invoice from NBET (MRO adjusted) and MO to DisCos; +₦14.02 billion (+7.20%) increase compared to ₦194.68 billion in 2023/Q2

₦158.43 billion	Total Amount Remitted by DisCos; ₦182.39 ₦26.93 billion (-14.53%) decrease compared to ₦185.36 billion in 2023/Q2
75.91%	DisCos' Overall Remittance Performance: -19.30pp decrease compared to 95.21% in 2023/Q2
148,389	Number of New Meters Installed; 32,670 fewer installations (-18.04%) compared to the 181,059 meters installed in 2023/Q2
94.98%	Average DisCo complaint resolution rate: -1.20pp decrease compared to 96.18% in 2023/Q2
57.62%	Forum Office Complaint Resolution Rate: -1.04pp decrease compared to 58.66% in 2023/Q2
34	Number of Fatalities; 6 more deaths compared to 28 in 2023/Q2
28	Number of Injuries; No change compared to 2023/Q2
₦6.07 billion	Total revenue realised by the Commission; ₦0.13 billion (+2.22%) increase compared to ₦5.94 billion in 2023/Q2
₦3.16 billion	Total Expenditure by the Commission; ₦0.69 billion (+28.09%) increase compared to ₦2.46 billion in 2023/Q2

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 that they provide stable, reliable, and safe electricity to all consumers.

2.1 Operational Performance

In 2023/Q3, the average available generation capacity of the twenty-seven (27)⁴ grid-connected generating plants was 4,211.44MW. The average hourly generation from the plants was 3,924.28MWh/h while the total quarterly generation was 8,664.82GWh.

2.1.1 Available Generation Capacity

The average available generation capacity decreased by -4.02% (-176.47MW) from the 4,387.91MW recorded in 2023/Q2 to 4,211.44MW in 2023/Q3. The decrease recorded was primarily driven by the reduced available capacity of twelve (12) out of the twenty-seven (27) grid-connected power plants. Six (6) out of the seven (7) plants with the highest available capacity in 2023/Q2 (Egbin ST, Delta GS, Kainji, Odukpani, Okpai, and Afam VI) recorded decreases in their available generation capacities in 2023/Q3. The highest decreases in available capacity relative to 2023/Q2 were recorded by Odukpani and Okpai plants with -53% and -20% respectively.

The average available generation capacity of selected power plants in 2023/Q3, relative to their performance in 2023/Q2 is presented in Figure 1⁵. Shiroro, Azura IPP and Jebba power plants recorded increases of +51.71%, +22.07% and +17.54% respectively in average available capacity in 2023/Q3 compared to 2023/Q2. Conversely, Egbin ST and Delta GS both recorded significant decreases of -19.10% and -18.85% respectively in 2023/Q3 compared to 2023/Q2. Cumulatively, the remaining nineteen (19) power plants categorised as "Others"

⁴ Taopex power plant supplied power to the grid in 2023/Q3

⁵ The plants shown in the graph had the highest available capacities in 2023/Q3

recorded a -8.66% decrease, in available capacity, in 2023/Q3 compared to 2023/Q2.

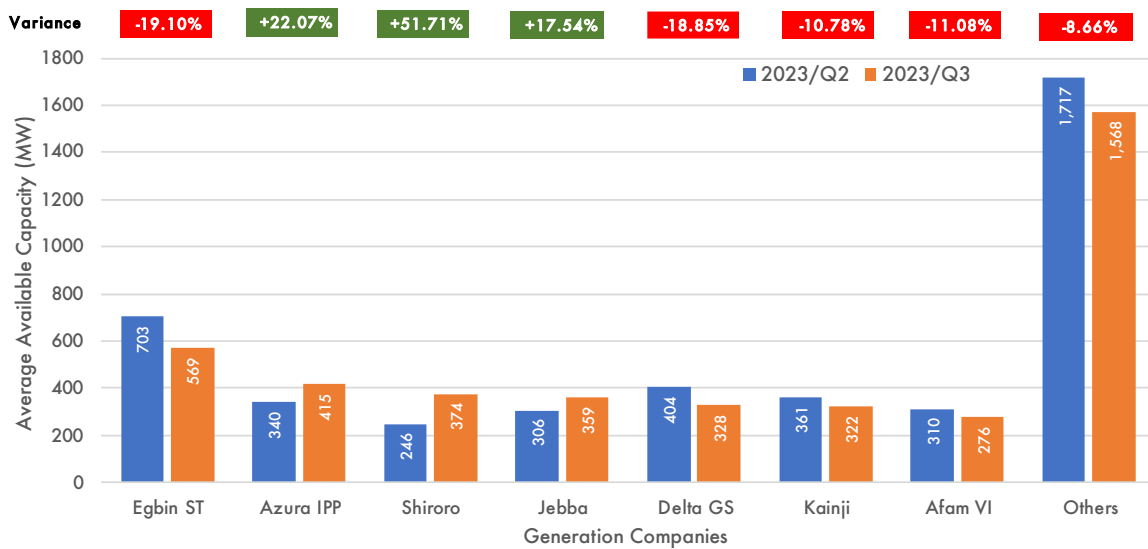


Figure 1: Average Available Capacity (MW) in 2023/Q2 vs. 2023/Q3

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, etc.); iii) feedstock availability, among other factors. 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/Q3, the overall plant availability factor of all grid-connected plants was 33.31%; this means more than 2/3rd of the installed capacity in the NESI was not available. Only seven (7) plants had availability factor > 50%. Azura IPP plant had the highest availability factor of 90.04% while Alaoji NIPP had the lowest availability factor of 0.20% (Table 1).

Table 1: Plant Availability Factor (%) in 2023/Q3

<i>Plant</i>	<i>Installed capacity (MW)</i>	<i>Average available capacity (MW) 2023/Q3</i>	<i>Plant availability factor (%) 2023/Q3</i>
Azura IPP	461.00	415.08	90.04
Paras	68.00	59.98	88.20
Dadin Kowa hydro	39.00	31.65	81.14
Jebba	570.00	359.35	63.04
Shiroro	600.00	373.69	62.28
Okpai	480.00	265.27	55.26
Rivers IPP	180.00	90.06	50.03
Geregu	435.00	195.44	44.93
Egbin ST(Gas)	1,320.00	568.86	43.10
Afam VI	650.00	275.94	42.45
Kainji	760.00	321.84	42.35
Delta GS	900.00	328.25	36.47
Omosho	304.00	107.23	35.27
Ibom	191.00	66.52	34.83
Omoku	150.00	51.34	34.23
Olorunsogo	304.00	82.01	26.98
Odukpani	625.00	164.38	26.30
Omosho NIPP	500.00	125.07	25.01
Taopex	60.00	11.85	19.75
Sapele GT NIPP	452.00	82.62	18.28
Trans Amadi	100.00	16.94	16.94
Sapele ST	720.00	86.32	11.99
Ihovbor NIPP	450.00	41.02	9.11
Geregu NIPP	435.00	35.05	8.06
Afam IV-V	726.00	36.56	5.04
Olorunsogo NIPP	690.00	18.22	2.64
Alaoji NIPP	473.00	0.94	0.20
Total	12,643.00	4,211.48	33.31

The overall low PAF of the GenCos in the NESI is a major source of concern to the Commission. The largest driver of plant unavailability was mechanical outages – this 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 old⁶) as well as challenges with

⁶ Detailed information on the year of Commissioning and age of the 27-grid connected power plants in the NESI are contained in Appendix III

the maintenance of the units. For thermal plants – other contributory factors to the low PAF include:

- Liquidity challenges at the upstream segment of the NESI which results in underpayment of GenCo invoices. Without sufficient cashflows, GenCos are unable to maintain their generation units which leads to extended outages. The liquidity challenges have also prevented operators of the privatised generation assets to recover capacity which had been inoperable prior to privatisation.
- 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)

For the hydropower plants, PAF could be affected by seasonality and resultant impact on river flows.

2.1.3 Quarterly Generation Performance

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 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/Q3 was 3,924.28MWh/h, which translates to a -3.34% (-135.66MWh/h) decrease from the 4,059.94MWh/h recorded in 2023/Q2.

The quarter-on-quarter performance of the seven (7) power plants with the highest average hourly generation in 2023/Q3 is presented in Figure 2. Only 3 of the plants recorded increases in their average hourly generation in 2023/Q3 relative to 2023/Q2; Shiroro (59.90%), Jebba (26.22%) and Azura IPP (26.03%). The significant increase in the output from the Shiroro hydropower plant is attributed to the rainy season which resulted in a significant increase in water level in the watershed that supplies the Kaduna River, where the hydropower plant is situated. The watershed experiences only one inflow/flood season, which occurs between

July and October each year, coinciding with the third quarter, providing ample water for maximum output.

Conversely, Delta GS (-18.79%), Egbin ST (-16.56%), Kainji (-11.06) and Afam VI (-10.11%) recorded reductions in their average hourly generation in 2023/Q3 compared to 2023/Q2. Cumulatively, the average hourly generation of the remaining nineteen (19) power plants decreased by -9.75% across the two quarters.

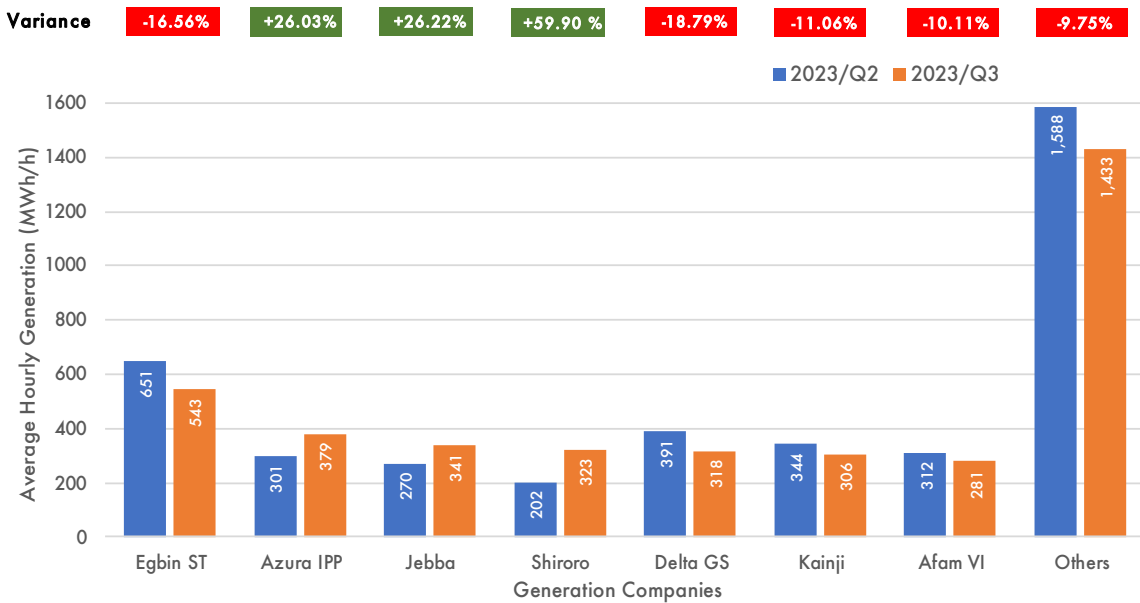


Figure 2: Average Hourly Generation (MWh/h) in 2023/Q2 vs. 2023/Q3

During the quarter, the total electricity generated was 8,664.82GWh, which translates to a decrease of -2.28%⁷ (-202.23GWh) from the 8,867.05GWh generated in 2023/Q2. Eleven (11) of the twenty-seven (27) grid-connected power plants recorded decreases in total generation in 2023/Q3 compared to 2023/Q2 (Table 2).

The decrease in the electricity generated in 2023/Q3 was due to the decrease in the available capacity of the power plants as earlier reported. The Thermal plants were significantly affected by gas constraints during the quarter. Afam VI, one of the top-performing power plants in 2023/Q2 had all 4 of its units (~650MW) unavailable for 21 days (22.60% of the quarter) due to gas constraints. Egbin ST and Delta GS also recorded decreases in generation due to gas constraints and mechanical faults, although their units were mechanically available during the

⁷ It is important to note that the percentage change in quarterly total generation vs. quarterly average hourly generation is marginally different due to the difference in number of days in these quarters - 2023/Q2 had 91 days while 2023/Q3 had 92 days.

quarter (Delta GS was available all through the quarter while Egbin ST was unavailable for 2 days across the quarter).

Table 2: Total Generation (GWh) in 2023/Q2 vs. 2023/Q3

Plant	Total Generation 2023/Q2 (GWh)	Total Generation 2023/Q3 (GWh)	Net change (GWh)
Shiroro	440.98	713.34	272.36
Azura IPP	656.40	837.61	181.22
Jebba	589.93	753.41	163.48
Rivers IPP	123.49	185.69	62.21
Geregu NIPP	6.44	63.47	57.02
Omoku	91.70	147.87	56.17
Dadin Kowa Hydro	17.88	66.91	49.03
Ibom	41.01	87.46	46.46
Ihovbor NIPP	37.12	80.84	43.72
Sapele ST	160.55	192.80	32.24
Olorunsogo NIPP	-	31.98	31.98
Taopex Energy	-	28.10	28.10
Sapele GT NIPP	134.48	148.61	14.12
Trans Amadi	37.51	43.70	6.18
Omotosho NIPP	244.05	250.15	6.10
Alaoji NIPP	-	0.15	0.15
Afam IV - V	81.15	65.38	-15.77
Paras	133.47	110.41	-23.06
Olorunsogo	231.39	187.16	-44.23
Omotosho	282.71	230.33	-52.38
Afam VI	682.39	619.66	-62.74
Geregu	468.51	403.82	-64.69
Kainji	750.04	674.81	-75.23
Okpai	655.73	525.05	-130.67
Delta GS	855.43	701.95	-153.47
Egbin ST (Gas)	1,422.69	1199.72	-222.97
Odukpani	722.01	314.45	-407.57
TOTAL	8,867.05	8,664.82	-202.23

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 there was 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 2:

$$\text{Load Factor} = \frac{\text{Total Energy Generated (MWh)}}{\text{Ave. Available Capacity (MW)} \times 24 \text{hrs} \times \text{period (in days)}} \times 100 \quad (2)$$

The overall load factor for all grid-connected power plants in 2023/Q3 was 93.18%; meaning that 6.82% of available energy (MWh) was not dispatched during the quarter. The 93.18% load factor recorded in 2023/Q3 represents an increase of 0.66 percentage points (pp) from the 92.53% load factor recorded in 2023/Q2.

The load factor of the seven (7) power plants with the highest dispatch rates in 2023/Q3 is presented in Figure 3. Five (5) power plants (Omoku, Trans Amadi, Afam VI, Olorunsogo, and Sapele ST) recorded dispatch rates of 100%. Cumulatively, seventeen (17) power plants recorded dispatch rates of at least 90% in 2023/Q3. Except for Shiroro which recorded an 86% dispatch rate, all other hydropower plants recorded dispatch rates > 90%. The low dispatch rate of Shiroro was caused by a fire outbreak at the Jebba transmission substation and a burnt line at the Birni Kebbi substation, which prevented power evacuation from the Shiroro hydropower plant.

Overall, the dispatch rate of the hydropower plants marks a notable improvement in the capacity utilisation of hydropower plants from 2023/Q2, where all the hydropower plants except Dadin Kowa recorded low dispatch rates <90%. This is consistent with the Commission's Order ([Order No: NERC/182/2019](#)) on mandatory and priority dispatch of hydropower plants. The Order mandates that hydropower plants which are the cheapest energy generation source, should be dispatched with priority to reduce wholesale energy costs for consumers.

