Electricity on Demand

2022

3RD QUARTER

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

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List of Abbreviations

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

01 Executive Summary

1.0 SUMMARY

Pursuant to its mandates as enshrined in the Electric Power Sector Reform Act (EPSRA) 2004, the Nigerian Electricity Regulatory Commission (NERC or the Commission) continued the function of regulating the technical, operational, and commercial performance of the Nigerian Electricity Supply Industry (NESI). Through this regulatory oversight function, the Commission ensures the implementation of regulatory interventions to deliver first-rate services to electricity consumers.

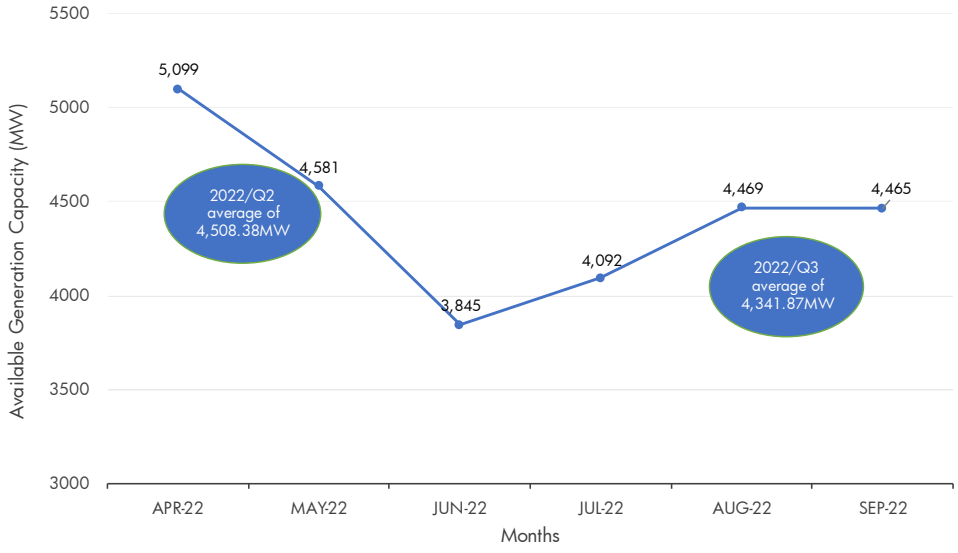
Operational Performance

The Operational performance parameters reported in 2022/Q3 cover the available generation capacity, average hourly generation, total quarterly generation, load factor and generation mix of grid-connected power plants as well as the grid frequency and voltage during the quarter.

The average available generation capacity in 2022/Q3 was 4,341.87 MW

a. **Available Generation Capacity:** There were twenty-six (26) grid-connected power stations in 2022/Q3 consisting of eighteen (18) gas, four (4) hydro, two (2) steam, and two (2) gas/steam-powered plants. The plants' average available capacity during the quarter was 4,341.87MW representing a 3.69% decrease (-166.51MW) compared to 4,508.38MW recorded in 2022/Q2; represented in figure A.

Figure A: Available Generation Capacity (April-September 2022)

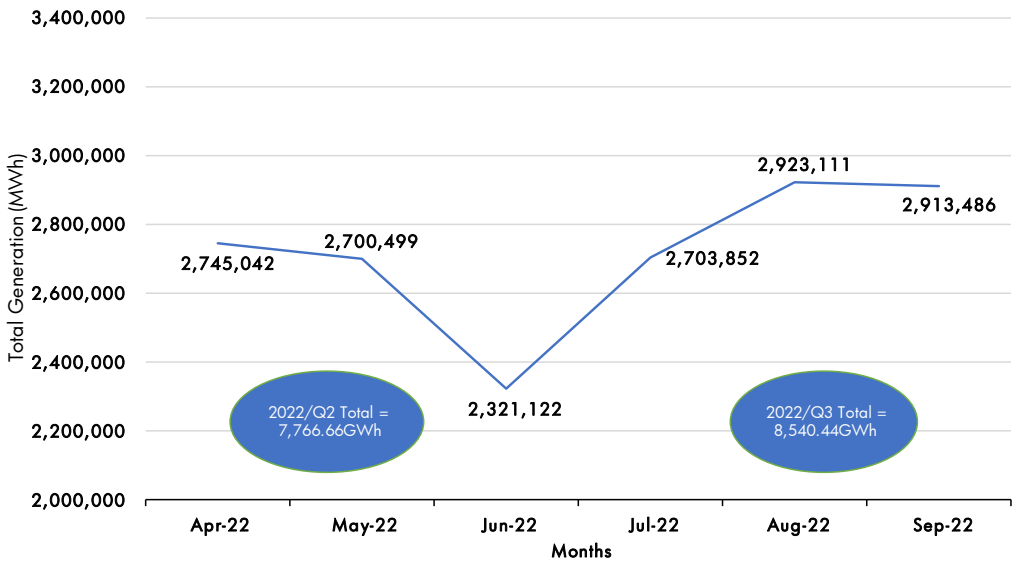


b. **Average Hourly Generation:** In 2022/Q3, the average hourly generation of all available units increased by 317MWh/h (+8.91%) from 3,556.16MWh/h in 2022/Q2 to 3,873.16MWh/h. The increase in generation despite decreased available capacity is expected due to increased average load factor in 2022/Q3 (88.31%) compared to 2022/Q2 (75.95%).

The total electricity generated in 2022/Q3 was 8,540.44 GWh (+9.96% greater than 2022/Q2)

c. **Total Quarterly Generation:** Figure B shows that the total quarterly generation in 2022/Q3 was 8,540.44GWh. This represents an increase of 773.78GWh (+9.96%)[1] from 7,766.66GWh generated in 2022/Q2. To ensure that the overall system is operated within the allowed technical limits, generation is affected by both the demand (load offtake) and supply (generation) sides. Some of the challenges that continue to limit generation are – feedstock constraints at generation, mechanical unavailability of plants, unscheduled outages along transmission and distribution networks and poor load offtake by Distribution Companies (DisCos).

Figure B: Total Generation (April-September 2022)



d. **Grid Performance:** In 2022/Q3, the average upper and lower bounds of the system frequency were 50.86Hz and 48.78Hz. Both frequencies are within the higher and lower bound stress limits (50Hz ± 1.25Hz) approved in the grid code. Similarly, the average upper and lower bounds

[1] It is important to note that the percentage change in quarterly total generation vs. quarterly average hourly generation are marginally different due to the difference in number of days in these quarters – 2022/Q2 had 91 days while 2022/Q3 had 92 days.

of the system voltage in 2022/Q3 were 348.95kV and 299.48kV. Both of these were outside the limits set in the grid code (330kV ± 16.5kV). Continuous operations outside these boundaries could have detrimental impacts on the overall health and reliability of the grid in the short and long term. Therefore, the SO needs to invest and incorporate operational procedures that will improve its real-time visibility and ability to enforce grid discipline among the GenCos and Discos to ensure that frequency and voltage are maintained within designed operational limits.

Commercial Performance

A total of ₦210.67 billion was collected by all DisCos in 2022/Q3 out of the ₦291.66 billion billed to customers.

a. **Billing Efficiency:** The total energy received by all DisCos in 2022/Q3 was 7,044.65GWh while the energy billed to end-use customers was 5,118.86GWh, translating into an average billing efficiency of 75.69%. This represents a decrease of 2.48 pp relative to the 78.17% recorded in 2022/Q2.

b. **Collection Efficiency:** The total revenue collected by all DisCos in 2022/Q3 was ₦210.67 billion out of ₦291.66 billion billed to customers —this corresponds to a collection efficiency of 72.23% which represents a 1.36 pp increase compared to 2022/Q2 (70.87%). Relative to 2022/Q2, both the billings and collections increased — billing increased by ₦25.98 billion (+9.78%) and collections increased by ₦22.28 billion (+11.89%).

The Commission continues to emphasise the imperative for DisCos to employ technologies and operational procedures to increase both billing and collection performances, in order to forestall long term financial challenges. These could include holistic energy accounting procedures, customer and infrastructure metering, among others.

c. **Aggregate Technical, Commercial and Collection (ATC&C) Losses:** The ATC&C loss in 2022/Q3 was 45.39% comprising technical and commercial loss (24.39%) and collection loss (27.77%). The ATC&C loss increased by 0.79 pp compared to 2022/Q2 (44.60%) — this means that on average, the financial performance of the DisCos deteriorated by 0.79 pp between 2022/Q2 and 2022/Q3. Across both quarters, no DisCo met its allowed ATC&C loss targets (efficient losses) as specified in the approved tariff order. This means that all DisCos were unable to earn

the forecasted revenues — if this persists, it could prevent DisCos from meeting their upstream market obligations and adversely affect their long-term financial positions.

d. **Market remittance:** The combined invoices issued to the DisCos in 2022/Q3 was ₦204.84 billion split as follows: i) generation costs from the Nigerian Bulk Electricity Trading Company (NBET[2]): ₦164.34 billion; ii) transmission and administrative services from the Market Operator (MO) : ₦40.50 billion. Out of this amount, the DisCos collectively remitted a total sum of ₦173.55 billion (₦140.67 billion for NBET and ₦32.88 billion for MO) with an outstanding balance of ₦31.29 billion; this corresponds to a remittance performance of 84.73% during the quarter compared to 68.48% in 2022/Q2. Poor remittance is a direct consequence of the DisCos recording higher than allowed ATC&C performance as established above. The disaggregated DisCo remittance performance to the market for 2022/Q3 can be found in Figure C.

i. **Remittance to NBET:** In 2022/Q3, out of the total invoice of ₦201.37 billion issued to NBET by GenCos, NBET was only able to invoice ₦164.34 billion to DisCos because of the MRO adjustments made owing to the allowed end user tariffs. Notwithstanding, NBET only received ₦140.67 billion during the quarter which represents an overall DisCo remittance performance of 85.60%. This is 17.32pp higher than the 68.28% (₦102.35 billion remitted against an MRO adjusted invoice of ₦149.89 billion) in 2022/Q2. It is worthy to note that the Government is responsible for providing NBET with the ₦37.03 billion in the form of subsidies to cover what NBET could not invoice to the DisCos because of the non-cost reflectivity of tariffs across the DisCos.

ii. **Remittance to MO:** The total invoice from MO to DisCos in 2022/Q3 for which a 100% remittance is expected was ₦40.50 billion. However, only ₦32.88 billion was received across all the DisCos, meaning that the remittance performance to MO for the quarter was 81.19%. This represents a 11.89 pp increase compared to 69.30% (₦24.34 billion remitted against an invoice of ₦35.12 billion) recorded in 2022/Q2.

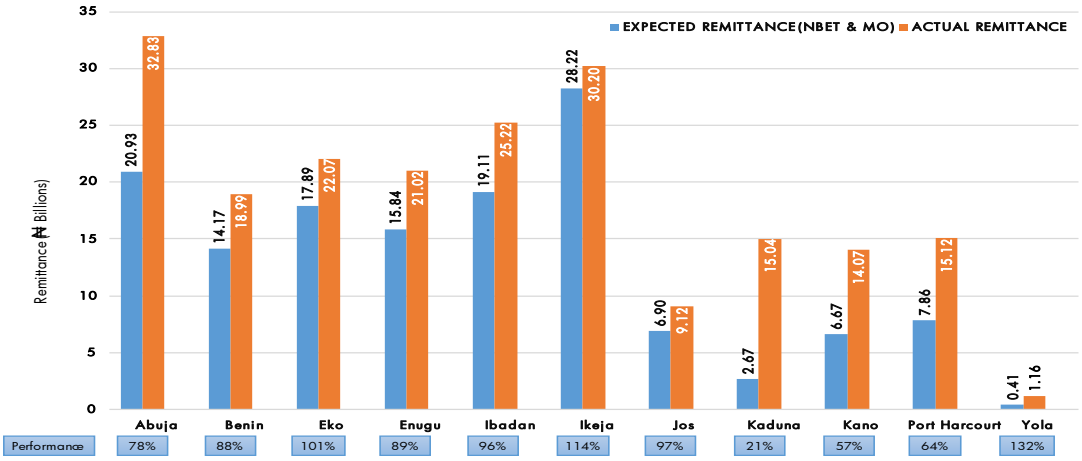
[2] NBET invoice is adjusted to reflect a Minimum Remittance Threshold (MRT) which is the portion of the total invoice that a DisCo is obligated to cover based on its allowed tariff as determined by the Commission in line with the MYTO. The obligation to pay the MRT is issued in the Commission's Minimum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

Cross-border customers had a remittance performance of 46% to the MO in 2022/Q3.

iii. Remittance by Special/International Customers:

In 2022/Q3, Transcorp-SBEE, Mainstream-NIGELEC and Odukpani-CEET received invoices of $1.85 million, $5.67 million and $1.71 million respectively from MO and made remittances of $1.20 million (64.96%), $5.55 million (97.87%) and $1.67 million (97.59%) respectively. However, no remittance was made to the MO by Paras-SBEE against an invoice of $1.92 million. The non-settlement of market obligations by this category of market participants should be a call to action for MO to activate relevant safeguards for remittance shortfalls.

Figure C: DisCo invoices and remittances in 2022/Q3



Regulatory Functions

The Commission granted a total of forty-three (43) licenses and permits in 2022/Q3

a. Licensing and Permits: In 2022/Q3, the Commission approved the issuance of six (6) new generation licenses and one (1) trading license. The Commission also approved twenty-three (23) mini-grid registration/permits and granted captive power generation permits to two (2) new companies with an aggregate capacity of 14.6MW. Four (4) Meter Asset Provider (MAP) permits, and Seven (7) Meter Service Providers (MSP) were also approved by the Commission in 2022/Q3.

b. Compliance and Enforcement: Enforcement actions against violations, breaches and infractions of Regulations, Orders and Technical codes of the NESI are key mandates of the Commission. In this regard, during the quarter, the Commission continued with enforcement actions (such as payments of penalties and compensations) carried over from the

preceding quarters against some licensees for violations of rules and infractions.

One (1) town hall/customer complaints resolution meeting was held in 2022/Q3

Consumer Affairs

a. Consumer Education and Enlightenment: To ensure continuous education of customers on their rights and obligations, as well as on other general service delivery matters in the industry, the Commission continued to implement customer enlightenment programs. In 2022/Q3, the Commission held one Town Hall/Customer Complaints Resolution meeting in Owerri, Imo State (July 6 – 8). This is among the mechanisms put in place by the Commission to enlighten customers on the activities of the Commission, discuss recent events in the NESI and highlight customer rights and obligations.

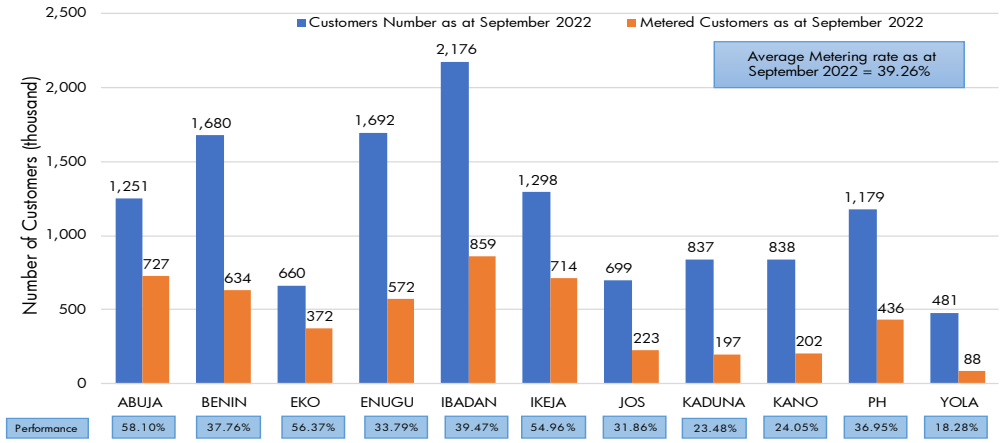
A total of 148,267 meters were installed in 2022/Q3

b. Metering: The substantial metering gap for end-use customers remains a key challenge in the industry – as at September 2022, it is estimated that only 5,021,682 (39.26%) of the 12,791,897 registered energy customers have been metered. By comparison, the net metering rate in the NESI increased from 38.74% metering in June 2022 to 39.26% in September 2022. A total of 142,887 meters were installed in 2022/Q3 compared to the 167,956 meters installed in 2022/Q2. The meter installations decreased compared to 2022/Q2, this is as a result of the winding down of the National Mass Metering Program (NMMP) phase 0[3]. The disaggregated DisCo net metering rate as at the end of 2022/Q3 can be found in Figure D.

The Commission continues to engage relevant stakeholders to ensure month-on-month increments in metering rate while instituting safeguards against overbilling of unmetered customers (by setting maximum limits to the amount of energy that may be billed to an unmetered customer every month through the issuance of monthly energy caps to reflect the energy supplied to each DisCo).

[3] The number of meter installations through the NMMP phase 0 was 158,889 in 2021/Q1, 308,016 in 2021/Q2, 279,917 in 2021/Q3, 70,676 in 2021/Q4, 20,016 in 2022/Q1, 34,390 in 2022/Q2 and 24,017 in 2022/Q3.