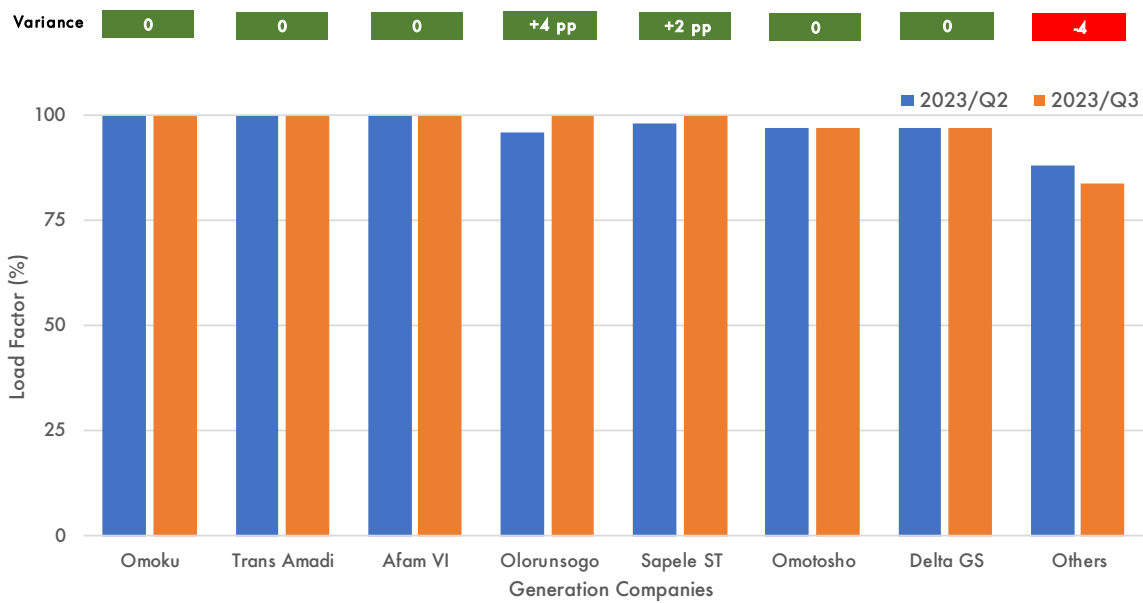


Figure 3: Plants Load Factor (%) in 2023/Q2 vs. 2023/Q3

2.2 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 objectives of the energy trilemma: cost reduction, reliability, and energy security. The formula for the share of electricity generated by fuel source is given by equation 3:

$$\text{Share of fuel}_i = \frac{\text{Total electricity generated from fuel } i \text{ (MWh)}}{\text{Total electricity generated from all fuel sources (MWh)}} \times 100 \quad (3)$$

The share of electricity generated from different fuel sources in 2023/Q2 and 2023/Q3 are presented in Figure 4. There was a 5.20% increase in hydropower contribution to the energy mix from 20.29% (1,798.82GWh) in 2023/Q2 to 25.49% (2,208.47GWh) in 2023/Q3. This increase is consistent with expectations regarding Nigeria’s energy mix. Energy generated by hydropower plants is expected to peak during the rainy season because there is improved water availability and consistent output from hydropower plants due to the standard operating procedures of the National Control Centre (NCC).

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.

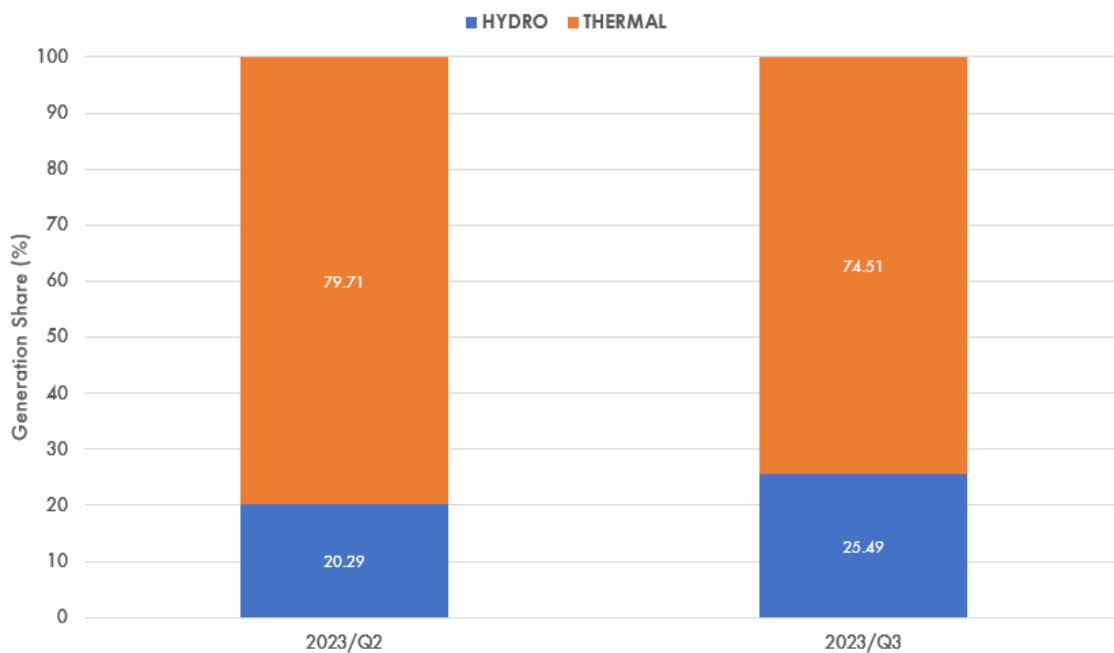


Figure 4: Electricity Generated by Energy Sources 2023/Q2 vs. 2023/Q3

2.3 Grid Performance

The Transmission Company of Nigeria (TCN) which has the responsibility of wheeling 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 (KPI) that relate to power transmission:

- Transmission loss factor
- Stability of grid frequency
- Voltage fluctuation

- Incidence of system collapse

2.3.1 Transmission Loss Factor

Transmission Loss Factor (TLF) refers to the proportion of the total energy sent out by the power plants that was 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; a decline in the TLF indicates an improvement in transmission efficiency. The formula for TLF is represented by equation 4:

$$\text{TLF} = \left(1 - \frac{\text{Energy delivered to all DisCos} + \text{Energy Exported}}{\text{Energy Sent out by all GenCos}} \right) \times 100 \quad (4)$$

The average TLF in 2023/Q3 was 7.94%, as shown in Figure 5. A TLF of 7.94% indicates that for every 100MWh of energy injected into the grid, 7.94MWh of energy was undelivered to the DisCos and international customers due to losses in the transmission network or consumption by the transmission substations. This performance in the quarter represents a decrease of -0.40pp from the TLF of 8.34% in 2023/Q2, indicating an improvement in the TSP's overall operational performance.

The 7.94% TLF recorded in 2023/Q3 represents an under-performance of -0.69pp 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 customers. Exceeding the TLF target means that the TSP will not recover the revenue allowed to it by the regulator for its operations because there is no provision for it to earn revenue from customers for the excess (inefficient) losses.

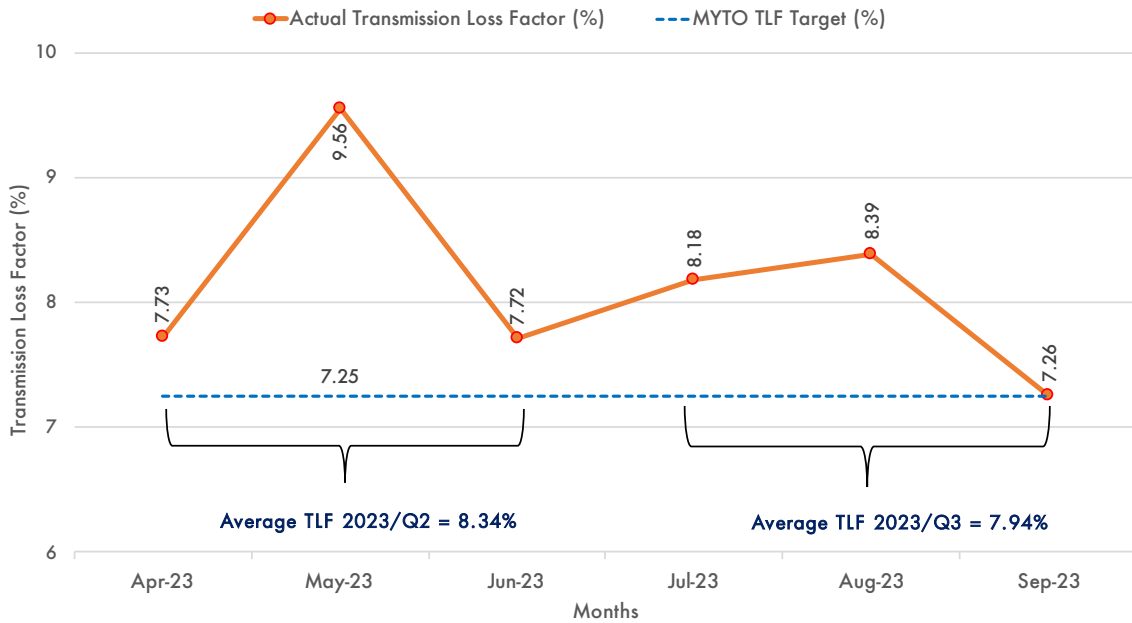


Figure 5: Actual Transmission Loss Factor (%) vs. MYTO TLF Target (%) Apr - Sept 2023

2.3.2 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 often have a low tolerance for frequency fluctuations and are therefore designed to operate only within pre-set frequency tolerance limits. As specified in the Grid Code, the operating range for system frequency under normal circumstances is expected to be between a lower limit of 49.75Hz and an upper limit of 50.25Hz (with an allowance of $\pm 0.5\%$). However, in extreme circumstances, system frequency may reach an upper bound stress limit of 51.25Hz and a lower bound stress limit of 48.75Hz (with an allowance of $\pm 2.5\%$).

In 2023/Q3, the highest daily system frequency of 51.56Hz was recorded on 17th September while the lowest daily system frequency of 47.10Hz was recorded on 20th September. During the quarter, the average upper daily system frequency was 50.71Hz, while the average lower daily system frequency was 49.00Hz, which translates to a range of 1.71Hz. Comparatively, in 2023/Q2, the average upper daily system frequency was 51.03Hz, while the average lower daily system frequency was 49.04Hz, with a range of 1.99Hz. A system’s stability is dependent on operating within the normal range specified in the Grid Code. Minimum deviation

from the normal range indicates improved system performance. The lower deviation from the normal range recorded in 2023/Q3 compared to 2023/Q2 (average monthly frequency range decreased by -14%) indicates an improvement in system operation performance during the quarter.

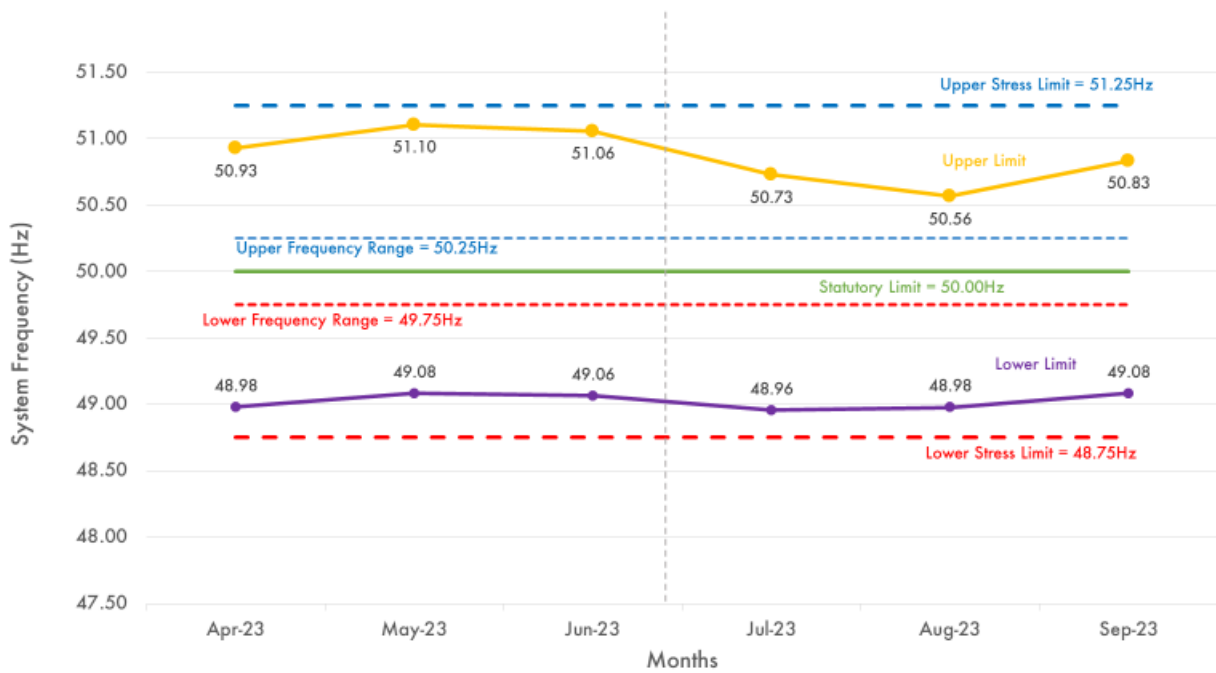


Figure 6: Monthly System Frequency from Apr-Sept 2023

Figure 6 shows that the 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 has been primarily caused by the lack of a Supervisory Control and Data Acquisition (SCADA) system. Without a 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 a SCADA system continues to pose challenges to the SO in terms of maintaining the grid within the allowed normal frequency limits.

Notwithstanding, improved frequency performance in the NESI will require an improvement in the real-time balancing of load offtake and generation. This can be achieved through improved predictability of GenCos availability as well as DisCos load offtake. The Commission will continue to monitor the SO’s system coordination

performance to ensure grid frequency is maintained within the statutory limits specified in the Grid Code.

2.3.3 Voltage Fluctuation

To guarantee that quality electricity is 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 April to September 2023 is illustrated in Figure 7. The average upper and lower operating voltage bounds for the transmission network in 2023/Q3 were 353.28kV and 299.53kV 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. The network's upper and lower operating voltage range for 2023/Q3 was 53.75kV which is lower than what was recorded in 2023/Q2 (56.61kV; Upper of 353.78kV and lower of 297.47kV). This indicates that overall, the system profile of the network was better in 2023/Q3 relative to 2023/Q2 and is consistent with the marginal improvement observed in the system's frequency performance (discussed above).

The Commission is actively working with TCN and other stakeholders to ensure that the system voltage remains within the regulated limits, providing safe and reliable electricity supply.

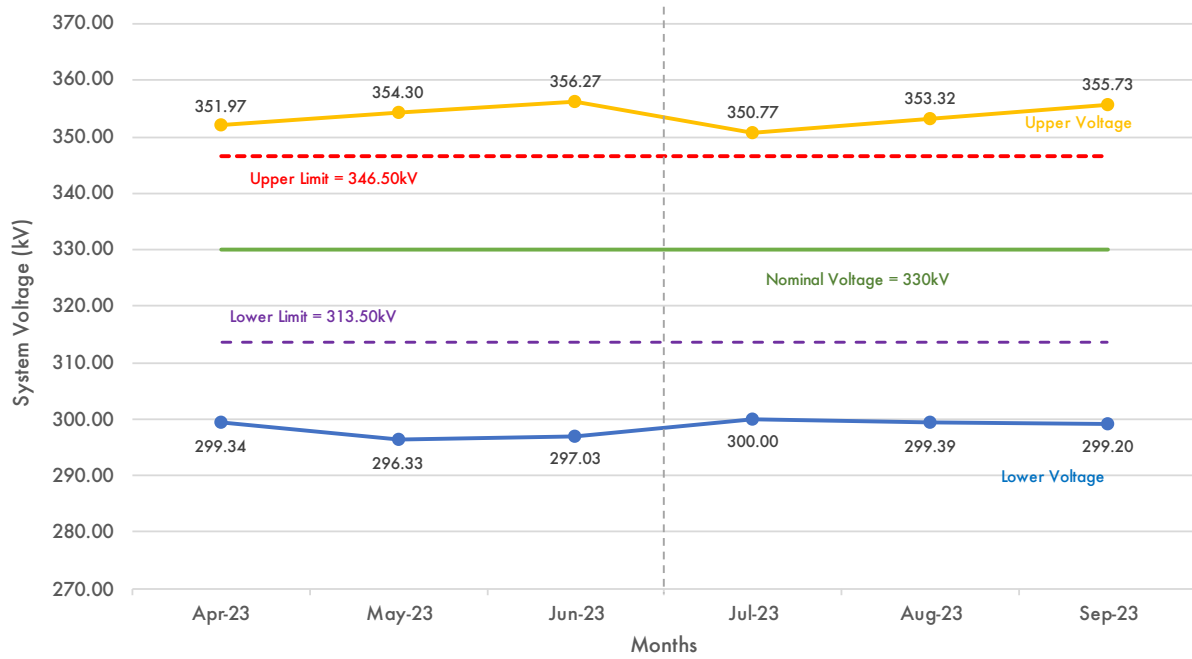


Figure 7: Monthly System Voltage from Apr-Sep 2023

2.3.4 System Collapse

The national power grid is a vast network of electrical transmission lines that link power stations to customers across the nation. It is designed to function within specific stability boundaries, including voltage (330kV ± 5.0%) and frequency (50Hz ± 0.5%). Any deviation from these stability ranges can result in decreased power quality and, in severe cases, cause widespread power outages. This can range from a partial collapse of a section of the grid to a full system-wide blackout.