Figure D: Status of Customer metering as at September 2022



c. Customer Complaints: In 2022/Q3, cumulatively, the DisCos received 247,326 complaints from consumers —this is 3,681 (-1.47%) less complaints than those received in 2022/Q2. In total, the DisCos resolved 226,523 complaints corresponding to a 91.59% resolution rate (compared to 92.39% in 2022/Q2). Metering, billing, and service interruption were the prevalent sources of customer complaints, accounting for more than 76% of the total complaints during the quarter. The Commission has introduced initiatives to address this category of complaints such as the independent verification of DisCos compliance with the capping regulation that protects unmetered customers from overbilling.

In 2022/Q3, the Forum Offices resolved 50.40% of total complaints at seventy-four (74) sittings.

d. Forum Offices: Pursuant to the provisions of the Commission's Customer Complaints Handling Standards and Procedure Regulations, the Commission set up forum panels across the Country to review unresolved disputes from the DisCos' Complaint Handling Units. In 2022/Q3, the Forum Offices had a total of 2,657 active complaints (inclusive of the pending 1,270 complaints from 2022/Q2) from customers who were dissatisfied with DisCos' decision on the complaints lodged at the CCU. During the period, the Forum Panels held seventy-four (74) sittings and resolved 1,339 (50.40%) of the complaints lodged at Forum Offices nationwide, this means 1,318 complaints were yet to be resolved as at the end of 2022/Q3.

To ensure a more efficient customer complaint resolution process, the Commission continues to push for an improvement in the quality of

complaint resolution at the CCU of the DisCos, the establishment of additional Forum Offices across the country as well as the creation of alternative complaint resolution channels.

Investigations have been launched into all reported accidents

e. Health & Safety: Out of the eighty-seven (87) mandatory health and safety reports expected from licensees in 2022/Q3, the Commission received a total of eighty-two (82) reports from licensed operators compared to eighty-six (86) reports received in 2022/Q2. Investigations have been launched into all reported accidents. The Commission has also initiated new processes to track licensees' compliance with the submission of statutory incidents reporting obligation.

The total number of incidents in 2022/Q3 was seventeen (17); 5 injuries and 12 deaths – this represents a reduction of 67.92% (36), 79.17% (19) and 58.62% (17) in the number of incidents, injuries and deaths respectively compared to 2022/Q2. These improvements are very much welcomed by the Commission and efforts will be sustained to improve the health and sector footprint of the NESI. Notwithstanding, the Commission has launched investigations into all the incidents and will continue to work with all sector stakeholders to improve the overall health and safety in the NESI.

The Commission

a. Financial Report: The total revenue realized by the Commission in 2022/Q3 was ₦3,871.36 million representing a decrease of ₦1,078.40 million (-21.79%)[4] from the ₦4,949.76 million realized in 2022/Q2. During the same period, the total expenditure increased by ₦357.92 million (+16.33%) from ₦2,192.33 million in 2022/Q2 to ₦2,550.25 million. The increase in expenditure was largely due to increased operating and regulatory expenses during the quarter.

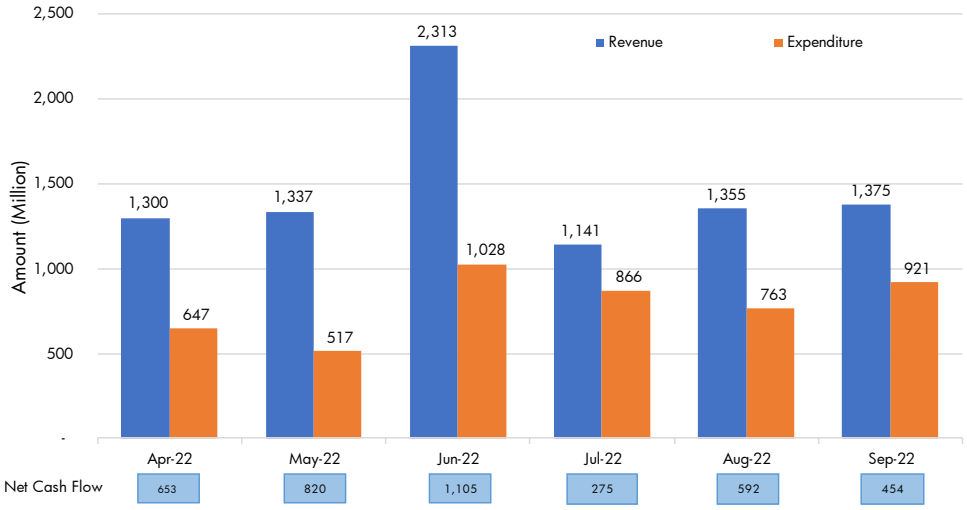
The Commission realised ₦3.87 billion as revenue and expenditure of ₦2.55 billion in 2022/Q3

A comparison of the revenue and expenditure patterns of the Commission in 2022/Q3 shows a positive net cash flow of ₦1,321.11 million; down by ₦1,436.32 million (52.08%) compared to the ₦2,757.43 million in

[4] The 2022/Q2 revenue of the Commission was inflated due to delayed payment of the February regulatory charges by the Market Operator.

2022/Q2. Riding on one of its key financial obligations of proper cash flow management, the Commission has continued to record positive net cash flows every quarter.

Figure E: Commission's Revenue and Expenditure (April-Sept 2022)