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

In 2023/Q3, two (2) events of system collapses were recorded. This was after three consecutive quarters (2022/Q4 to 2023/Q2) of recording zero incidences of system disturbance/collapse.

The details of the events leading up to the two grid collapse incidences recorded in 2023/Q3 are presented in Table 3.

Table 3: System Collapse in 2023/Q3

SN	Date	Immediate Cause	Remote Cause	Inference
1	The system collapse occurred on the 14 th of September 2023 at 00:41 hours.	The immediate cause of the system collapse was suspected by TCN to have been the tripping of Kainji and Shiroro Generating Units on the grid resulting in the frequency-load imbalance.	The remote causes were: The explosion of Kainji and Jebba Line 2 blue phase Capacitor Voltage Transformer. The burning of the blue isolator of Kainji and Jebba 330kV line 1, which made the Jebba Units to be on full speed no load condition.	At 00:40 hours two Generating Units of Shiroro Power Station tripped and lost 224MW of power At 00:40:58 hours, four Generating Units of Kainji Power Station tripped with a generation loss of 423MW. The total generation that was lost which precipitated the system collapse was 647MW.
2	The system collapse occurred on the 19 th of September 2023 at 11:31 hours.	The immediate cause was due to the tripping of some Generating Units of Kainji, Jebba and Dadin Kowa Power Stations on under frequency protection.	The loss of lines G3B and S4G isolated Delta power station Generating Units which led to a decrease in system frequency from 50.20Hz to 48.21Hz. This was the remote cause of the system collapse.	When lines G3B and S4G were lost, this isolated some generating Units at Delta Power Station. A load of 346MW was lost and that resulted in a sharp decline in System Frequency from 50.20Hz to 48.21Hz.

As discussed earlier in the report, the fragility of the grid – propensity 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. Furthermore, a SCADA system facilitates grid configuration to allow for islanded operations. 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.

The Commission is also exploring options for the enforcement of under frequency load-shedding scheme instituted to provide an added layer of security for the grid in case of a sudden loss of generation. TCN could also be required to undertake a review of the calibration of its relay settings as part of the efforts to increase grid stability.

2.4 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/Q3, 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).

2.4.1 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 – “Available PCC”. The ratio between a DisCo’s energy offtake and the available PCC is known as the “energy offtake performance”. The formula for determining a DisCo’s energy offtake performance is represented by equation 4:

$$\text{Energy Offtake performance (\%)} = \left(\frac{\text{Energy Offtake}}{\text{Available PCC}} \right) \times 100 \quad (4)$$

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 losses in certain areas.

To curtail this practice, 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 provides that persistent load non-offtake to certain thresholds may trigger regulatory actions against the management of erring DisCos. Furthermore, 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.

In 2023/Q3, the average energy offtake by DisCos at their trading points was 3,253.83MWh/h, which represents an increase of +0.08% (+2.52MWh/h) when compared to 3,251.31MWh/h off-take in 2023/Q2. During the quarter, all the DisCos took less than their available PCC (offtake performance was <100%), except Eko and Ibadan DisCos which recorded offtake performance of 112.25% and 105.55% and will therefore benefit from reduced wholesale energy costs.

However, a quarter-on-quarter analysis showed that the overall energy offtake performance of the DisCos decreased by -0.12pp in 2023/Q3 (96.48%) relative to the 96.60% performance recorded in 2023/Q2. Seven (7) DisCos recorded decreases in their offtake performances between 2023/Q2 and 2023/Q3 with Eko, Ikeja and Kano DisCos recording the highest decreases of -4.64pp, -3.66pp and -3.70pp respectively. Ibadan and Jos DisCos recorded significant increases of 11.29pp and 5.07pp respectively, in their energy offtake performance between 2023/Q2 and 2023/Q3 (Table 4).

Table 4: DisCo energy offtake performance in 2023/Q2 vs. 2023/Q3

DisCos	2023/Q2			2023/Q3		
	Energy Offtake (MWh/h)	Available PCC (MWh/h)	Offtake Performance %	Energy Offtake (MWh/h)	Available PCC (MWh/h)	Offtake Performance %
Abuja	496.34	527.64	94.07	480.07	528.33	90.87
Benin	297.33	305.85	97.21	272.82	289.37	94.28
Eko	410.71	351.34	116.90	424.82	378.46	112.25
Enugu	282.05	315.34	89.44	263.85	284.56	92.72
Ibadan	374.29	397.09	94.26	405.10	383.79	105.55
Ikeja	518.45	535.03	96.90	524.79	562.85	93.24
Jos	161.05	187.99	85.67	168.39	185.58	90.74
Kaduna	178.11	184.68	96.44	188.41	194.56	96.84
Kano	191.26	199.19	96.02	188.19	203.84	92.32
Port Harcourt	244.05	257.55	94.76	239.08	251.36	95.11
Yola	97.66	103.69	94.18	98.31	110.00	89.37
All DisCos	3,251.31	3,365.84	96.60	3,253.83	3,372.71	96.48

The Commission will utilise its Order on Performance Monitoring Framework to enforce appropriate regulatory actions against DisCos that fail to meet the KPI targets for offtake ratio. Furthermore, the situation room set up by the Commission will continue to undertake a daily analysis of the energy offtake performance of DisCos and intervene with the management of DisCos as required.

2.4.2 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 technical - energy loss in distribution lines and commercial - DisCo's inability to account for 100% of the energy supplied. Commercial losses could either be as a result of theft on the part of the customer i.e. meter bypass or other factors under the DisCo's control such as poor customer enumeration, insufficient metering 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 5:

$$\text{Billing Efficiency} = \left(\frac{\text{Total energy billed to customers (kWh)}}{\text{Total energy received by the Network (kWh)}} \right) \times 100 \quad (5)$$

The total energy offtake by all DisCos in 2023/Q3 was 7,184.45GWh and the total energy billed was 5,682.11GWh, which translates to a billing efficiency of 79.09%. A billing efficiency of 79.09% implies that for every ₦100 worth of energy received

by DisCos in 2023/Q3, ₦20.91 was not billed to end users. Comparatively, the total energy received and billed in 2023/Q2 were 7,100.87GWh and 5,789.21GWh respectively, which translated to a billing efficiency of 81.53%. This means that at the aggregated level, the NESI recorded a -2.44pp decline in billing efficiency between 2023/Q2 and 2023/Q3.

In 2023/Q3, Eko DisCo recorded the highest billing efficiency of 88.06%, while Kaduna DisCo recorded the lowest billing efficiency of 52.99%. A quarter-on-quarter comparison of billing efficiency showed that eight (8) DisCos recorded a decline in their billing efficiencies in 2023/Q3 relative to 2023/Q2, while Yola (+4.59pp), Enugu (+2.45pp), and Benin (+1.40pp) DisCos recorded improvements in their billing efficiencies in 2023/Q3 relative to 2023/Q2 (Table 5).

Table 5: Energy Received and Billing Efficiency by DisCos in 2023/Q2 vs. 2023/Q3

DisCos	Total Energy Offtake (GWh)		Total Energy Billed (GWh)		Billing Efficiency (%)	
	2023/Q2	2023/Q3	2023/Q2	2023/Q3	2023/Q2	2023/Q3
Abuja	1,084.00	1060.00	796.00	776.00	73.43	73.21
Benin	649.36	602.39	548.78	517.53	84.51	85.91
Eko	897.00	938.00	818.00	826.00	91.19	88.06
Enugu	616.00	582.59	453.00	442.72	73.54	75.99
Ibadan	817.46	894.46	675.69	681.69	82.66	76.21
Ikeja	1,132.29	1158.73	1043.64	1007.17	92.17	86.92
Jos	351.74	371.81	292.74	302.84	83.23	81.45
Kaduna	389.00	416.00	249.60	220.45	64.16	52.99
Kano	417.72	415.51	304.05	292.29	72.79	70.35
Port Harcourt	533.01	527.89	444.24	439.08	83.35	83.18
Yola	213.29	217.06	163.47	176.34	76.64	81.23
All DisCos	7,100.87	7,184.45	5,789.21	5,682.11	81.53	79.09

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.

2.4.3 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 6:

$$\text{Collection Efficiency} = \left(\frac{\text{Total Revenue Collected (₦)}}{\text{Total Billed Amount (₦)}} \right) \times 100 \quad (6)$$

The total revenue collected by all DisCos in 2023/Q3 was ₦267.61 billion out of the ₦349.55 billion that was billed to customers. This translates to a collection efficiency of 76.56%. The DisCos overall collection efficiency increased by +1.02pp from 75.54% recorded in 2023/Q2. This is explained by the fact that although there was a marginal difference in total collections in 2023/Q3 (-0.09%) compared to 2023/Q2 (₦267.86 billion), the total billings declined by -1.42% (compared to ₦354.61 billion in 2023/Q2).

The summary of the revenue collection performance of all DisCos in 2023/Q2 and 2023/Q3 is contained in Table 6. All DisCos except Eko and Abuja recorded improvements in collection efficiency in 2023/Q3 compared to 2023/Q2. The DisCos with the most significant improvements in collection efficiency were Kaduna, Ikeja and Yola with +4.62pp, +3.12pp and +2.89pp increases in collection efficiency respectively, between 2023/Q2 and 2023/Q3. Eko and Abuja DisCos had -3.38pp and -1.21pp decreases respectively, in collection efficiencies.

Table 6: Revenue Collection Performance (%) of DisCos in 2023/Q2 vs. 2023/Q3

<i>DisCos</i>	<i>Total Billings</i>		<i>Revenue Collected</i>		<i>Collection Efficiency</i>	
	<i>(₦' Billion)</i>		<i>(₦' Billion)</i>		<i>(%)</i>	
	2023/Q2	2023/Q3	2023/Q2	2023/Q3	2023/Q2	2023/Q3
Abuja	52.77	50.73	43.58	41.29	82.59	81.38
Benin	33.77	31.41	21.81	21.20	64.59	67.49
Eko	49.31	51.81	43.25	43.69	87.71	84.33
Enugu	27.37	25.90	20.88	20.04	76.29	77.37
Ibadan	39.95	39.77	28.09	28.72	70.32	72.20
Ikeja	58.76	58.35	55.82	57.25	95.00	98.12
Jos	20.82	21.12	9.52	10.14	45.71	48.03
Kaduna	13.95	12.10	8.28	7.74	59.38	64.00
Kano	19.33	19.15	12.64	12.94	65.38	67.55
Port Harcourt	27.13	26.55	18.81	18.50	69.32	69.66
Yola	11.46	12.66	5.19	6.10	45.27	48.16
All DisCos	354.61	349.55	267.86	267.61	75.54	76.56

The overall increase in collection efficiency in 2023/Q3 could be attributed to the implementation of various collection campaigns by DisCos to improve remittance

from post-paid customers. The most proven method for reducing collection losses 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 also 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.

2.4.4 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 7:

$$\text{ATC\&C Loss} = [1 - (\text{billing efficiency} \times \text{collection efficiency})] \times 100 \quad (7)$$

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/Q3 was 39.45%, which comprised 20.91% in technical and commercial losses, and 23.44% in collection loss (Table 7). This level of ATC&C loss implies that over the course of 2023/Q3, cumulatively, ₦39.45 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.

While the ATC&C loss for 2023/Q3 (39.45%) increased by +1.04pp compared to 38.41% recorded in 2023/Q2, there was a decrease of -1.02pp in collection losses during the period (23.44% in 2023/Q3 compared to 24.46% in 2023/Q2) which corroborates the earlier findings that billing losses were the drivers of increased ATC&C loss in 2023/Q3 compared to 2023/Q2.

Five (5) DisCos recorded reductions in ATC&C loss in 2023/Q3 compared to 2023/Q2. The DisCos with a significant reduction in ATC&C loss between 2023/Q2 and 2023/Q3 are Yola (-4.42pp), Benin (-3.39) and Enugu (-2.69). Eko, Kaduna and Ibadan DisCos however recorded increases in ATC&C loss in 2023/Q3 compared to 2023/Q2 with an increase of +5.71pp, +4.79pp and +3.10pp respectively (Table 7).

The aggregate ATC&C loss of 39.45% recorded in 2023/Q3 is 19.39pp 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 19.39pp higher than what was allowed to be recovered from the customers – these inefficient losses that are not recoverable from customers will directly affect DisCos' profitability.

It is noteworthy that none of the DisCos achieved their target ATC&C with the widest variance (actual – target) being recorded by Kaduna (60.09pp), Kano (36.63pp) and Jos (33.61pp). 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/Q2 vs. 2023/Q3

DisCo	MYTO Target (%)	ATC&C (%)		Variance (pp)	
	2023	2023/Q2	2023/Q3	2023/Q2	2023/Q3
Abuja	19.27	39.35	40.42	20.08	21.15
Benin	17.37	45.41	42.02	28.04	24.65
Eko	14.18	20.01	25.72	5.83	11.54
Enugu	11.31	43.90	41.21	32.59	25.74
Ibadan	15.47	41.88	44.98	26.41	29.51
Ikeja	11.37	12.44	14.71	1.07	3.34
Jos	27.27	61.95	60.88	34.68	33.61
Kaduna	6.60	61.90	66.09	55.30	60.09
Kano	15.85	52.41	52.48	36.56	36.63
Port Harcourt	21.45	42.23	42.06	20.78	20.61
Yola	60.60	65.30	60.88	4.70	0.28
All DisCos					
MYTO Level	20.06				
Total Technical, Commercial & Collection losses	-	38.41	39.45		
Technical & Commercial losses	-	18.47	20.91		
Collection losses	-	24.46	23.44		

2.4.5 Market Remittance

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

In June 2020, the remit of the fund manager responsible for the escrow was expanded to include the implementation of the payment waterfall framework which was designed by the Commission to increase upstream market remittance to NBET 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.

2.4.5.1 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 shortfall funding. This funding is applied to the NBET invoices that are to be paid by DisCos. The amount to be covered by the DisCo is based on the tariff that they are allowed to charge 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/Q3 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 ₦204.59 billion in 2023/Q3 (average of ₦68.20 billion per month), which is an increase of ₦69.37 billion (+51.30%) compared to the ₦135.23 billion (average of ₦45.08 billion per month) incurred in 2023/Q2; this increase is largely attributable to the Government's policy to harmonise exchange rates⁸.

The rise in the Government's subsidy obligation meant that in 2023/Q3, DisCos were only expected to cover 45.00% of the total invoice received from NBET. For ease of administration of the subsidy, the MRO is limited to NBET only with the MO being allowed to recover 100% of its revenue requirement from the DisCos.

In 2023/Q3, the MRO-adjusted invoice from NBET to the DisCos was ₦167.40 billion⁹ while the total remittance made was ₦124.53 billion, which translates to a 74.39% remittance performance. The remittance performance of DisCos to NBET in 2023/Q3 (74.39%) is a -24.60pp decrease compared to the 98.99% remittance performance recorded in 2023/Q2. The notable decline in remittance performance by DisCos is a result of the -18.29% decrease in remittance in 2023/Q3 (₦124.53 billion) compared to 2023/Q2 (₦152.48 billion) in spite of the fact that the MRO-adjusted invoice in 2023/Q3 (₦167.40 billion) increased by 8.67% compared to 2023/Q2 (₦154.04 billion).

⁸ For tariff calculation, the Commission applies the official FX rate as published by the Central Bank of Nigeria. With the harmonisation of rates effective June 2023, the USD-based invoices/expenses for electricity generated from April 2023 were all adjusted to the new FX rate which was at least 50% greater than what was obtainable as at the end of the March 2023 market cycle.

⁹ Total NBET invoice for 2023/Q3 without adjustment for MRO is ₦371.99 billion

Table 8: NBET Invoice and MRO Adjusted final Obligation of DisCos for 2023/Q3

DisCos	NBET Invoice (₦' billion)	MRO (%)	Final Obligation (₦' billion)
Abuja	58.41	57.00	33.30
Benin	31.63	41.07	12.99
Eko	41.91	47.66	19.98
Enugu	31.05	48.39	15.03
Ibadan	42.96	39.08	16.79
Ikeja	61.79	54.00	33.37
Jos	20.25	28.72	5.82
Kaduna	22.00	33.20	7.30
Kano	22.50	38.68	8.70
Port Harcourt	27.76	45.33	12.58
Yola	11.73	13.24	1.55
All DisCos	371.99	45.00	167.40

In 2023/Q3, Eko (101.89%) and Yola (100.00%) DisCos recorded $\geq 100\%$ ¹⁰ remittance performance to NBET (Figure 8). All DisCos except Kano (+0.39%) had a decrease in remittance performance to NBET when compared to 2023/Q2.

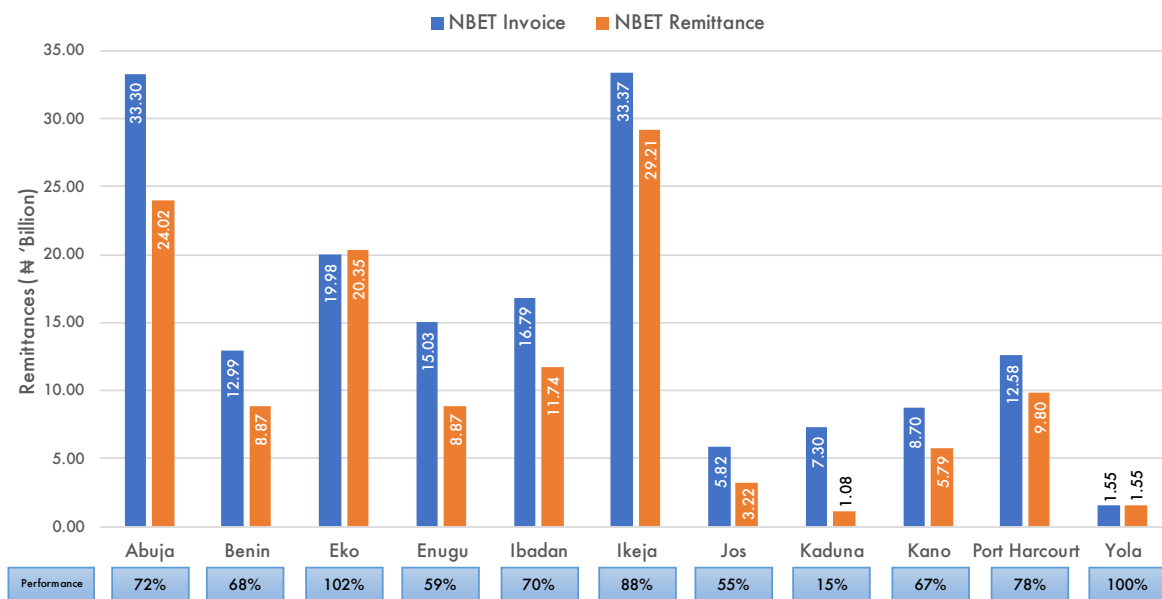


Figure 8: DisCos Remittance Performances to NBET in 2023/Q3

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

¹⁰ Remittance performance above 100% is due to payment of arrears.

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 appropriate.

2.4.5.2 Market Remittance to MO

The Market Operator issues invoices to DisCos for energy transmission and administrative services. In 2023/Q3, the DisCos made a total remittance of ₦33.90 billion against the cumulative invoice of ₦41.30 billion issued by the MO. This payment translates to 82.09% remittance performance and is a +1.19pp increase when compared to 80.90% remittance performance recorded in 2023/Q2. On a DisCo-by-DisCo basis, Ibadan and Yola DisCos recorded the highest MO remittance performances of 100.30% and 100.00% respectively while Kaduna had the lowest remittance performance of 12.49% (Figure 9).



Figure 9: DisCos Remittance Performances to MO in 2023/Q3

Between 2023/Q2 and 2023/Q3, six (6) DisCos recorded improvements in MO remittance performance with Benin (+29.29pp), Ibadan (+10.93pp) and Kano (+10.58pp) having the highest improvements. The DisCos that recorded a decline in MO remittance performance in 2023/Q3 relative to 2023/Q2 were Jos (-28.75pp), Enugu (-18.60pp), Ikeja (-10.68pp), and Kaduna (-0.71pp).

2.4.5.3 Market Remittance to NBET and MO

The cumulative DisCos' remittance to NBET and MO in 2023/Q3 is presented in Table 9.

Table 9: DisCos Remittance Performances to NBET and MO in 2023/Q3

DisCos	MRO Adjusted Invoice (₦' Billion)		Actual Remittance (₦' Billion)		Remittance Performance (%)	
	NBET	MO	NBET	MO	2023/Q2	2023/Q3
Abuja	33.30	6.42	24.02	5.72	86.54	74.87
Benin	12.99	3.58	8.87	3.52	101.58	74.79
Eko	19.98	4.88	20.35	4.60	106.00	100.38
Enugu	15.03	3.44	8.87	2.05	102.55	59.17
Ibadan	16.79	4.91	11.74	4.93	107.78	76.81
Ikeja	33.37	6.75	29.21	6.51	113.69	89.06
Jos	5.82	2.34	3.22	1.22	101.05	54.50
Kaduna	7.30	2.47	1.08	0.31	22.40	14.19
Kano	8.70	2.49	5.79	1.55	63.15	65.61
Port Harcourt	12.58	3.09	9.80	2.58	92.67	78.98
Yola	1.55	0.92	1.55	0.92	102.67	100.00
All DisCos	167.40	41.30	124.53	33.90	95.21	75.91

2.4.5.4 Market Remittance by Other Customers

The remittances made by international, bilateral, and special customers for invoices issued in 2023/Q3 by the MO are detailed in Table 10. None of the four (4) international customers¹¹ being supplied by GenCos in the NESI made payment against the cumulative invoice of \$11.16 million issued by the MO for services rendered in 2023/Q3.

There were also no remittances by bilateral customers against the cumulative invoice of ₦2,814.68 million issued to them by the MO for services rendered in 2023/Q3 (Table 10). It is however noteworthy that some bilateral customers made payments during 2023/Q3 for outstanding MO invoices from previous quarters. The details of these payments are contained in Appendix VIII. 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 ₦0.58 billion (NBET) and ₦0.07 billion (MO) invoices

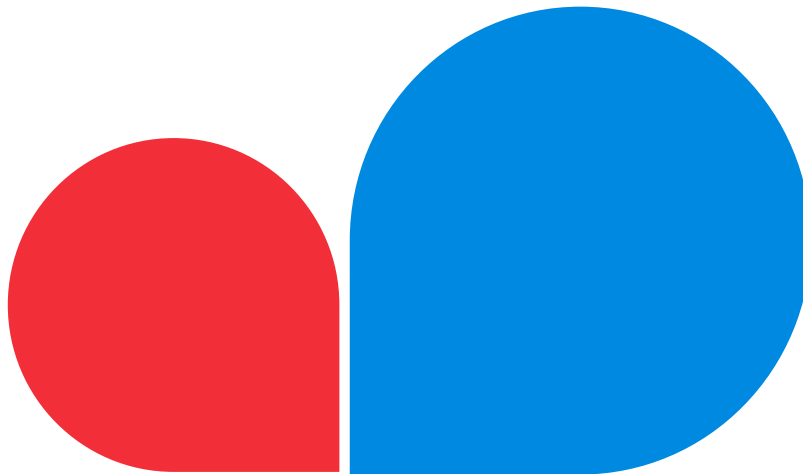
¹¹ Supply of Electricity to Niger Republic under MAINSTREAM-NIGELEC was suspended on the 1st of August 2023 due to the boycott announced by ECOWAS, as a result of the coup.

received in 2023/Q3. 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. A continuation of the non-payment may trigger total disconnection from the grid because of the large accumulation of debts.

Table 10: Invoices and Remittances of Other Customers in 2023/Q3

Customers	NBET			MO		
	Invoice (Million)	Remittance (Million)	Performance (%)	Invoice (Million)	Remittance (Million)	Performance (%)
	2023 /Q3	2023 /Q3	2023 /Q3	2023 /Q3	2023 /Q3	2023 /Q3
International Customers						
PARAS-SBEE (\$)	-	-	-	2.42	0.00	0.00
TRANSCORP-SBEE (\$)	-	-	-	2.62	0.00	0.00
MAINSTREAM-NIGELEC (\$)	-	-	-	1.96	0.00	0.00
ODUKPANI-CEET (\$)	-	-	-	4.16	0.00	0.00
Total	-	-	-	11.16	0.00	0.00
Bilateral Customers						
MSTM/INNER GALAXY (₦)	-	-	-	762.86	0.00	0.00
MSTM/KAM IND. (₦)	-	-	-	35.49	0.00	0.00
MSTM/KAM INT. (₦)	-	-	-	0.00	0.00	0.00
NDPHC/SUNFLAG (₦)	-	-	-	13.19	0.00	0.00
NDPHC/WEEWOOD (₦)	-	-	-	77.87	0.00	0.00
NORTH SOUTH/STAR P (₦)	-	-	-	32.11	0.00	0.00
TRANS AMADI/ OAU (₦)	-	-	-	22.22	0.00	0.00
MSTM/ADFV (₦)	-	-	-	37.60	0.00	0.00
OMOTOSHO II/EKEDC (₦)	-	-	-	1,047.59	0.00	0.00
OMOTOSHO II/PULKIT (₦)	-	-	-	18.68	0.00	0.00
MAINSTREAM/PRISM (₦)	-	-	-	262.83	0.00	0.00
ALAOJI GENCO/APLE (₦)	-	-	-	322.92	0.00	0.00
TAOPEX/KAM INT (₦)	-	-	-	76.80	0.00	0.00
TAOPEX/KAM STEEL (₦)	-	-	-	69.57	0.00	0.00
MSTM ZEBERCED (₦)	-	-	-	27.99	0.00	0.00
TRANS AMADI (FMPI) (₦)	-	-	-	6.96	0.00	0.00
Total	-	-	-	2,814.68	0.00	0.00
Special Customer						
AJAOKUTA STEEL (₦)	581.94	0	0	65.53	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 Nigérienne d'électricité, respectively.



03

Regulatory Functions

3.0 REGULATORY FUNCTIONS

Pursuant to Section 34 of the Electricity Act (EA) 2023, the Commission is empowered to “license and regulate persons engaged in the generation, transmission, system operation, distribution, supply and trading of electricity” in the NESI. Furthermore, Section 227 of the Act 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 from time to time to optimise the performance of licensees with a view to giving effect to the object of the Electricity Act 2023. Orders are a series of directives/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/Q3, the Commission did not issue any new Regulation. The Commission however issued three (3) new Orders during the quarter. The details of these Orders are provided below:

1. Order No: [NERC/2023/005](#) – Order on Migration of Token Identifier of Standard Transfer Specification Meters from Key Revision 1 to Key Revision 2. The Order was issued and became effective on the 6th of July 2023. The objectives of this Order are to;
 - Ensure that all distribution licensees in the NESI migrate the Token Identifier (TID) of all Standard Transfer Specification (STS) meters in their network from key revision 1 to key revision 2 before 24th November 2024.
 - To ensure that customer vending is not constrained after 24th November 2024 on account of the inability to generate tokens.
 - Ensure that the distribution licensees develop clear and coherent communication strategies for the enlightenment of end-use customers and the general public on the migration of the TID of STS meters from key revision 1 to key revision 2.

The STS describes a secure message system for carrying information between a point-of-sale and a meter currently being used in the Nigerian electricity metering

and payment systems. The STS Association (STSA) maintains the STS technology and has mandated the migration of TID of all STS-compliant meters in the network of DisCos from key revision 1 to key revision 2 by 24th November 2024. This upgrade is necessary to prevent customer apathy from inability to vend, revenue loss to DisCos and risk of meter vandalism/bypass.

2. Order No: [NERC/2023/006](#) – Order on Deployment of Customer Engagement Platforms. The Order was issued and became effective on the 1st of September 2023. The objectives of this Order are to;
 - Provide guidance on the minimum standards for the deployment of call centres by DisCos pursuant to section 119 of the EA 2023.
 - Standardise call centres deployed by DisCos for seamless integration with the Commission’s call centre.

The Order was issued following the resolution of the Commission to deploy a call centre to improve the DisCos’ complaint resolution rate by providing near real-time visibility of customer complaints filed with DisCos. The call centre will also provide an additional avenue for monitoring DisCos’ service quality and delivery to customers.

3. Order No: [NERC/2023/020](#) – Order on the Price Review of MAP Meters. The Order was issued on the 5th of September 2023 and became effective on the 6th of September 2023. The objectives of this Order are to;
 - Ensure the fair and reasonable pricing of meters to both MAPs and end-use customers.
 - Ensure MAP’s ability to recover reasonable costs associated with meter procurement and maintenance while ensuring that their pricing structure allows for a viable return on investment.
 - Evaluate the affordability of meter services for customers, aiming to prevent excessive pricing that could burden end-users.
 - Ensure that MAPs are able to provide meters to end-use customers in the prevailing economic realities.

The Order was issued following significant changes in macroeconomic indicators such as inflation and changes in foreign exchange rates. The Commission, through this Order, approved the review of MAP-issued meter prices (Table 11).

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

Table 11: Price review for single and three-phase meters

<i>Meter Type</i>	<i>Old Price (₦)</i>	<i>New Price (₦)</i>
Single-Phase Meter (4G, Smart)	58,661.69	81,975.16
Three-Phase Meter (4G, Smart)	109,684.36	143,836.10

3.2 Licences and Permits Issued or Renewed

The Commission issues licenses for electricity generation, transmission, distribution, trading and system operations in the NESI. For activities that do not require licenses based on the provisions of sections 65-68 of the EA 2023, but still require authorisation from the Commission such as off-grid captive power generation and mini-grid development, the Commission issues permits to the operators following a review of the relevant applications. The summary of the licensing activities of the Commission during this quarter is listed below (full details of approved licenses and *amendments/renewals* are in [Table 12](#)).

- I. Five (5) new off-grid generation licences (8.81MW)
- II. One (1) new licence for embedded generation (5MW),
- III. One (1) new licence for Independent Electricity Distribution Network (IEDN)
- IV. One (1) new licence for trading respectively.
- V. *Three (3) off-grid generation licences*
- VI. *One (1) embedded generation*
- VII. *One (1) IEDN licenses*

Table 12: Licences issued in 2023/Q3

SN	Licensee	Location	Capacity (MW)	License Type	Fuel Type
New					
1	Daybreak Power Solutions Limited	Lagos State	1.4	Off-grid	Solar
2	Daybreak Power Solutions Limited	Abia State	1.5	Off-grid	Solar
3	Daybreak Power Solutions Limited	Borno State	1.582	Off-grid	Solar
4	Daybreak Power Solutions Limited	Kano State	1.6	Off-grid	Solar
5	Daybreak Power Solutions Limited	Lagos State	2.73	Off-grid	Solar
6	Ekiti IPP Limited	Ekiti State	5	Embedded	Gas

7	Olokiti Power Distribution Limited	Ekiti State	NA	IEDN	NA
8	Ember Power Limited	NA	NA	Trading	NA
Renewal					
9	Island Power Limited	Lagos State	10	Embedded	Gas
10	Energy Company of Nigeria Limited	Lagos State	NA	IEDN	NA
11	Daybreak Power Solutions Limited	Kano State	3.5MW to 5.7MW	Amendment	Gas
12	Daybreak Power Solutions Limited	Oyo State	1.6MW to 2.7MW	Amendment	Gas
13	Daybreak Power Solutions Limited	Abuja	1.5MW to 2.1MW	Amendment	Gas

3.3 Captive Power Generation Permits

Captive power plants are plants owned and maintained by the generating entity for its own consumption and not for sale to a third party. The Commission issued three (3) captive power generation permits in 2023/Q3 with a total nameplate capacity of 7.07MW. Details of the permit holders, location and plant capacities are contained in Table 13.

Table 13: Captive Generation Plants approved in 2023/Q3

S/N	Company Name	Location/State	Capacity (MW)
1	British American Tobacco Company Limited	Ibadan, Oyo State	1.40
2	Pardee Foods Nigeria Limited	Sango Otta, Ogun State	3.87
3	Geeta Plastic Products Nigeria Limited	Mushin, Lagos State	1.80

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 mini-grid developer for one or more system(s) with distribution capacity below 100kW.