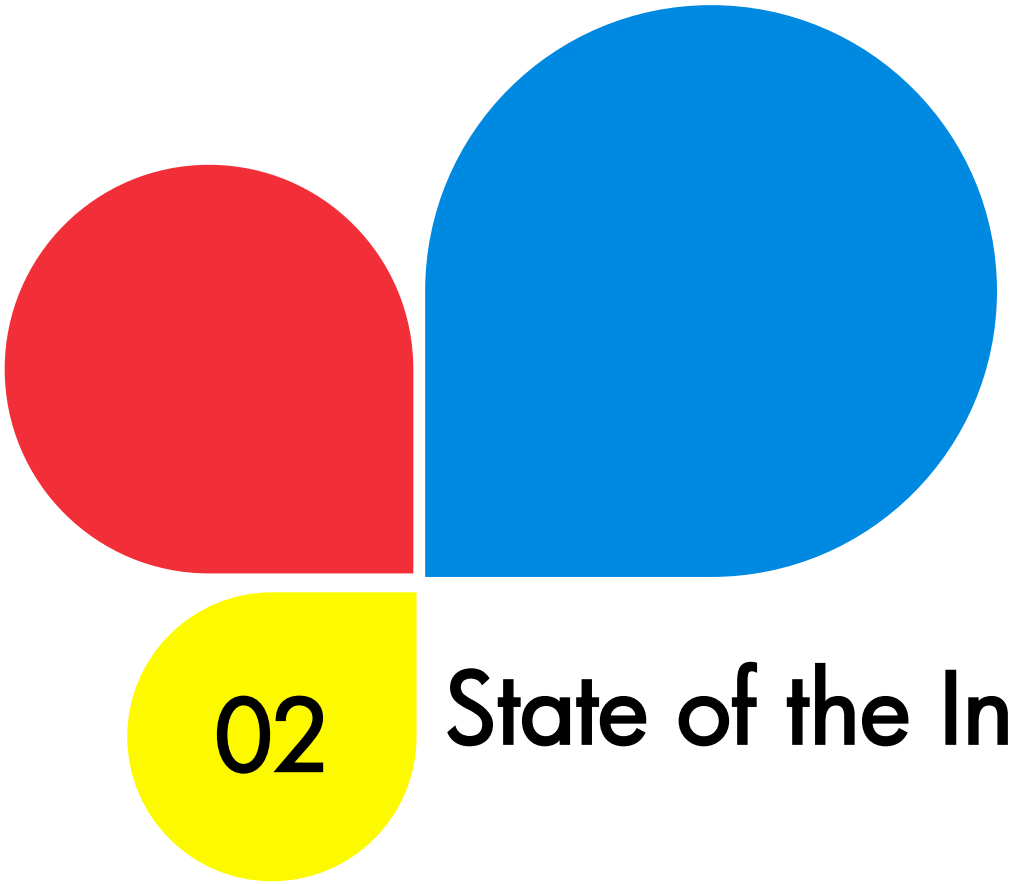


Key facts on NESI Operational Performance in Q3 of 2022

4,341.87 MW	Average Available Generation Capacity; 166.51 MW (-3.69%) decrease compared to 2022/Q2 – 4,508.23 MW
8,540.44 GWh	Total Quarterly Generation; 773.78 GWh (+9.96%) increase compared to 2022/Q2 – 7,766.66 GWh
3,873.16 MWh/h	Average Hourly Generation; 317 MWh/h (+8.91%) increase compared to 2022/Q2 – 3,556.16 MWh/h
88.31%	Average Load Factor; 12.36 pp increase compared to 2022/Q2 – 75.95%
29.42%	Share of total quarterly generation from Hydropower Plants; 10.86 pp increase compared to 2022/Q2 –18.56%
7.75%	Transmission Loss Factor; 0.94 pp reduction compared 8.69% in 2022/Q2 but 0.25% above the MYTO allowance of 7.50%
7,044.75 GWh	Total Energy Received by the DisCos; 700.61 GWh (+11.04%) increase compared to 2022/Q2 – 6,344.14 GWh
5,118.16 GWh	Energy Billed; 158.63 GWh (+6.58%) increase compared to 2022/Q2 —4.959.53 GWh
₦210.67 billion	Total Revenue Collected by the Discos; ₦22.38 billion (+11.86%) increase compared to 2022/Q2 – ₦188.29 billion
75.69%	Cumulative Billing Efficiency across all DisCos; 2.48 pp decrease compared to 2022/Q2 —78.17%
72.23%	Cumulative Collection Efficiency across all DisCos; 1.36 pp increase compared to 2022/Q2 —70.87%.
45.39%	Aggregate Technical, Commercial and Collection Losses; 0.79 pp increase compared to 2022/Q2 —44.60%

₦204.84 billion	Combined Invoice from NBET (MRO adjusted) and MO to DisCos; ₦19.83 billion increase compared to 2022/Q2 – ₦185.01 billion
₦173.55 billion	Total Amount Remitted by DisCos; ₦46.86 billion increase compared to 2022/Q2 – ₦126.69 billion
84.73%	Discos' Average Remittance Performance; 16.25 pp increase compared to 2022/Q2 —68.48%
142,887	Number of New Meters Installed; 25,069 (-14.93%) decrease compared to 2022/Q2 – 167,956
91.59%	Average DisCo complaint resolution rate; 0.8 pp decrease compared to 2022/Q2 – 92.39%
50.40%	Forum Office Complaint Resolution Rate; 0.36 pp increase compared to 2022/Q2 —50.04%
12	Number of Fatalities; 17 less deaths (-58.62%) compared to 2022/Q2 – 29
5	Number of Injuries; 19 less injuries (-79.97%) compared to 2022/Q2 —24
₦3.87 billion	Total revenue Realized by the Commission; 1.08 billion (-21.78%) decrease compared to 2022/Q2 – ₦4.95 billion[5]
₦2.55 billion	Total Expenditure by the Commission; 357.92 million (+16.32%) increase compared to 2022/Q2 – ₦2.19 billion

[5] The 2022/Q2 revenue of the Commission was inflated due to delayed payment of the February regulatory charges by the Market Operator.



02 State of the Industry

2.0 State of the Industry

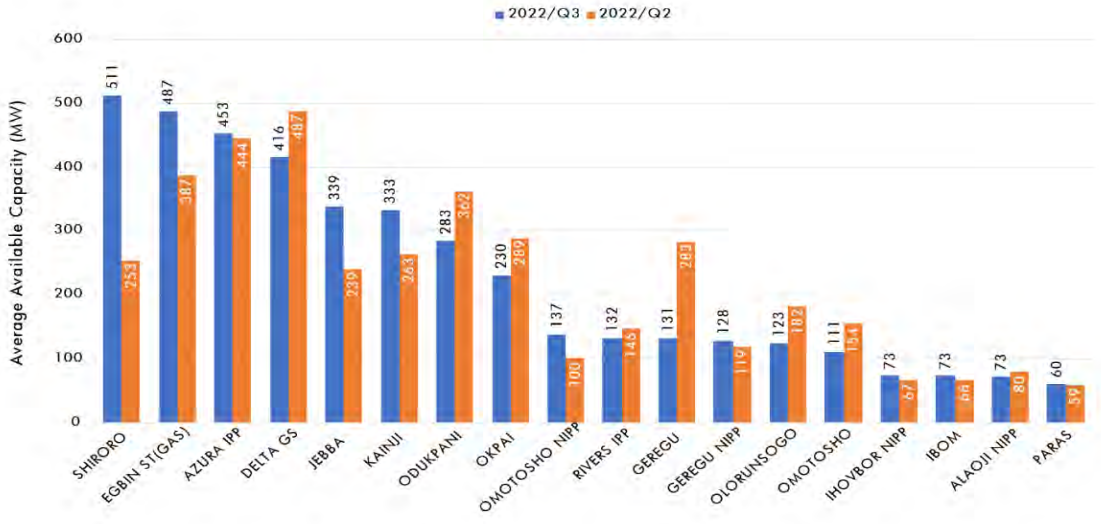
Pursuant to its statutory mandate as enshrined in the EPSRA 2004, the Nigerian Electricity Regulatory Commission (NERC) continues to monitor the technical, operational, and commercial performance of the Nigerian Electricity Supply Industry (NESI). These actions are geared towards ensuring the implementation of appropriate regulatory interventions and ultimately, optimum service delivery to consumers.

- Operational Performance

In 2022/Q3, the average available generation capacity was 4,341.87MW, the average hourly generation stood at 3,873.16MWh/h while the total quarterly generation was 8,540.44GWh from 26 generating plants across the country.

Average Available Capacity: The average available generation capacity decreased by 3.69% from 4,508.38MW in 2022/Q2 to 4,341.87MW. As illustrated in Figure 1 the reduction was mainly due to decreases in several power plants: Geregu (-53.66% / -151.77MW), Olorunsogo NIPP (-77.15% / -90.39MW), Odukpani (-21.80% / -78.99MW), Sapele NIPP (-72.29% / -78.35MW), Delta GS (-14.60% / -71.11MW), and Okpai (-20.46% / -59.03MW). Shiroro, Egbin, Kainji, Jebba and Azura power plant however recorded increased availability compared to the 2022/Q2.

Figure 1[6]: Average Available Capacity in 2022/Q2 vs. 2022/Q3



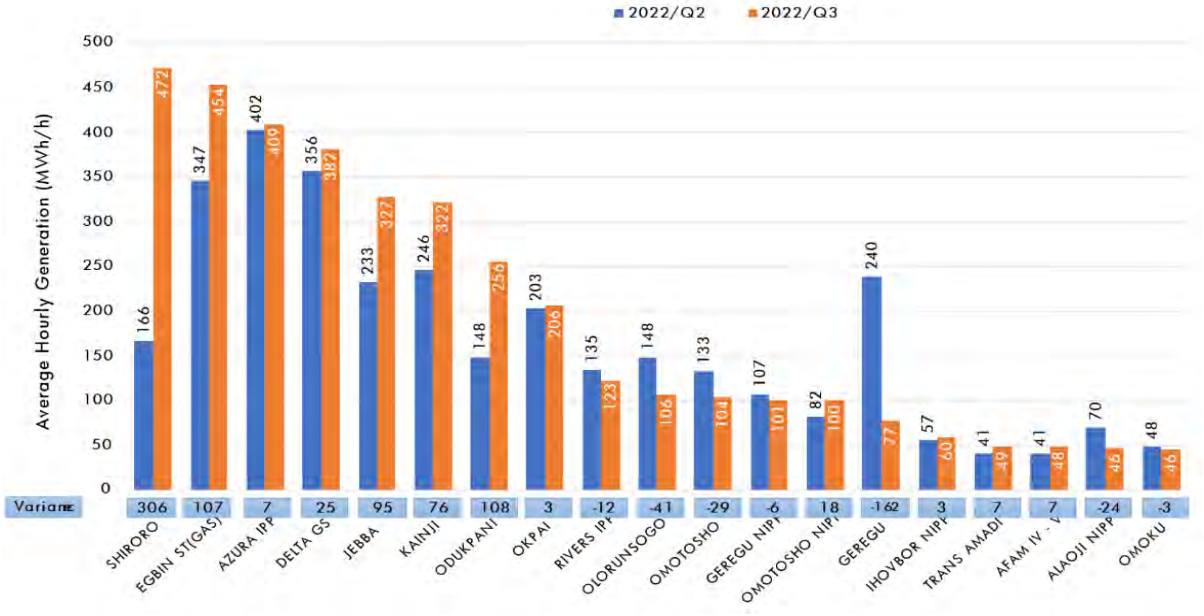
[6] Figure 1 reflects the top 18 plants, by size, which constitutes ~94% of the total available capacity during the quarter.