Following the satisfactory evaluation of mini-grid applications, the Commission issued five (5) Mini-grid permits in 2023/Q3. The details of the permits are presented in Table 14.

Table 14: Mini-grid Permits issued in 2023/Q3

S/N	Name	Location	Type	Capacity (kW)
1	A4 & T Power Solutions Limited	Lagos State	Permit	880
2	Ashipa Electric Limited	Bayelsa State	Permit	200
3	Eauxwel Nigeria Limited	Abia State	Permit	100
4	Prado Power Limited	Benue State	Permit	470
5	Havenhill Energy Limited	Kwara State	Permit	150

3.5 Certification of Meter Service Providers/Meter Asset Providers

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

In 2023/Q3, the Commission granted five (5) MAP permits and certified ten (10) MSPs – *eight (8) meter installer companies, and two (2) meter manufacturers*. Details of the certified MAPs and MSPs are contained in Table 15.

Table 15: Meter Service/Asset Providers certified in 2023/Q3

S/N	Name	Authorisation Type
Meter Service Providers		
1	Brylali Engineering Services Limited	Installer A1
2	Powerdrones Engineering Limited	Installer A1
3	Pontes Monnies Consult Limited	Installer A1
4	Yisconfen International Company Limited	Installer A1
5	Emdee Engineering Limited	Installer A1
6	Empic Engineering Company Limited	Installer A1

7	Adeq Global Resources Limited	Installer A1
8	Primepro Power Limited	Installer A1
9	Direct Credit E- Solution Nigeria Limited	Manufacturer
10	Metering Solutions Manufacturing Services Limited	Manufacturer
Meter Asset Providers		
1	Chris-Ejik International Agencies Limited	MAP Permit
2	Crestflow Energy Limited	MAP Permit
3	Aries Electric Limited	MAP Permit
4	Klartek Nigeria Limited	MAP Permit
5	Integrated Resources 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 regulations as well as on their rights and obligations.

In July 2023, the Commission convened a stakeholder workshop on the constitutional amendment and EA 2023 to discuss strategies and methods for the effective implementation of the EA 2023. Participants at the workshop included representatives from most State Governments, the Nigerian Governors Forum, other Federal Government agencies involved in the power sector, international donors and independent power sector experts.

At the conclusion of the workshop, three (3) thematic working groups with representation from the Federal and State governments as well as independent sector experts were formulated. The working groups were tasked with developing solutions to some of the complex areas of a multi-tier regulatory regime in the power sector.

3.7 Compliance and Enforcement

Section 64(1) of the EA 2023 mandates all licensees to "comply with the provisions of its license, regulations, codes, orders and other requirements issued by the Commission from time to time". In furtherance to this, the Commission carried out enforcement actions against licensees in 2023/Q3 for violations of rules and infractions.

In line with Section 76(1)(a) of the EA 2023 which stipulates that “where the Commission is satisfied that a licensee is contravening, has contravened or is likely to contravene any of the conditions of the licence, the Commission may serve upon the licensee an order requiring the licensee to do, or not to do, such things as are specified in the order for the purpose of rectifying or avoiding any contravention or threatened contravention of any condition of the licence”, the Commission issued rectification directives to licensees for different breaches/defaults.

Furthermore, Notices of Intention to Commence Enforcement (NICE) were also issued to some licensees following non-compliance with rectification directives or for flagrant breaches. The details of the rectification directives and NICE issued by the Commission in 2023/Q3 are contained in Table 16.

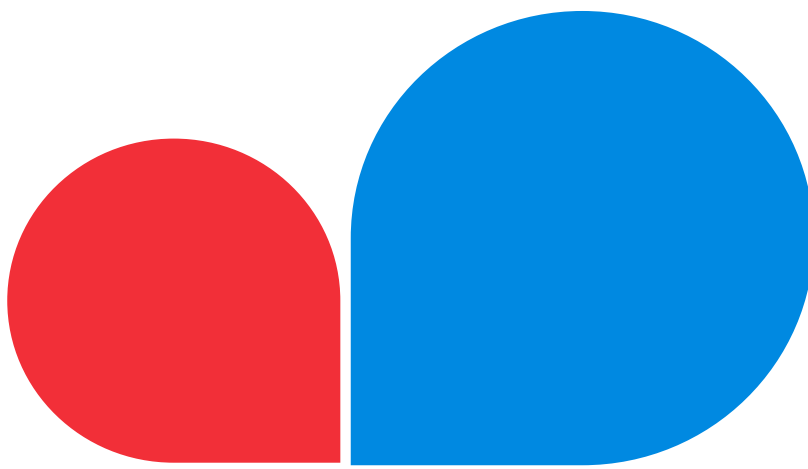
3.8 Alternative Dispute Resolution

In accordance with section 42.3.7 of the Market Rule, 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 16: Rectification directives and NICE issued in 2023/Q3

SN	Rectification Directive/NICE	Licensee	Date Issued	Deadline	Outcome
<i>Rectification Directives</i>					
1	Failure to provide the World Bank's consultant with relevant information on their generator units for solar power integration studies.	16 On-grid GenCos	3 July 2023	14 July 2023	Directive complied with by the 16 on-grid GenCos
2	Non-compliance to the Commission's directive to provide NBET with active and valid Bank Guarantees.	Abuja, Benin, Kaduna and Yola DisCos	19 July 2023	3 August 2023	Abuja and Benin complied within the timeline; Kaduna and Yola complied after seeking an extension of time.
3	Non-compliance with the Order on Performance Monitoring Framework	All DisCos	11 August 2023	18 August 2023	The responses are being reviewed by the Commission.
4	Report on electrocution caused by line snap	Benin DisCo	11 August 2023	25 August 2023	The response is being reviewed by the Commission.
5	Failure to comply with two decisions of the Asaba Forum Office	Benin DisCo	11 August 2023	18 August 2023	A response indicating compliance is being reviewed by the Commission.
6	Failure to comply with the decision of the Umuahia Forum Office	Enugu DisCo	11 August 2023	18 August 2023	A response indicating compliance is being reviewed by the Commission.
7	Failure to comply with the decision of the Umuahia Forum Office	Enugu DisCo	21 August 2023	30 August 2023	The response is being reviewed by the Commission.

8	Non-compliance with paragraphs D & F of the Order of the Commission requiring DisCos to file clear communication and public enlightenment plans on the migration of TID as well as roadmaps/project plans by 31 August 2023.	Eko, Enugu, Kaduna, Kano and Ikeja DisCos	5 September 2023	12 September 2023	DisCos have complied.
<i>Notice of Intention to Commence Enforcement Action (NICE)</i>					
9	Non-compliance with the Commission's directive to refund all customers affected by wrongful application of multiplier factor to bills.	Yola DisCo	23 June 2023	14 days	The response from Yola DisCo is being reviewed by the Commission.
10	Failure to comply with the request for information on all penalties for unauthorised access assessed and collected from end-use customers for January 2022 to December 2022, procedures for the assessment and collection as well as details of accounts into which penalties are deposited along with certified bank statements.	Enugu, Kaduna, Kano, Jos, Yola, and Benin DisCos	1 August 2023	14 August 2023	DisCos have complied.
11	Failure to provide a detailed novation plan as requested by the Commission	NBET	1 August 2023	14 August 2023	A response from NBET was received on 7th August 2023. The response is being reviewed by the Commission to determine appropriate next steps.
12	Non-compliance with rectification directive issued following failure to file details of its information system infrastructure with the Commission	Enugu DisCo	7 July 2023	21 July 2023	The DisCo complied by providing the required information to the Commission.



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/customer complaints resolution meetings. These are used to enlighten consumers/stakeholders on the Commission's activities, regulations, customer rights and obligations. The forum is also used to address customer complaints with direct supervision from the Commission. It is also an avenue for the Commission to gather feedback from customers, which will be beneficial to the Commission in its decision-making process.

The Commission did not hold any town hall meeting in 2023/Q3; however, the Commission organised a capacity building workshop for staff of the Federal Competition and Consumer Protection Commission (FCCPC) and the National Orientation Agency (NOA) in July 2023. This is in furtherance to the Commission's desire to widen its reach to electricity consumers by collaborating with agencies that have activities related to the power sector. 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.

As part of its routine activities, the Commission also engages consumers through public awareness campaigns. The flagship program is the Electricity Update which provides information about the activities of the Commission, service-based tariff, new regulations and orders as well as answers to other pertinent stakeholder concerns.

4.2 Metering End-Use Customers

As at 30th September 2023, there were 12,825,005 registered electricity customers in the NESI out of which only 5,707,838 (44.51%) are metered (Table 17). Over the course of 2023/Q3, 148,389 end-user customers were metered. Ikeja, Abuja and Ibadan DisCos had the highest number of meter installations in 2023/Q3 accounting for 27.35%, 20.78% and 17.53% respectively of the total installations.

Table 17: Metering Progress as at 2023/Q3

DisCos	Total Number of Registered Customers	Number of Metered Customers	Metering Rate
Aba	189,043	50,397	26.66%
Abuja	1,388,325	835,961	60.21%
Benin	1,291,181	639,162	49.50%
Eko	724,480	424,552	58.60%
Enugu	1,396,440	604,405	43.28%
Ibadan	2,350,136	1,011,630	43.05%
Ikeja	1,232,688	887,485	72.00%
Jos	722,731	239,442	33.13%
Kaduna	856,991	203,718	23.77%
Kano	861,466	209,153	24.28%
Port Harcourt	1,179,194	483,491	41.00%
Yola	632,330	118,442	18.73%
Total	12,825,005	5,707,838	44.51%

At the end of 2023/Q3, the metering rate increased by 0.35pp (up from the 44.16% recorded in 2023/Q2). Five (5) DisCos recorded improvements in the number of meter installations with Benin (+19.40%) and Abuja (+15.74%) recording the greatest improvements. Conversely, Yola (-85.11%) and Eko (-74.92%) recorded the greatest decline in the number of meters installed in 2023/Q3 compared to 2023/Q2 (Table 18). The overall decline in the number of meters installed in 2023/Q3 compared to 2023/Q2 (-18.04%) is attributable to the inability of MAPs to procure meters due to significant deviation between the macroeconomic indices which were used to determine the allowed price under MAP and the market realities. To ensure the fair and reasonable pricing of meters to both MAPs and end-use customers, the Commission reviewed the prices of MAP meters based on the prevailing economic realities vide the Order NERC/2023/020 effective 6th September 2023.

Table 18: Meter Deployment by DisCos 2023/Q2 vs. 2023/Q3

DisCos	Total Metered Customers as of 2023/Q3	Customers Metered in 2023/Q2	Customers Metered in 2023/Q3	Change in Metering
Abuja	835,961	26,644	30,838	15.74%
Benin	639,162	8,313	9,926	19.40%
Eko	424,552	16,430	4,121	-74.92%
Enugu	604,405	22,822	15,388	-32.57%
Ibadan	1,011,630	33,470	26,013	-22.28%
Ikeja	887,485	47,080	40,584	-13.80%
Jos	239,442	3,368	3,491	3.65%
Kaduna	203,718	2,332	2,530	8.49%
Kano	209,153	606	527	-13.04%
Port Harcourt	483,491	12,795	13,899	8.63%
Yola	118,442	7,199	1,072	-85.11%
Total	5,707,838¹²	181,059¹³	148,389	-18.04%

Out of the 148,389 end-use customers metered in 2023/Q3, 99.56% of customers were metered under the MAP framework, 0.30% were metered under Vendor Financed, and 0.14% were metered under the NMMP framework¹⁴. Further details on the metering progress under the various frameworks approved by the

¹² This value has incorporated 50,397 customers metered under APLE franchise area.

¹³ Upon data reconciliation, the number of meters installed across all metering schemes in 2023/Q2 was 181,059 as against 178,864 reported in the 2023/Q2 report.

¹⁴ The 5 metering frameworks contained in the Commission's updated MAP & NMMP Regulations (NERC-R-113-2021) 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.

Commission - NMMP, MAP as well as Vendor and DisCo finance are presented in appendices X, XI and XII respectively.

Under the MAP framework, a total of 147,736 meters were installed in 2023/Q3; Ikeja (40,584) and Abuja (30,472) recorded the highest number of installations representing 27.47% and 20.63% respectively of customers metered under the MAP framework during the quarter, while Yola and Kano recorded the lowest number of installations under this framework with 1,072 and 527 installations respectively. Compared to the previous quarter, total MAP installations in 2023/Q3 declined by -12.38% (147,736 in 2023/Q3 vs. 168,606 in 2023/Q2).

In 2023/Q3, a total of 207 customers were metered under the NMMP framework, representing a decrease of -97.77% from the 9,302 customers metered in 2023/Q2. Abuja, Ibadan, Ikeja and Port Harcourt DisCos have completed the installations of their meter allocations under the NMMP phase 0 and hence have achieved a 100% utilisation rate. There was no change in the number of meter installations by Enugu, and Kano DisCos, while Yola (-6,990), Eko (-2,201) and Benin (-1,560) reported a decrease in customer metering under the NMMP in 2023/Q3 compared to 2023/Q2. These decreases are due to the winding down of NMMP Phase 0.

A total of 446 customers were metered under the Vendor financed framework in 2023/Q3. Abuja and Benin are the only DisCos that have utilised this metering framework. During the quarter, Abuja recorded 366 while Benin recorded 80 installations. This corresponds to -39.70% and -89.43% decline respectively compared to the 607 and 757 installations in 2023/Q2. There were no meter installations under the DisCo financed framework in 2023/Q3.

The Standard Transfer Specification (STS) Meter Association has mandated the migration of Token Identifier (TID) and upgrade of meters by November 2024. According to the STS, the upgrade is essential to enable the meters receive and install the token identification (TID) given at the time of vending. To ensure the compliance of DisCos to this directive, the Commission, in July 2023, issued an Order on the Migration of Token Identifier of STS Meters from Key Revision 1 to Key Revision 2 ([NERC/2023/005](#)).

4.3 Customers Complaints

The number of complaints received and resolved by DisCos in 2023/Q2 and 2023/Q3 are contained in Table 19. The total number of complaints received across all DisCos in 2023/Q3 was 333,947; Ibadan DisCo received the highest number of complaints (59,901) representing 17.93% of the total complaints received. APLE DisCo received the least number of complaints (1,919) representing 0.57% of the total complaints received.

Compared to 2023/Q2, the number of complaints received, number of cases resolved, and average resolution rate changed by +2.47% (333,947 in 2023/Q3 vs. 325,898 in 2023/Q2), +1.19% (317,179 in 2023/Q3 vs. 313,442 in 2023/Q2) and -1.2pp (94.98 in 2023/Q3 vs. 96.18 in 2023/Q2) respectively. Benin (-47.85%), Jos (-26.21%) and Ikeja (-1.84%) DisCos recorded decreases in the number of customer complaints received compared to 2023/Q2. Conversely, eight (8) DisCos recorded increases in the number of customer complaints with significant increases being recorded by Yola (+43.28%), Kano (+17.46%) and Port Harcourt (+16.05%).

The most frequently reported issues among the 333,947 complaints received by DisCos in 2023/Q3 were metering (57.31%), billing (12.88%), and service interruption (8.07%). These three (3) complaints categories cumulatively accounted for over 78% of the total complaints in the quarter (Figure 10).

Out of the 333,947 complaints received in 2023/Q3, 317,179 were resolved translating to a resolution rate of 94.98%. All the DisCos, except APLE DisCo (67.17%), had over 90% resolution rate for the complaints received within the quarter with Kano DisCo recording the highest resolution rate of 99.71%.

Table 19: Complaints Received and Resolved by DisCos in 2023/Q2 vs. 2023/Q3

DisCos	2023/Q2			2023/Q3		
	Complaints Received	Complaints Resolved	Resolution Rate	Complaints Received	Complaints Resolved	Resolution Rate
Abuja	29,832	29,430	98.65%	30,752	30,463	99.06%
APLE	-	-	-	1,919	1,289	67.17%
Benin	23,364	22,797	97.57%	12,184	12,014	98.60%
Eko	42,547	39,376	92.55%	47,551	43,900	92.32%
Enugu	48,398	47,104	97.33%	51,365	47,309	92.10%
Ibadan	55,110	52,749	95.72%	59,901	56,674	94.61%
Ikeja	28,773	26,394	91.73%	28,244	25,631	90.75%
Jos	27,731	26,905	97.02%	20,462	19,496	95.28%
Kaduna	7,525	7,040	93.55%	8,010	7,526	93.96%
Kano	11,906	11,875	99.74%	13,985	13,945	99.71%
PH	48,050	47,141	98.11%	55,760	55,157	98.92%
Yola	2,662	2,631	98.84%	3,814	3,775	98.98%
Total	325,898	313,442	96.18%	333,947	317,179	94.98%

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 monitors 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. Through the Customer Protection Regulations (CPR) issued by the Commission in March 2023, the customer service standards in the NESI have been updated to conform with international best practices.