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

In 2022/Q3, the average hourly generation on the grid was 3,873.16 MWh/h, an increase of 317 MWh/h (+8.91%) compared to 3,556.16 MWh/h in 2022/Q2. As shown in Figure 2 the average hourly generation of Shiroro, Odukpani, Egbin, Jebba, Kainji, Delta Gas, and Omotosho NIPP power plants increased, by 305.96 MWh/h (183.87%), 108.26 MWh/h (+73.07%), 106.72 MWh/h (+30.76%), 94.55 MWh/h (+40.66%), 75.68 MWh/h (+30.72%), 25.18 MWh/h (+7.06%), and 18.04 MWh/h (+21.99%), respectively.

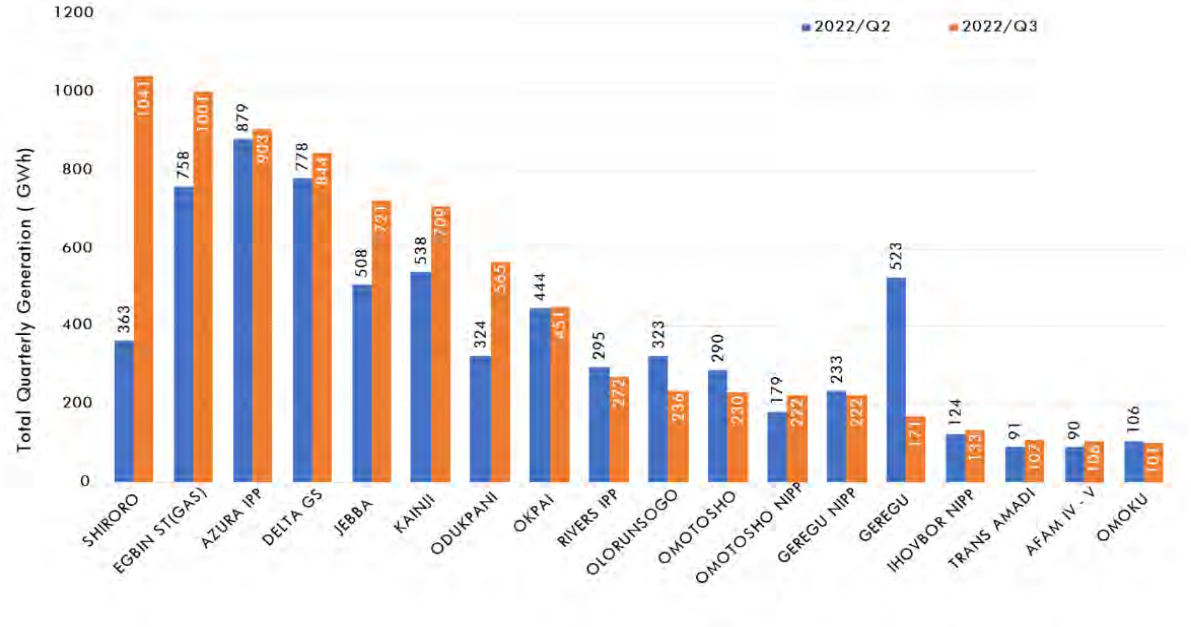
Conversely, the average hourly generation of Geregu, Olorunsogo NIPP, Sapele NIPP, Olorunsogo, Afam VI, and Omotosho decreased by 162.45 MWh/h (-67.83%), 71.27 MWh/h (-79.93%), 59.13 MWh/h (-80.53%), 41.29 MWh/h (-27.94%), 31.01 MWh/h (-52.62%), and 28.94 MWh/h (-21.81%) respectively in 2022/Q3 compared to 2022/Q2. The decrease in generation from Geregu, Olorunsogo NIPP, Sapele NIPP, Afam VI and Omotosho power plants were due to technical faults (usually short-term unscheduled outages), gas constraints, and scheduled annual preventive maintenance.

Figure 2: Average Hourly Generation in 2022 Q2 vs. 2022 Q3



Total Quarterly Generation: In 2022/Q3, the total electricity generation was 8,540.44 GWh, an increase of 773.78GWh (9.96%)[7] from the 7,766.66 GWh generated in 2022/Q2. Figure 3 shows that six power plants had decreased generation in 2022/Q3 compared to 2022/Q2. The largest decreases were seen at Geregu (-67.25%/351.79 GWh), Olorunsogo NIPP (-93.16%/181.41 GWh), and Sapele NIPP (-80.17%/128.56 GWh). Meanwhile, the total generation of seven other power plants increased, with the largest increases at Shiroro (+186.54%/677.92 GWh) and Egbin (+32.15%/243.57 GWh). The sharp increase in the output from Shiroro hydroplant is linked to a significant surge in rainfall in the water basin that supplies the Kaduna River, where the hydro power 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. In contrast, the period between April and June is the driest in Shiroro lake, resulting in minimal production.

Figure 3: Total Quarterly Generation in 2022/Q2 vs. 2022/Q3



In 2022/Q3, Geregu NIPP was out due to gas constraints and technical issues, while Olorunsogo NIPP was out on maintenance and Jebba reported some faults (Burnt generator winding and AVR faults). During the quarter, Geregu NIPP was available for

[7] It is important to note that the percentage change in quarterly total generation vs. quarterly average hourly generation are marginally different due to the difference in number of days in these quarters – 2022/Q1 had 91 days while 2022/Q3 had 92 days.

only 65% of the time largely as a result of supply issues – a combination of volumetric constraints (lack of gas allocation) and inadequate gas pressure (when allocation was made for the plant). This situation is indicative of the challenges facing the gas to power subsector which consequentially limits the available generation in the NESI.

Other issues faced by GenCos during the quarter were general faults (oil leakage on governor runner head, high thrust bearing temperature, generator winding, high rotor vibration, high inlet differential pressure and defective air inlet filter housing), routine maintenance, low water levels, as well as shortages of gas supply. To improve this performance, the Commission approved the transition of the NESI to the Partial Activation of Contracts (PAC) regime effective July 1, 2022.

The PAC set out a framework to allow GenCos earn capacity payments i.e. payments for making an agreed generation capacity available irrespective of whether it is dispatched by the SO or not. This is in line with international best practices in power procurement contracts and increases the predictability of revenue flows for the GenCos, thus allowing for critical routine maintenance activities to improve the mechanical availability of their plants. The PAC regime further reinforces the DisCos capacity payment scheme introduced previously which acts as a deterrent against discretionary non-offtake of load.

To further improve contract discipline along the upstream segment of the NESI, the PAC regime provided for Liquidated Damages (LD) to be paid by GenCos or TCN to the DisCos in situations where the DisCo does not receive the contracted capacity due to challenges at the generation and/or transmission sub-segments.

Starting from July 2022, the Gas Supply Stabilisation Fund (GSSF) was also introduced by the Commission to provide assurance to gas suppliers and by so doing increase the quantity of gas supplied to the GenCos. The GSSF is a revolving fund (seed funding was obtained from legacy FGN debt obligations to the DisCos) which is used to settle gas invoices at source i.e. the Gas Aggregation Company of Nigeria (GACN) compiles and sends all[8] gas-to-power invoices to NBET for payment at source. Once NBET receives the market remittance for the next month, the GSSF is refunded wholly with the

[8] Two (2) plants are excluded due to their gas contracting arrangements, they are:
1. Azura IPP
2. Odukpani NIPP

balance being used to settle the GenCo invoices. Note that the amount paid to the GSSF is netted-off the GenCo's invoice to NBET.

- Generation Load Factor

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

The formula for Load Factor is represented by equation 1 below:

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

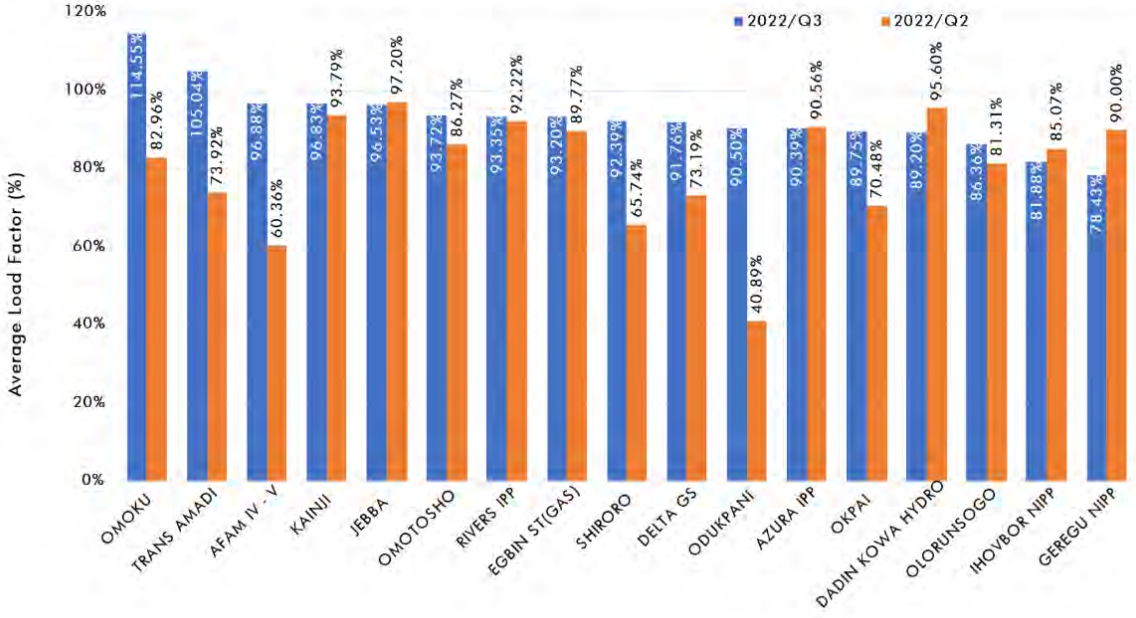
In 2022/Q3, the average load factor for all grid-connected power plants was 88.31%, meaning 11.69% of available capacity was not utilized. The 88.31% load factor recorded in 2022/Q3 represents an increase of 12.36 percentage points (pp) from the 75.95% average load factor recorded in 2022/Q2. The key drivers for this overall improvement include - improved load offtake by the DisCos in spite of the commencement of the rainy season when their fragile infrastructure is often affected and reduced cases of transmission infrastructure unavailability which allowed TCN to evacuate more energy to the DisCos.

Figure 4 shows that in 2022/Q3, 12 power plants Omoku (114.55%)[9], Trans Amadi (105.04%), Afam IV-V (96.88%), Kainji (96.83%), Jebba (96.53%), Omotosho (93.72%), Rivers IPP (93.35%), Egbin ST (93.20%), Shiroro (92.39%), Delta GS (91.76%), Odukpani (90.50%), and Azura IPP (90.39%) had a load factor of over 90%. Except for Dadin Kowa (89.20%), all other hydro plants continued to experience high dispatch rate (> 90%) in line with the Commission's order (Order No: NERC/182/2019) on mandatory and priority dispatch of hydro power plants. The Order mandates that hydro plants, the cheapest energy generation source, be dispatched with priority to reduce wholesale energy costs for consumers. There are also

[9] The cases of over 100% load factor suggest instances where plants that are on best endeavour – "take and pay" contracts were made to generate beyond their declared capacities for the purpose of grid management. This also can be attributed to an underestimation (or under-recording) of the available capacities at the respective plants.

environmental considerations for the prioritisation of the hydro-plants as they have a major impact on water flows further downstream within the Country.

Figure 4: Plants Load Factor in 2022/Q2 vs. 2022/Q3



In 2022/Q3, the load factor of power plants including Odukpani, Afam IV-V, Omoku, Trans-Amadi, Shiroro, Okpai, Delta Gas, Omotosho, Olorunsogo, Egbin ST, Kainji, and Rivers IPP increased compared to 2022/Q2. These plants recorded load factor increments of 49.61, 36.53, 31.59, 31.12, 26.64, 19.27, 18.57, 7.45, 5.05, 3.43, 3.04, and 1.13 percentage points respectively. The improvement in load factor for these plants is attributable to the overall improvement in load offtake as well as an increase in the availability of the transmission infrastructure to evacuate the energy from the plants.

On the other hand, Geregu, Alaoji NIPP, Afam VI, Sapele NIPP, Geregu NIPP, Olorunsogo NIPP, Omotosho NIPP, Paras, Dadi Kowa, Ihovbor NIPP, Sapele ST, Ibom, and Azura IPP power plants saw a decrease in load factor performance in 2022/Q3 compared to 2022/Q2, with a decrease of -25.89, -23.91, -20.20, -20.14, -11.57, -9.28, -8.70, -7.85, -6.41, -3.19, -2.19, -1.17, and -0.17 pp respectively.

The overall increase in load factor indicates improved availability of power plants and increased energy offtake by the DisCos. The Situation Room Programme involves daily meetings between all grid-connected operators and the SO to review energy offtake performance, resolve any challenges, and maximize capacity utilization to supply end-

use customers. The Commission through the "Situation Room Programme" also ensured hands-on supervision of load dispatch and resolution of envisaged challenges.

The Commission also oversaw some process redesign activities to improve the coordination timeliness of information sharing with respect to available generation between the SO and the DisCos to improve load offtake.

- Generation Mix

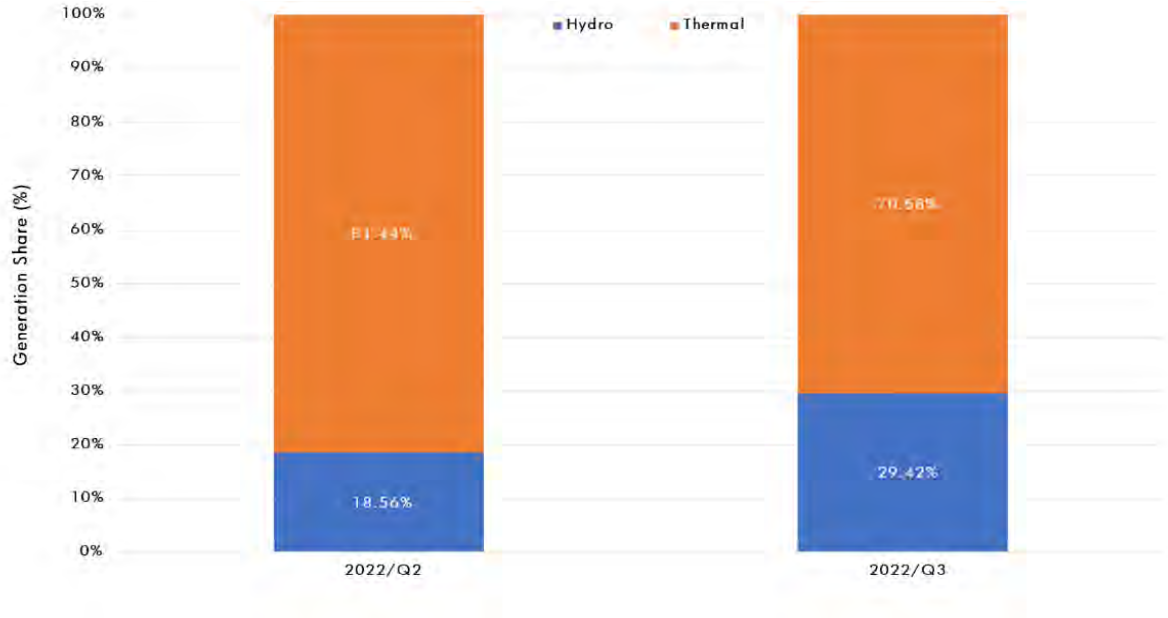
The electricity generation mix refers to the combination of fuels used to generate electricity over a period of time. The composition of the generation mix varies across countries and is influenced by factors such as natural resource availability, government policies, environmental considerations, type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

The formula for share of electricity generation by fuel sources is represented as:

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

Figure 5 shows the share of electricity generated by fuel sources for Q2 and Q3 of 2022. Hydro power saw a significant increase in its share of the energy mix, rising from 18.56% (1,457.13 GWh) in Q2 to 29.42% (2,512.50 GWh) in Q3. This increase is in line with expectations during the rainy season and is attributed to the improved water availability and the consistent output from hydro power plants due to the control mechanisms put in place by the National Control Centre (NCC). The NCC tracks the daily water levels at all hydro plants and manages the dispatch of the plants in a way that ensures that there is sufficient water in the plants' reservoirs to allow them run during the peak of the dry season albeit with limited capacity compared to the wet season. This is critical to grid stabilisation as it allows for year-round security of supply from the hydro plants.

Figure 5: Electricity Generated by Energy Sources in 2022/Q2 & 2022/Q3



The current energy mix in Nigeria is subject to substantial risks from seasonal variations in water volume and gas availability. The Commission is developing green power initiatives to mitigate these risks, including working with the TCN to evaluate the National Grid's ability to integrate grid-scale renewable energy sources such as wind and solar. In the long term, the Federal Ministry of Power's efforts to create an Integrated Resource Plan (IRP) will provide a policy framework for optimizing NESI's generation mix. The Commission is committed to supporting the Ministry in finalizing the IRP and will use it as a reference for evaluating generation plant license applications.

- **Grid Performance**

The Transmission Company of Nigeria (TCN) which has the responsibility of wheeling energy from power plants to DisCos holds two licensees, Transmission Service Provider (TSP) and System Operator (SO). TSP owns and maintains the transmission infrastructure while the SO is responsible for maintaining system stability, load balance and load dispatch.