The Commission is implementing initiatives geared towards improving customer experience in the NESI. A major initiative is the “NESI call centre” being implemented by the Commission which will provide a centralised portal for customers to pass complaints directly to their service providers. The Commission will have near real-time visibility into the filing and resolution of customer complaints by the DisCos which will enhance its monitoring of DisCos’ compliance with customer service standards. In preparation for the go-live of the Commission’s call centre, mock calls/stress tests have been conducted and as at 30th September 2023, eight (8) DisCos have confirmed readiness for the go-live¹⁵.

On September 11th 2023, the Commission launched its Power Outage Reporting System (PORS), which is a mobile application designed for electricity customers to

¹⁵ The DisCos that have confirmed readiness for the call centre go-live are Abuja, APLE, Benin, Enugu, Ibadan, Ikeja, Kaduna and Port Harcourt.

report outages in real-time. Once the outages are reported on the app, the relevant DisCo is notified to allow it to commence necessary remedial actions. When supply is restored, the Customers on the feeder may also receive notification via the app. The PORS also provides data for the Commission to evaluate the compliance of DisCos with their service obligations to various feeders under the Service Based Tariff; failure to deliver the required service shall trigger the payment of compensation to the customers by the DisCos in line with Order No: [NERC/2023/003](#) issued in May 2023. The Commission shall endeavour to maximise the features of the PORS to monitor the quality of service delivery by DisCos, outage recovery time, and primary data collection, among other parameters.

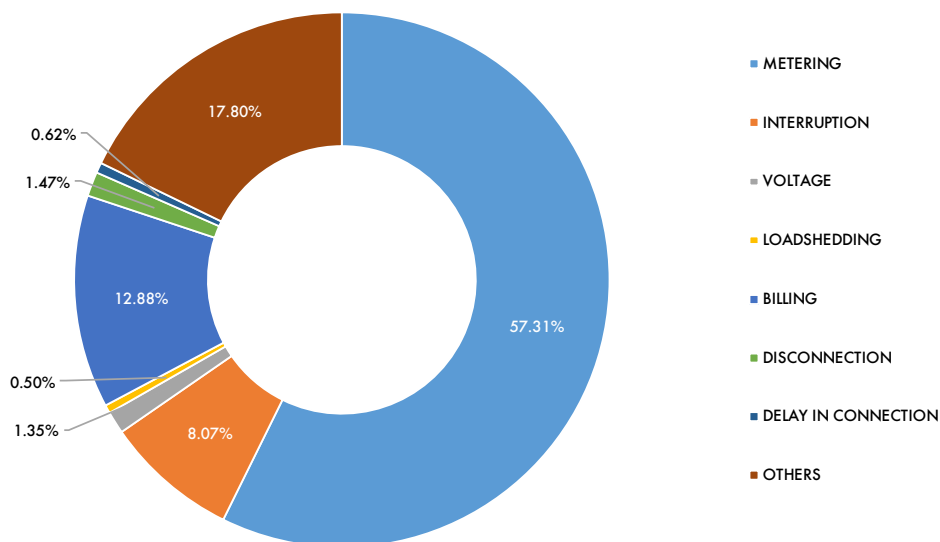


Figure 10: Category of Complaints Received by DisCos in 2023/Q3

4.4 Forum Offices

Pursuant to section 119(1)(c) of the EA 2023 which states that “the Commission shall develop, in consultation with licensees, the customer complaint handling standards and procedures”, the Commission set up Forum Offices to hear and resolve customer complaints not satisfactorily resolved at the DisCos’ Customer Complaints Units (DisCos-CCU). As at 30th September 2023, the Commission had thirty-two (32) operational Forum Offices in thirty (30) states and the FCT, Abuja. The details

including, addresses and contact information 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 operational area of DisCos. 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 across the Forum Offices is presented in Table 20. A total of 2,716 appeals (942 pending appeals from 2023/Q2 and 1,774 new appeals) were received across all Forum Offices in 2023/Q3. This represents an increase of 15.53% compared to 2,351 appeals in the previous quarter (2023/Q2). The Forum Office serving Ibadan DisCo received the highest number of new appeals (548) while the Forum Office serving Kaduna DisCo received the fewest (21).

The total number of forum sittings in 2023/Q3 was 76 compared to 71 sittings in 2023/Q2. Cumulatively, the Forum Offices resolved 57.62% of the total active appeals in 2023/Q3, which is a decline of -1.04pp from the 2023/Q2 resolution rate (58.66%). 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.

Table 20: Appeals handled by Forum Offices in 2023/Q3

Forum Offices	Accountable DisCos	Appeals Received ¹	Appeals Resolved ²	Appeals Pending ³	No of Sitzings
Abuja, Lafia & Lokoja	Abuja	50	46	25	6
Asaba & Benin	Benin	129	119	36	8
Eko	Eko	82	90	45	5
Abakaliki, Akwa, Enugu, Owerri, & Umuahia	Enugu	230	209	155	11
Ibadan, Abeokuta, Ilorin & Osogbo	Ibadan	548 ¹⁶	334	373	17
Ikeja	Ikeja	380	331	301	8
Bauchi, Gombe, Jos & Makurdi	Jos	33	19	10	1
Gusau, Kaduna, Kebbi & Sokoto	Kaduna	21	35	29	3
Jigawa, Kano & Katsina	Kano	35	103	15	5
Calabar, Port Harcourt & Uyo	P/Harcourt	208	230	46	9
Yola	Yola	58	49	32	3
All Forum Offices	All DisCos	1,774	1,565	1,067	76

¹Appeals received do not include outstanding appeals from the preceding quarter. ²Appeals resolved exclude appeals withdrawn (24) or rejected (60). ³Appeals 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/Q3 is contained in [Figure 11](#). Similar to 2023/Q2, appeals related to billing were the most prevalent, accounting for 60.99% (68.42% in 2023/Q2) of the total appeals received. Appeals related to metering and disconnection represented 20.46% and 6.54% of the appeals, respectively. The Commission is working on interventions to improve the quality of customer complaint resolution at the DisCo-CCU to reduce the number of appeals filed at the Forum Offices.

During the quarter, an additional Forum Office was commissioned in Ado Ekiti (taking the total number of active forum offices to 32) to further increase the appeal resolution rate for the large number of customers within the Benin DisCo franchise area. 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 its consumer protection initiatives.

¹⁶ The Commission notes the constantly high appeals at the Ibadan DisCo franchise area and has recently launched a new Forum Office in Ado Ekiti to further increase the number of appeals resolved and hasten the resolution process for customers.

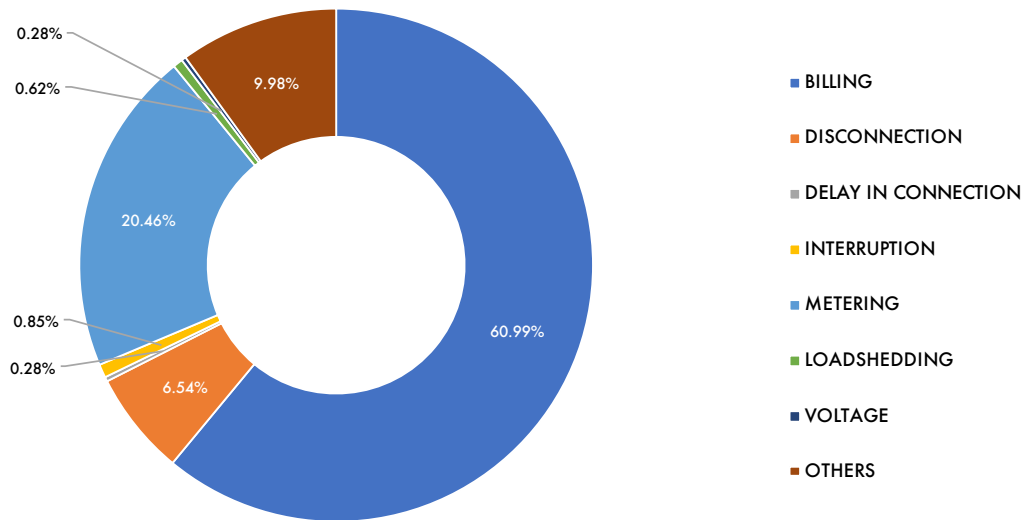


Figure 11: Category of Complaints Received by Forum Offices in 2023/Q3

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. Out of the 93 mandatory health and safety reports expected to be received in 2023/Q3, 90 reports were received from licensees. Azura Power had one outstanding report for August while Dadin kowa hydropower and Yola DisCo had one outstanding report each for September 2023. The Commission has commenced enforcement actions against the licensees that have failed to meet their regulatory reporting requirements.

Statistics of accidents in the NESI in 2023/Q2 and 2023/Q3 are presented in Table 21. In 2023/Q3, the safety performance within the NESI improved with the total number of accidents decreasing by -21.15% from 52 to 41. The number of injuries reported from these accidents remained unchanged (28 for both quarters), however the number of fatalities increased by +21.43% from 28 to 34.

Table 21: Health and Safety (H&S) Reports in 2023/Q2 vs. 2023/Q3

Item	2023/Q2	2023/Q3	Net Change
Number of Accidents	52	41	-11
Number of fatalities (employees & third parties)	28	34	+6
Number of Injuries	28	28	0

Out of the forty-one (41) accidents reported in the quarter, the licensees with the highest number of casualties were Ikeja (10), Abuja (9), Ibadan (9) and Jos (9) DisCos which represented 16.13%, 14.52%, 14.52% and 14.52% respectively. Conversely, TCN and Kaduna DisCo had the least number of casualties (1 each) within the quarter. The casualties resulting from the accidents recorded during the quarter are detailed in Figure 12.

The root causes of accidents reported by the licensees include illegal/unauthorised connections, unsafe conditions/acts, wire snap, fall from height, vandalism, right of way violation, explosion and electrocution. The Commission has initiated investigations into all reported accidents and will enforce relevant actions against licensees where necessary.

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 through electric accidents. In 2023/Q3, the Commission facilitated the payment of compensation for eight accident victims and their families for incidents that occurred in prior quarters.

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

To further minimise safety incidents in the NESI, the Commission continues to closely monitor the implementation of licensees' accident reduction strategy document for the NESI while the sector's health and safety code is undergoing a review process.

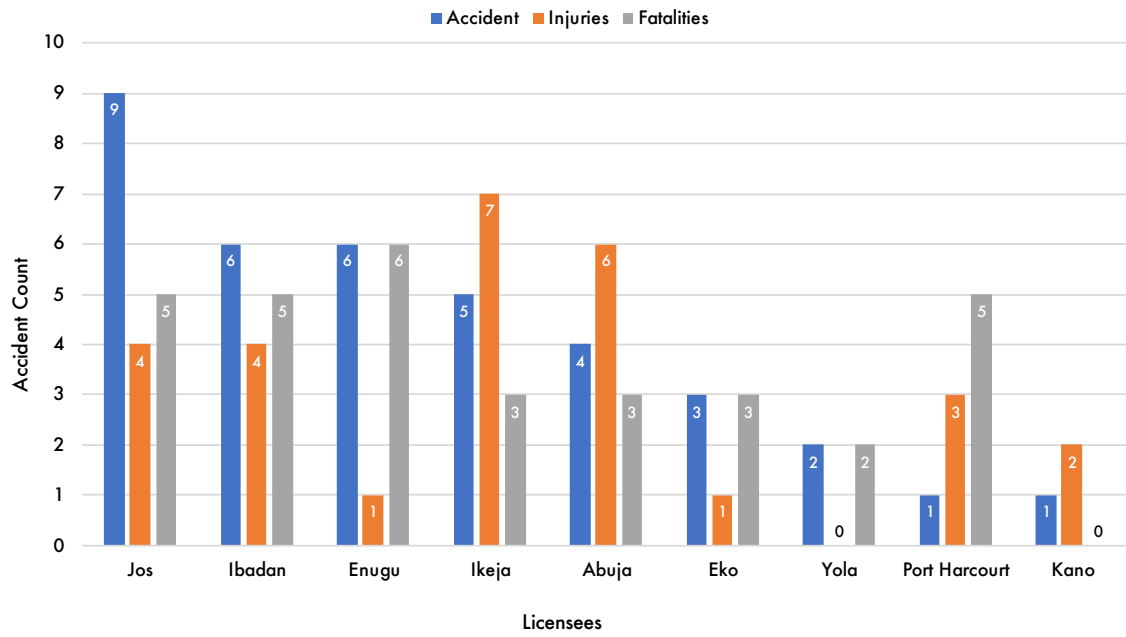
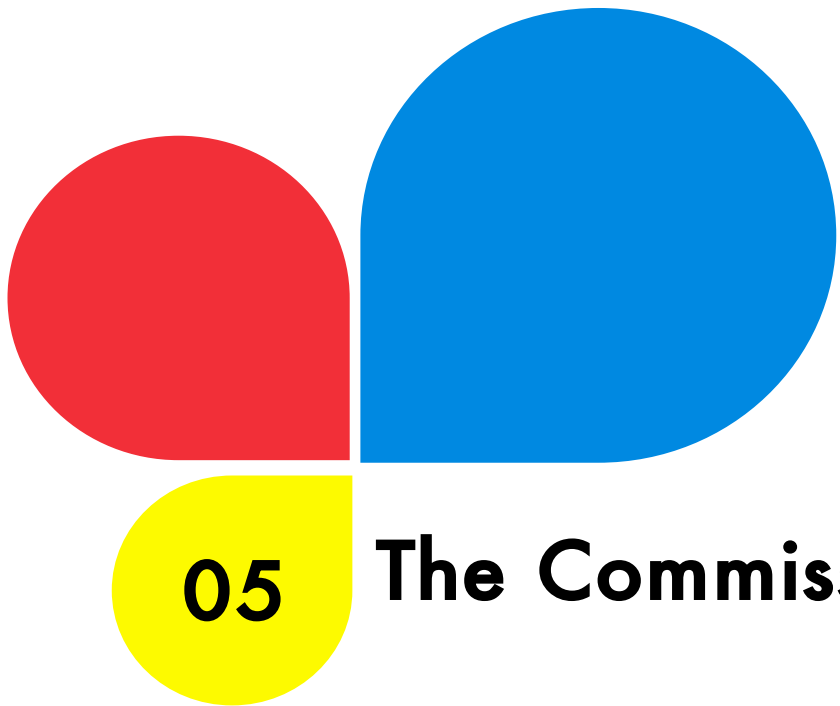


Figure 12: Incidence Report in 2023/Q3



05 The Commission

5.0 THE COMMISSION

5.1 Financial Report

The summary of the Commission's revenue and expenditure in 2023/Q2 and 2023/Q3 is presented in Table 22. The Commission had a total revenue of ₦6,070.93 million and a total expenditure of ₦3,155.77 million in 2023/Q3.

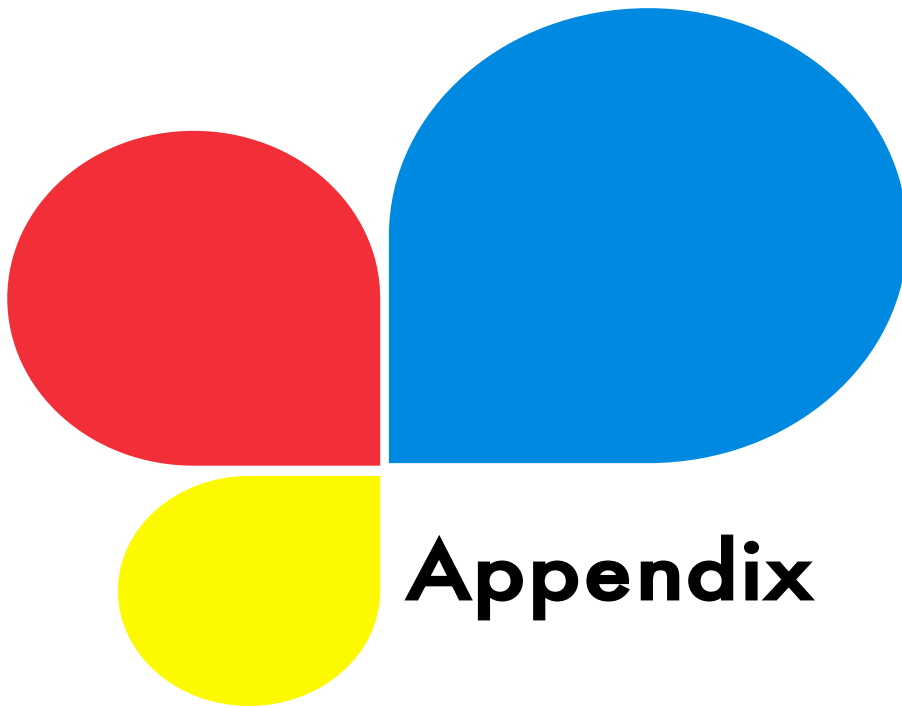
The total revenue in 2023/Q3 was ₦131.96 million (+2.22%) higher than the ₦5,938.97 million realised in 2023/Q2. The improvement in revenue is attributable to the increase in operating levy (market charges) and other Internally Generated Revenue (IGR) between 2023/Q2 and 2023/Q3. The operating levy increased by ₦109.72 million (+2.23%) while other IGR increased by ₦22.25 million (+2.21%) between the quarters.

Table 22: Quarterly Cash Flow of the Commission in 2023/Q3

	Summary for 2023/Q3 (₦' Million)			2023/Q3	2023/Q2
	July	August	September		
A. Revenue					
Operating Levy (MC)	1,835.03	1,525.18	1,680.11*	5,040.32	4,930.61
Other IGR	132.01	258.50	640.10	1,030.61	1,008.36
Total Revenue	1,967.04	1,783.68	2,320.21	6,070.93	5,938.97
B. Expenditure					
Personnel Cost	676.04	621.89	904.15	2,202.08	1,800.54
Regulatory Expenses	300.90	287.27	240.76	828.93	582.46
Admin & General Maintenance	29.63	62.94	32.19	124.76	80.80
Total Expenditure	1,006.57	972.10	1,177.10	3,155.77	2,463.80
C. Net Cash Flow (A-B)	960.47	811.58	1,143.11	2,915.16	3,475.17

The outstanding liabilities at the end of 2023/Q3 was ₦1,045,439,189.95. 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 ₦691.97 million (+28.09%) from ₦2,463.80 million in 2023/Q2 to ₦3,155.77 million in 2023/Q3. This can be attributed to a significant increase in regulatory expenses as well as administration and general maintenance costs. In terms of cash flow, the Commission recorded a +₦2,915.16 million net balance in 2023/Q3 which represents a -16.11% decrease compared to the +₦3,475.17 million recorded in 2023/Q2. It is noteworthy that 2023/Q3 makes it the 17th consecutive quarter in which the Commission has recorded a positive quarterly net cash flow position.



Appendix I: Definition of Terms

<i>Term</i>	<i>Definition</i>
<i>Accident</i>	This is an incident that happens unexpectedly and unintentionally, typically resulting in damage or injury
<i>Available Capacity</i>	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.
<i>Bilateral customers</i>	These are customers that purchase electricity directly from GenCos without a middleman (e.g., bulk trader).
<i>Cost-reflective tariff</i>	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.
<i>Energy offtake</i>	This is the process by which distribution companies receive and supply energy to end-use consumers
<i>Feedstock</i>	This refers to the type of fuel (e.g., gas, water) required to power a generating plant
<i>Installed capacity</i>	This is the maximum rated output of a power plant under specific conditions designated by the manufacturer
<i>Load factor</i>	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).
<i>Mini-grid</i>	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
<i>Orders</i>	A series of directives/instructions issued by the Commission to Licensees in response to a particular event/situation
<i>Plant Availability Factor</i>	This is a parameter that measures the proportion of a plant's installed capacity which is available for the generation of electric energy.
<i>Regulations</i>	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
<i>Service-based tariff</i>	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.
<i>Total Energy Generated</i>	This refers to the total energy generated (GWh) by a power plant during the period under review

Appendix II: Energy Generation in 2023/Q2 and 2023/Q3

GenCos	Available Capacity (MW)		Average Daily Generation (MWh)		Quarterly Generation (GWh)	
	2023/Q2	2023/Q3	2023/Q2	2023/Q3	2023/Q2	2023/Q3
Afam IV_V	42.65	36.56	887.88	710.64	81.15	65.38
Afam_VI	310.31	275.94	7,493.28	6,735.39	682.39	619.66
Alaoji NIPP	-	0.94	-	1.64	-	0.15
Azura-Edo IPP	340.04	415.08	7,224.75	9,104.49	656.40	837.61
Dadin Kowa	8.51	31.65	197.29	727.28	17.88	66.91
Delta	404.49	328.25	9,395.04	7,629.92	855.43	701.95
Egbin	703.13	568.86	15,628.97	13,040.38	1,422.69	1,199.72
Geregu Gas	231.50	195.44	5,150.28	4,389.38	468.51	403.82
Geregu NIPP	3.28	35.05	71.61	689.85	6.44	63.47
Ibom Power	21.30	66.52	448.95	950.67	41.01	87.46
Ihovbor NIPP	22.63	41.02	407.91	878.64	37.12	80.84
Jebba	305.72	359.35	6,488.01	8,189.25	589.93	753.41
Kainji	360.74	321.84	8,247.13	7,334.88	750.04	674.81
Odukpani	346.34	164.38	7,941.84	3,417.89	722.01	314.45
Okpai	332.38	265.27	7,195.69	5,707.09	655.73	525.05
Olorunsogo Gas	110.96	82.01	2,544.40	2,034.34	231.39	187.16
Olorunsogo NIPP	0.00	18.22	0.00	347.60	0.00	31.98
Omoku	33.73	51.34	1,008.03	1,607.27	91.70	147.87
Omosho Gas	133.54	107.23	3,106.87	2,503.61	282.71	230.33
Omosho NIPP	133.30	125.07	2,680.09	2,719.04	244.05	250.15
Paras Energy	67.41	59.98	1,466.66	1,200.13	133.47	110.41
Rivers IPP	62.47	90.06	1,345.94	2,018.38	123.49	185.69
Sapele GT NIPP	76.94	82.62	1,477.21	1,615.28	134.48	148.61
Sapele ST	75.22	86.32	1,768.09	2,095.60	160.55	192.80
Shiroro	246.32	373.69	4,849.18	7,753.70	440.98	713.34
Taopex Energy	-	11.85	-	305.48	-	28.10
Trans Amadi	15.01	16.94	413.46	474.99	37.51	43.70
Total	4,387.91	4,211.44	97,438.54	94,182.81	8,867.05	8,664.82

Appendix III: Average Age of Power Plants in the NESI

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

Appendix IV: Monthly energy offtake and billing efficiency by DisCos in 2023/Q2 and 2023/Q3

DisCos	Energy Offtake (GWh)						Energy Billed (GWh)						Billing Efficiency	
	2023/Q2			2023/Q3			2023/Q2			2023/Q3			2023/Q2 (%)	2023/Q3 (%)
	April	May	June	July	Aug	Sept	April	May	June	July	Aug	Sept		
Abuja	361	356	367	353	360	347	254	295	247	262	249	265	73.43	73.21
Benin	214	226	210	199	201	202	182	187	179	171	173	174	84.51	85.91
Eko	288	313	296	315	330	293	255	277	286	269	294	263	91.51	88.06
Enugu	207	203	206	196	199	188	146	167	140	143	154	146	73.54	75.99
Ibadan	282	263	273	287	288	319	220	231	225	219	234	229	82.66	76.21
Ikeja	364	390	378	390	405	364	333	337	374	333	354	320	92.17	86.92
Jos	124	122	105	125	123	124	102	104	88	102	100	101	83.23	81.45
Kaduna	140	132	117	141	142	133	87	82	81	80	72	68	64.16	52.99
Kano	148	149	120	131	140	144	104	104	96	96	98	99	72.79	70.35
Port Harcourt	174	188	171	171	186	171	146	155	144	142	154	143	83.35	83.18
Yola	77	76	60	75	71	71	56	56	51	57	57	62	76.64	81.24
All Discos	2,379	2,418	2,304	2,383	2,445	2,356	1,884	1,995	1,911	1,873	1,939	1,871	81.53	79.09

Appendix V: Monthly revenue performance and collection efficiency by DisCos in 2023/Q2 and 2023/Q3

DisCos	Total Billing (₦' Million)						Revenue Collected (₦' Million)						Collection Efficiency	
	2023/Q2			2023/Q3			2023/Q2			2023/Q3			2023/Q2 (%)	2023/Q3 (%)
	April	May	June	July	Aug	Sept	April	May	June	July	Aug	Sept		
Abuja	16,953	19,568	16,249	17,170	16,245	17,319	14,495	15,603	13,486	13,548	12,912	14,826	82.59	81.38
Benin	11,252	11,513	11,005	10,362	10,533	10,517	7,029	7,506	7,276	6,844	7,323	7,033	64.59	67.49
Eko	15,903	17,181	16,227	16,783	18,475	16,547	13,952	15,760	13,540	14,630	14,284	14,775	87.71	84.33
Enugu	8,852	10,110	8,405	8,560	8,620	8,724	6,846	7,839	6,193	6,602	6,322	7,118	76.29	77.37
Ibadan	13,107	13,622	13,216	12,897	13,682	13,195	9,055	10,016	9,018	9,351	9,147	10,220	70.32	72.20
Ikeja	17,843	19,401	21,512	19,380	20,608	18,360	17,697	18,349	19,770	18,746	18,287	20,220	95.00	98.12
Jos	7,321	7,304	6,144	7,123	7,030	6,966	3,175	3,463	2,879	3,315	2,760	4,069	45.71	48.03
Kaduna	5,033	4,524	4,391	4,390	4,003	3,708	2,400	3,152	2,730	2,776	2,068	2,901	59.38	64.00
Kano	6,538	6,711	6,083	6,184	6,433	6,535	4,268	4,155	4,218	3,964	4,646	4,329	65.38	67.55
Port Harcourt	8,888	9,481	8,764	8,625	9,366	8,562	6,164	6,922	5,722	6,262	5,947	6,287	69.32	69.66
Yola	3,930	3,931	3,594	3,995	3,996	4,670	1,765	1,702	1,720	2,061	1,812	2,224	45.27	48.16
All DisCos	115,671	123,346	115,590	115,469	118,991	115,102	86,846	94,466	85,552	88,100	85,506	94,002	75.54	76.56

Appendix VI: DisCos monthly invoices & remittances to NBET in 2023/Q2 and 2023/Q3

DisCos	Invoice (₦' Billion)						Remittance (₦' Billion)						Remittance Performance	
	2023/Q2			2023/Q3			2023/Q2			2023/Q3			2023/Q2	2023/Q3
	April	May	June	July	Aug	Sept	April	May	June	July	Aug	Sept	(%)	(%)
Abuja	11.16	7.67	9.57	11.69	11.71	9.90	7.89	9.31	7.60	8.02	7.49	8.52	87	72
Benin	5.14	3.57	4.05	4.41	4.34	4.25	5.27	5.09	3.84	3.96	2.84	2.07	111	68
Eko	6.27	4.97	5.99	6.23	6.41	7.33	5.67	8.62	4.87	6.42	6.60	7.33	111	102
Enugu	5.95	4.31	5.06	4.93	4.97	5.12	5.49	6.51	4.63	2.70	2.74	3.43	109	59
Ibadan	6.68	4.86	5.45	5.16	5.36	6.27	6.71	7.42	5.04	3.52	3.72	4.50	113	70
Ikeja	10.92	7.51	9.14	11.75	11.92	9.69	11.27	11.68	8.82	9.69	9.83	9.69	115	88
Jos	2.69	1.71	1.66	1.85	1.81	2.15	2.25	2.78	1.54	0.78	0.94	1.50	108	55
Kaduna	3.48	2.13	2.31	2.22	2.22	2.86	0.64	0.92	0.42	0.47	0.09	0.52	25	15
Kano	4.05	2.59	2.55	2.61	2.75	3.34	2.08	2.06	1.94	1.41	2.36	2.02	66	67
Port Harcourt	4.68	3.26	3.54	4.23	4.47	3.88	4.36	4.67	1.91	3.69	3.36	2.75	95	78
Yola	0.33	0.42	0.41	0.52	0.50	0.53	0.32	0.41	0.46	0.52	0.50	0.53	102	100
All DisCos	61.34	42.96	49.73	55.61	56.45	55.33	51.95	59.46	41.07	41.18	40.47	42.87	99	74
Ajaokuta Steel (₦' M)	161.69	185.69	207.97	201.48	181.72	198.74	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 & remittances to MO in 2023/Q2 and 2023/Q3

DisCos	Invoice (₦' Billion)						Remittance (₦' Billion)						Remittance Performance	
	2023/Q2			2023/Q3			2023/Q2			2023/Q3			2023/Q2 (%)	2023/Q3 (%)
	April	May	June	July	Aug	Sept	April	May	June	July	Aug	Sept		
Abuja	2.20	1.99	2.30	2.09	2.19	2.14	1.82	1.43	2.13	2.21	1.67	1.84	83	89
Benin	1.29	1.25	1.28	1.16	1.16	1.26	0.93	0.60	1.09	2.06	0.84	0.62	69	98
Eko	1.36	1.40	1.63	1.55	1.57	1.76	1.15	1.19	1.42	1.45	1.48	1.67	86	94
Enugu	1.27	1.21	1.28	1.12	1.13	1.18	0.97	0.80	1.17	0.62	0.63	0.79	78	60
Ibadan	1.58	1.51	1.60	1.54	1.62	1.75	1.87	0.86	1.47	2.05	1.62	1.26	89	100
Ikeja	2.16	2.08	2.20	2.28	2.27	2.20	1.94	1.43	3.54	2.20	2.19	2.13	107	96
Jos	0.80	0.76	0.68	0.76	0.76	0.82	0.72	0.50	0.59	0.29	0.36	0.57	81	52
Kaduna	0.84	0.71	0.63	0.82	0.83	0.82	0.09	0.10	0.09	0.13	0.03	0.15	13	12
Kano	0.91	0.81	0.71	0.78	0.82	0.89	0.41	0.27	0.57	0.38	0.63	0.54	52	62
Port Harcourt	1.08	1.01	0.92	0.97	1.08	1.04	1.25	0.72	0.52	0.91	0.93	0.74	83	83
Yola	0.44	0.42	0.35	0.42	0.40	0.09	0.50	0.40	0.35	0.42	0.40	0.09	103	100
All DisCos	13.92	13.15	13.58	13.50	13.84	13.96	11.65	8.29	12.94	12.73	10.79	10.39	81	82
Ajaokuta Steel (₦' M)	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	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

Appendix VIII: Monthly bilateral and international customers invoices & remittances to MO in 2023/Q3