To assess the performance of the grid, the Commission focuses on four (4) Key Performance Indicators (KPI) that relate to power transmission. These are:

1. Transmission loss factor
2. Stability of grid frequency
3. Voltage fluctuation
4. Incidence of system collapse

2.4.1 Transmission Loss Factor

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

The formula for TLF is represented by equation 3 below:

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

In 2022/Q3, the average Transmission Loss Factor (TLF) was 7.75%, as shown in Figure 6. This represents a decrease of 0.94 pp from the previous quarter 2022/Q2 TLF of 8.69%, indicating an improvement in Transmission System Provider (TSP's) operational performance. A TLF of 7.75% indicates that for every 100 MWh of energy injected into the grid, 7.75 MWh of energy was lost in transit as transmission loss and undelivered to the DisCos.

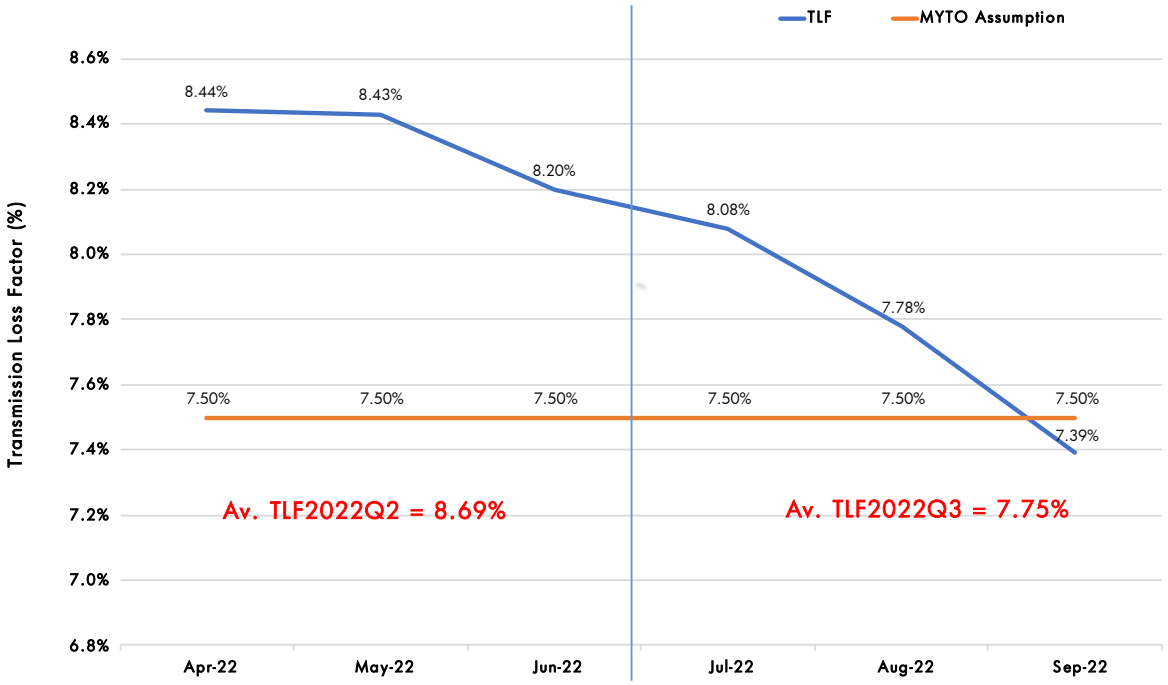
The downward trend in in the TLF since its peak in April 2023 as shown in Figure 6, is a result of the sustained efforts by the TSP to improve the operational efficiency of the transmission network. However, the average TLF fell short of the MYTO target of 7.50%. This means that an additional 0.25% (21.35 GWh) of energy generated was lost for which the TSP has no avenue to recover revenue. The TLF targets set by the Commission represent the maximum efficient loss in transmission that is paid by customers.

Some of the contributory factors to the improved TLF performance in 2022/Q3 are:

- **Energy dispatch**: higher levels of dispatched generation in Q3 – 2022 relative to the dispatched generation in Q2 – 2022. Given that the auxiliary energy use of transmission equipment (transformers and lines) remains relatively constant, an increase in the capacity and volume of energy wheeled across the transmission network will result in a lower TLF as measured in the 'percentage (%) lost energy', and not 'MWh lost', between dispatched energy from GenCos and the energy received by DisCos. That means if the numerator (auxiliary energy use of transmission equipment) remains constant, and an increase occurs in the denominator (volume of wheeled energy), the resulting TLF will be lower.
- **Upper boundary of grid frequency**: when the upper bound of grid frequency is as close as possible to 50Hz by accurately balancing demand (offtake) and

supply (generation), this minimises the energy that is lost in the transmission system i.e. unused energy thereby reducing the TLF. This was the case in 2022/Q3 compared to 2022/Q2 as explained below.

Figure 6: Transmission Loss Factor (%) vs MYTO Assumption Jan – Sept 2022



Anytime the TLF exceeds the approved limits, the costs associated with the additional lost energy is borne solely by the TSP which will negatively affect its long-term financial position. The Commission has mandated the TCN to present its Performance Improvement Plan (PIP) due to the importance of enhancing grid efficiency. The PIP is expected to be developed with significant contribution from the DisCos so that there is alignment between investments being made at the transmission and distribution segments. This will allow TCN to have sufficient capacity to deliver electricity to the DisCos' load centres. In addition, the projects may also be used to reinforce the reliability and efficiency of the national transmission network grid.

2.4.2 Grid Frequency

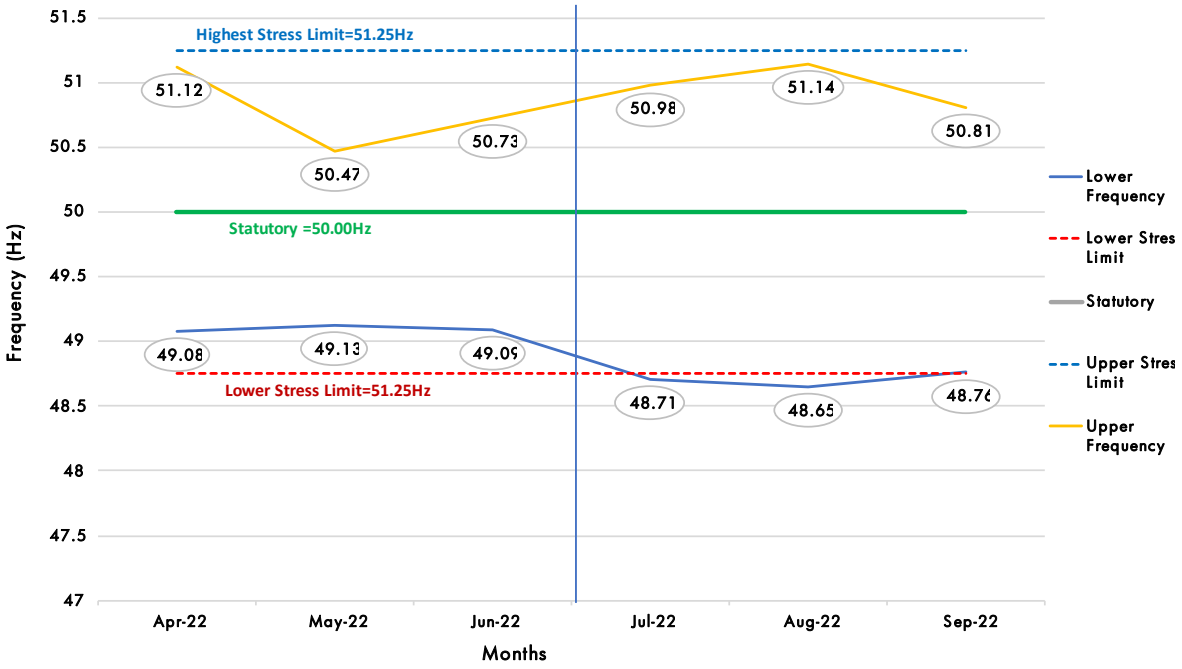
Frequency is a major power quality parameter that consumers (especially industrial customers) are concerned about because of the sensitivity of their machines. Most industrial production assembly lines have machines that are frequency sensitive and would not operate outside the pre-set frequency tolerance limits. As specified in the Grid

Code, the system frequency under normal circumstances is expected to be between a lower limit of 49.75Hz and an upper limit of 50.25Hz (allowance of +/- 0.5% in normal circumstances) but may reach an upper bound stress limit of 51.25Hz and a lower bound stress limit of 48.75Hz in extreme circumstances (allowance of +/- 2.5% in extreme circumstances).

In 2022/Q3, the highest and lowest daily system frequency readings were 50.98Hz and 48.71Hz with a range of 2.27Hz. Comparatively, in 2022/Q2, the highest and lowest daily system frequency readings were 53.25Hz and 48.00Hz with a range of 5.25Hz. A systems stability is dependent on operating within a better range, the lower the range, the better the frequency performance. Therefore, the lower range observed in 2022/Q3 is a reflection of significantly improved system operations during the quarter.

In 2022/Q3, the upper and lower bounds of the system frequency were all outside the normal operations limits but within the stress limits with the exception of August 2022. The system also recorded its highest average frequency for the quarter in the same month which indicates that the SO faced several challenges keeping the grid stable during August 2022.

Figure 7: Average Daily System Frequency from April – Sept 2022



The fluctuation in frequency indicates an imbalance in the supply and demand of electricity on the grid. There is an urgent need for improved system coordination by the System Operator (SO) to ensure the grid frequency is maintained within the statutory limits to improve supply quality acceptable for all consumers.

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

2.4.3 Voltage Fluctuation

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

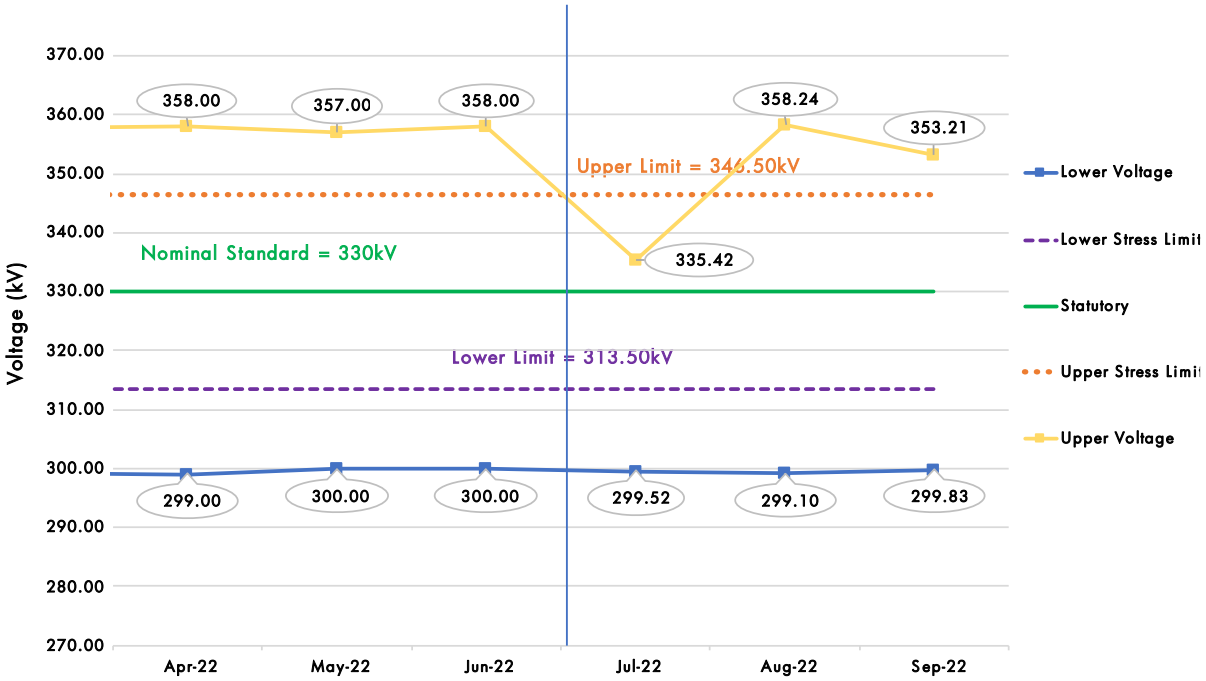
In 2022/Q3, the average upper and lower operating voltage bounds for the network were 355.73kV and 299.47kV respectively with a range of 56.26kV. Both of these were outside their respective allowable limits which indicates that the grid performance from a voltage perspective in 2022/Q3 did not meet the expected levels. In 2022/Q2, the average upper and lower operating voltage bounds for the network were 358.22kV and 299.62kV respectively with a range of 58.6kV. Since the system stability is dependent on operating within a better range, the voltage performance in 2022/Q3 was better compared to that of 2022/Q2.

When a power system operates outside the allowed voltage range, it can cause several issues and consequences that negatively impact the system's performance, safety, and reliability. For instance, if the system operates at a voltage level higher than the allowed range, it may cause overvoltage stress on connected equipment, increased power loss,

reduced efficiency, overheating, insulation breakdown, and increased risk of electrical arcs and flashovers, as well as potential protection system malfunctions. Similarly, operating the system at a lower-than-allowed voltage range can cause issues like underperformance of equipment, increased equipment wear, voltage flicker and instability, tripping of sensitive loads, and other issues.

The system voltage pattern from April 2022 to September 2022 is depicted in Figure 8. To reduce frequency and voltage fluctuations, the Commission is actively working with TCN and other stakeholders to ensure that the system voltage remains within the regulated limits, providing safe and reliable electricity supply.

Figure 8: Monthly System Voltage from April – September 2022



2.4.4 System Collapse

The national power grid, a network of electrical transmission lines connecting generating stations to loads over the entire country, is designed to operate within certain stability limits in terms of voltage (330kV±5%) 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 demand for electricity is higher than the supply, the grid frequency

drops, which can cause some power plants to shut down automatically. This further exacerbates the frequency imbalance and can lead to a full or partial system collapse. On the other hand, if supply surpasses demand, the frequency increases, and in severe cases, some power plants may shut down, causing a sudden drop in generation. The frequency trend throughout the quarter showed that the grid was operating close to extreme stress frequencies, making it susceptible to any major disruptions.

The number of grid incidents reduced from 2 in 2022/Q2 to 1 in 2022/Q3. The details of the events leading up to the only grid collapse recorded in 2022/Q3 are listed in Table 1.

Table 1: System Collapse in 2022/Q3

SN	Date	Immediate Cause	Remote Cause	Inference
1	20th July 2022 (18:30 hrs)	Tripping of Delta's GT 15 and Load Loss of 457MW	Shortage in overall system generation (limited to 3,830.90MW) largely driven by the unavailability of gas to mechanically available thermal plants and seasonal low water levels which limited the available capacity of the hydroplants. Low generation leaves the system vulnerable to sharp frequency changes if any of the power plants that is tied to the grid losses a substantial capacity	The load loss of 457MW at Delta power station at 11:27hrs created an imbalance between the instantaneous load demand and supply. Consequently, the frequency of the grid supply decreased from 49.94Hz to 47.46Hz which caused a cascaded tripping of many other generating units in response to the low frequency. The cascaded shut down of the units resulted in a total system collapse that occurred on 20 July 2022. System restoration commenced at 12.00hrs same day, that is 33 minutes after the incident. To mitigate a reoccurrence, remedial actions such as the presence of automation could shorten the duration of the load matching and avoid the drop in frequency beyond permissible limits. Spinning reserves can also help mitigate loss of generation.

The Commission, in collaboration with the TCN, continues to intensify efforts to sustain the improvements in grid stability and prevent system collapses in the future. In this regard, the Commission shall continue to strictly monitor compliance with the SO's directives to generators on free governor and frequency control mode in line with the provisions of the subsisting operating codes in the electricity industry. The Commission is also exploring options for the enforcement of under frequency load-shedding scheme instituted to provide an added layer of security for the grid in case of a sudden loss of generation. TCN could also be required to undertake a review of the calibration of its relay settings as part of the efforts to increase grid stability.

- Commercial Performance

The commercial performance of the NESI is a measure of the liquidity of the market - an aggregate of the viability index of each DisCo in terms of energy received, proportion billed to customers and the amount of money received in relation to the expected target sales.

In determining commercial performance of the NESI, the following parameters are considered:

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

2.5.1 Energy received and MYTO Allocation

A certain amount of energy generated is lost before reaching the final consumers. A part of the energy generated at power stations is utilized on-site for equipment and facility operation and the rest is sent to the transmission grid. Energy sent out (energy injected into the transmission grid) is thus the total energy generated less the power station's own-use. A fraction of the injected energy is again lost in the transmission system (TLF) before it is received at the Disco's and the international customers' metering points. This energy received by the DisCos is subject to further losses (technical) before reaching the customers.

Prior to 2022/Q3, the share of available generation which a DisCo got allocated in real-time as well as during the determination of the MYTO Target Sales (MTS)[10] was based on its percentage allocation as contained in the vesting contract executed between each DisCo and NBET upon privatisation. Effective from July 1, 2022, the NESI transitioned into the