International Customers	Jul-23		Aug-23		Sep-23		2023/Q3		2023/Q3 Remittance Performance (%)	Other Remittances (\$'million)
	Invoice (\$'million)	Remittance (\$'million)	Invoice (\$'million)	Remittance (\$'million)	Invoice (\$'million)	Remittance (\$'million)	Invoice (\$'million)	Remittance (\$'million)		
PARAS - SBEE	0.81	0.00	0.74	0.00	0.09	0.00	2.42	0.00	0.00	0.00
TRANSCORP/SBEE	0.43	0.00	1.11	0.00	0.11	0.00	2.62	0.00	0.00	0.00
MAINSTREAM/NIGELEC	1.91	0.00	0.05	0.00	0.00	0.00	1.96	0.00	0.00	0.00
ODUKPANI/CEET	1.47	0.00	1.28	0.00	0.14	0.00	4.16	0.00	0.00	0.00
Total	4.63	0.00	3.18	0.00	0.34	0.00	11.16	0.00	0.00	0.00
Bilateral Customers	Invoice (₦'million)	Remittance (₦'million)	Invoice (₦'million)	Remittance (₦'million)	Invoice (₦'million)	Remittance (₦'million)	Invoice (₦'million)	Remittance (₦'million)	2023/Q3 Remittance Performance (%)	Other Remittances (₦'million)
ALAOJI GENCO/APLE	116.44	0.00	102.61	0.00	103.86	0.00	322.92	0.00	0.00	0.00
MSTM/ADVF	12.58	0.00	12.05	0.00	12.97	0.00	37.60	0.00	0.00	22.11
MSTM/INNER GALAXY	230.62	0.00	263.16	0.00	269.08	0.00	762.86	0.00	0.00	485.91
MSTM/KAM IND.	9.82	0.00	7.39	0.00	18.28	0.00	35.49	0.00	0.00	28.51
MSTM/KAM INT.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.90
MAINSTREAM/PRISM	91.56	0.00	93.03	0.00	78.23	0.00	262.83	0.00	0.00	141.88
MSTM/ZEBERCED	8.68	0.00	9.68	0.00	9.62	0.00	27.98	0.00	0.00	14.89
NORTH SOUTH/STAR P	10.47	0.00	11.30	0.00	10.34	0.00	32.11	0.00	0.00	42.51
NDPHC/SUNFLAG	4.79	0.00	4.39	0.00	4.01	0.00	13.19	0.00	0.00	0.00
OMOTOSHO II/EKEDC	419.80	0.00	414.53	0.00	213.27	0.00	1047.59	0.00	0.00	386.96
OMOTOSHO II/PULKIT	8.19	0.00	6.36	0.00	4.14	0.00	18.68	0.00	0.00	0.00
NDPHC/WEEWOOD	28.93	0.00	27.77	0.00	21.17	0.00	77.87	0.00	0.00	0.00
TAOPEX/KAM INT	15.06	0.00	24.60	0.00	37.14	0.00	76.80	0.00	0.00	0.00
TAOPEX/KAM STEEL	37.46	0.00	4.89	0.00	27.21	0.00	69.57	0.00	0.00	28.00
TRANSAMADI/FMPI	1.88	0.00	2.59	0.00	2.48	0.00	6.96	0.00	0.00	1.69
TRANS AMADI/ OAU	7.64	0.00	7.54	0.00	7.04	0.00	22.22	0.00	0.00	18.69
Total	1,003.93	0.00	991.91	0.00	818.84	0.00	2,814.68	0.00	0.00	1,216.03

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)

<i>DisCos</i>	<i>Meters contracted</i>	<i>Meters installed in 2019</i>	<i>Meters installed in 2020</i>	<i>Meters installed in 2021</i>	<i>Meters installed in 2022</i>	<i>Meters installed in 2023/Q1</i>	<i>Meters installed in 2023/Q2</i>	<i>Meters installed in 2023/Q3</i>	<i>Total installations since 2019</i>
Abuja	1,000,475	63,925	105,253	87,987	83,494	25,804	26,644	30,838	423,945
Benin	664,646	1,169	11,154	72,838	6,771	4,978	8,313	9,926	115,626
Eko	283,178	5,422	32,353	64,618	44,577	182,14	16,430	4,121	181,721
Enugu	713,926	17,410	54,603	96,836	57,751	23,487	22,822	15,388	288,547
Ibadan	1,106,294	4,771	38,403	94,309	146,044	32,808	33,470	26,013	375,818
Ikeja	1,186,114	22,876	160,469	125,460	145,364	46,790	47,080	40,584	589,183
Jos	606,096	15	4,673	88,827	19,190	2,920	3,368	3,491	121,706
Kaduna	519,152	43	8,258	17,942	34,385	2,488	2,332	2,530	68,779
Kano	562,747	22	3,314	80,969	3,476	481	606	527	89,395
Port Harcourt	220,044	7,775	36,546	92,543	33,549	12,087	12,795	13,899	209,194
Yola	749,376	-	478	5,955	30,386	9,256	7,199	1,072	54,284
Total	7,612,048	123,428	455,504	828,284	604,987	175,281	181,059	148,389	2,518,198

Appendix X: Meter installation through the NMMP Framework as at 2023/Q3

<i>DisCos</i>	<i>Meters contracted</i>	<i>Meters installed in 2019</i>	<i>Meters installed in 2020</i>	<i>Meters installed in 2021</i>	<i>Meters installed in 2022</i>	<i>Meters installed in 2023/Q1</i>	<i>Meters installed in 2023/Q2</i>	<i>Meters installed in 2023/Q3</i>	<i>Total installations since 2020</i>
Abuja	100,475	-	17,777	82,698	-	-	-	-	100,475
Benin	90,870	-	-	71,734	6,108	-	-	140	80,159
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	47,598
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
Total	1,013,076	-	38,787	765,106	113,021	13,679	9,302	207	942,804

Appendix XI: Meter installation through the MAP Framework as at 2023/Q3

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	Total installations since 2019
Abuja	900,000	63,925	87,476	5,289	82,293	25,023	26,037	30,472	320,515
Benin	573,776	1,169	11,154	1,104	422	3,180	5,856	9,706	32,591
Eko	204,000	5,422	32,298	7,703	28,883	10,083	14,215	4,107	102,711
Enugu	621,545	17,212	54,752	5,405	57,372	23,487	22,822	15,388	196,438
Ibadan	988,915	4,771	33,418	548	127,418	32,801	33,470	26,013	258,439
Ikeja	1,074,411	23,265	160,616	13,781	145,364	46,790	47,080	40,584	477,480
Jos	500,000	13	3,769	27	3,317	2,649	3,223	3,453	16,451
Kaduna	450,000	129	7,352	2,767	3,565	2,411	2,293	2,515	21,032
Kano	475,000	22	3,303	-	976	481	606	527	5,915
Port Harcourt	137,324	7,775	22,334	24,035	33,549	12,087	12,795	13,899	126,474
Yola	664,000	-	-	-	-	-	-	1,072	1,281
Total	6,588,971	123,703	416,472	60,659	483,159	158,992	168,397	147,736	1,559,327

Appendix XII: Meter installation through Vendor and DisCo Finance Frameworks as at 2023/Q3

DisCos	Vendor Finance					DisCo Finance							
	Meters installed in 2022	Meters installed in 2023/Q1	Meters installed in 2023/Q2	Meters installed in 2023/Q3	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	Total installations since 2019
Abuja	1,201	781	607	366	2,955	-	-	-	-	-	-	-	-
Benin	241	1,798	536	80	2,876	-	-	-	-	-	-	-	-
Eko	-	-	-	-	-	-	-	-	-	-	-	-	-
Enugu	-	-	-	-	-	106	193	193	105	-	-	-	597
Ibadan	-	-	-	-	-	-	-	-	-	-	-	-	-
Ikeja	-	-	-	-	-	-	-	-	-	-	-	-	-
Jos	-	-	-	-	-	-	-	2,326	7,164	-	-	-	9,490
Kaduna	-	-	-	-	-	-	-	-	96	31	22	-	149
Kano	-	-	-	-	-	-	-	-	-	-	-	-	-
Port Harcourt	-	-	-	-	-	-	-	-	-	-	-	-	-
Yola	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	1,442	2,579	1,143	446	5,831	106	193	2,519	7,365	31	22	-	10,236

Appendix XIII: Category of complaints received by DisCos in 2023/Q3

DisCos	Complaints Received	Complaints Resolved	Unresolved Complaints	Resolution Rate	Complaint Categories							
					Metering	Interruption	Voltage	Loadshedding	Billing	Disconnection	Delay	Others
Abuja	30,752	30,463	289	99.06%	12,365	1,654	243	802	2,357	2,635	-	10,696
APLE	1,919	1,289	630	67.17%	672	62	8	6	850	118	13	190
Benin	12,184	12,014	170	98.60%	61	1,503	111	317	931	2	3	9,256
Eko	47,551	43,900	3,651	92.32%	39,400	2,145	368	10	3,583	197	266	1,582
Enugu	51,365	47,309	4,056	92.10%	28,152	3,896	516	-	3,440	-	-	15,361
Ibadan	59,901	56,674	3,227	94.61%	36,998	1,130	116	-	18,798	105	-	2,754
Ikeja	28,244	25,631	2,613	90.75%	11,378	1,916	203	516	3,078	960	1,634	8,559
Jos	20,462	19,496	966	95.28%	11,332	2,412	359	2	3,633	207	2	2,515
Kaduna	8,010	7,526	484	93.96%	2,271	4,407	577	-	455	158	2	140
Kano	13,985	13,945	40	99.71%	11,829	1,054	102	1	821	43	-	135
Port Harcourt	55,760	55,157	603	98.92%	34,364	6,002	1,600	-	5,066	469	153	8,106
Yola	3,814	3,775	39	98.98%	2,547	763	296	14	12	16	1	165
All DisCos	333,947	317,179	16,768	94.98%	191,369	26,944	4,499	1,668	43,024	4,910	2,074	59,459

Appendix XIV: List and addresses of NERC Forum Offices as at September 2023

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

Appendix XV: Appeals handled by Forum Offices in 2023/Q2 and 2023/Q3

S/N	Forum Offices	2023/Q2				2023/Q3			
		Appeals Received	Appeals Resolved	Appeals Pending	Resolution Rate	Appeals Received	Appeals Resolved	Appeals Pending	Resolution Rate
1	Abakaliki, Ebonyi State	88	8	80	9.09%	117	69	47	58.97%
2	Abeokuta, Ogun State	27	1	26	3.70%	133	64	19	48.12%
3	Abuja, FCT	43	29	14	67.44%	51	31	20	60.78%
4	Asaba, Delta State	86	71	15	82.56%	65	52	13	80.00%
5	Awka, Anambra State	116	87	29	75.00%	116	93	23	80.17%
6	Bauchi, Bauchi State	7	7	0	100.00%	5	3	2	60.00%
7	Benin, Edo State	75	64	11	0.00%	90	67	23	0.00%
8	Calabar, C/Rivers State	41	28	12	68.29%	35	27	7	77.14%
9	Dutse, Jigawa State	15	1	14	6.67%	17	17	0	100.00%
10	Eko, Lagos State	73	19	54	26.03%	136	90	45	66.18%
11	Enugu, Enugu State	89	59	22	66.29%	94	31	61	32.98%
12	Gombe, Gombe State	23	22	1	95.65%	10	0	7	0.00%
13	Gusau, Zamfara State	7	0	7	0.00%	11	7	4	63.64%
14	Ibadan, Oyo State	123	84	39	68.29%	124	81	43	65.32%
15	Ikeja, Lagos State	572	320	252	55.94%	632	331	301	52.37%
16	Ilorin, Kwara State	59	43	16	72.88%	98	69	29	70.41%
17	Jos, Plateau State	9	7	2	77.78%	12	11	1	91.67%
18	Kaduna, Kaduna State	30	26	2	86.67%	14	11	2	78.57%
19	Kano, Kano State	82	16	66	19.51%	91	83	8	91.21%
20	Katsina, Katsina State	4	1	3	25.00%	10	3	7	30.00%
21	Kebbi, Kebbi State	20	0	20	0.00%	22	2	18	9.09%
22	Lafia, Nasarawa State	0	0	0	0.00%	12	8	4	66.67%
23	Lokoja, Kogi State	4	2	2	0.00%	8	7	1	0.00%
24	Makurdi, Benue State	12	7	2	58.33%	11	5	0	45.45%
25	Osogbo, Osun State	288	160	128	55.56%	402	120	282	29.85%
26	Owerri, Imo State	40	34	5	85.00%	32	15	16	46.88%
27	Port Harcourt, Rivers State	170	104	46	61.18%	130	106	9	81.54%
28	Sokoto, Sokoto State	17	0	17	0.00%	20	15	5	75.00%
29	Umuahia, Abia State	13	10	3	76.92%	10	1	8	10.00%
30	Uyo, Akwa Ibom State	171	145	26	84.80%	127	97	30	76.38%
31	Yala, Adamawa State	47	24	23	51.06%	81	49	32	60.49%
	All Forum Offices	2,351	1,379	937	58.66%	2,716	1,565	1,067	57.62%

Appendix XVI: Category of appeals received by Forum Offices in 2023/Q2 and 2023/Q3

Forum Office	2023/Q2								2023/Q3							
	Billing	Disconnection	Con. Delay	Interruption	Metering	Load Shedding	Voltage	Others	Billing	Disconnection	Con. Delay	Interruption	Metering	Load Shedding	Voltage	Others
Abakaliki, Ebonyi State	32	1	0	0	0	0	0	1	34	0	0	0	1	0	0	2
Abeokuta, Ogun State	17	1	0	1	5	1	0	1	38	9	0	7	21	8	1	23
Abuja, FCT	3	0	0	0	19	0	0	2	3	0	0	0	32	0	0	2
Asaba, Delta State	44	2	0	0	5	0	0	4	46	2	0	0	2	0	0	0
Awka, Anambra State	63	7	0	0	6	0	0	0	73	2	0	0	12	0	0	0
Bauchi, Bauchi State	4	0	0	0	1	0	0	2	5	0	0	0	0	0	0	0
Benin, Edo State	44	8	0	0	11	0	0	2	57	6	0	0	10	0	0	6
B/Kebbi, Kebbi State	15	1	0	0	4	0	0	3	14	1	0	0	3	0	0	5
Calabar, C/Rivers State	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
Dutse, Jigawa State	25	4	0	1	11	0	0	3	39	9	0	0	33	0	0	1
Eko, Lagos State	46	10	0	0	8	0	0	0	44	15	0	1	8	0	0	4
Enugu, Enugu State	4	0	0	0	6	0	0	1	3	0	0	0	6	0	0	0
Gombe, Gombe State	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
Gusau, Zamfara State	57	4	0	1	12	0	1	1	55	7	0	1	18	0	0	4
Ibadan, Oyo State	238	15	1	0	56	0	0	15	257	17	0	2	71	1	0	32
Ikeja, Lagos State	36	0	0	0	12	0	0	5	45	3	0	0	23	0	0	11
Ilorin, Kwara State	6	0	0	0	1	0	1	1	5	0	0	0	5	0	0	0
Jos, Plateau State	12	0	0	0	11	0	0	3	5	1	0	1	4	0	0	1
Kaduna, Kaduna State	67	5	0	1	1	0	0	8	10	5	0	0	0	1	0	9
Kano, Kano State	2	0	0	0	0	0	0	1	7	0	0	0	0	0	0	0
Katsina, Katsina State	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Lafia, Nasarawa State	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	0
Lokoja, Kogi State	3	0	0	0	1	0	0	0	3	3	0	0	0	0	0	0
Makurdi, Benue State	8	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0
Osogbo, Osun State	106	2	0	0	54	0	0	8	166	12	0	0	60	0	0	36
Owerri, Imo State	13	1	0	0	5	0	0	5	15	1	0	0	8	0	0	3
P/Harcourt, Rivers State	81	19	3	0	19	0	0	9	55	7	5	0	6	1	0	10
Sokoto, Sokoto State	2	3	0	0	0	0	0	3	2	0	0	0	0	0	0	1
Umahia, Abia State	8	1	0	0	2	0	0	1	6	0	0	0	1	0	0	0
Uyo, Akwa Ibom State	50	10	0	0	10	0	1	16	48	12	0	0	14	0	4	23
Yola, Adamawa State	27	0	0	1	6	0	0	1	30	4	0	3	21	0	0	0
All Forum Offices	1,016	94	4	5	266	1	3	96	1,082	116	5	15	363	11	5	177

Appendix XVII: Monthly cash flow of the Commission between April and September 2023

	Summary for 2023/Q2 (#' Million)				Summary for 2023/Q3 (#' Million)			
	Apr.	May.	Jun.	Total	Jul.	Aug.	Sep.	Total
A. Revenue								
Operating Levy (i.e., MC)	1,815.19	1,313.56	1,495.29	4,624.04	1,835.03	1,525.18	1,680.11	5,040.32
Other IGR	147.72	564.56	296.08	1,008.36	132.01	258.50	640.10	1,030.61
Total Revenue	1,962.91	1,878.12	1,791.37	5,632.40	1,967.04	1,783.68	2,320.21	6,070.93
B. Expenditure								
Personnel Cost	478.03	443.19	879.32	1,800.54	676.04	621.89	904.15	2,202.08
Regulatory Expenses	65.54	243.19	273.73	582.46	300.90	287.27	240.76	828.93
A & G Maintenance	27.83	21.94	31.03	80.80	29.63	62.94	32.19	124.76
Total Expenditure	571.40	708.32	1,184.08	2,463.80	1,006.57	972.10	1,177.10	3,155.77
C. Net Cash Flow (A-B)	1,391.51	1,169.80	607.29	3,168.60	960.47	811.58	1,143.11	2,915.16

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**

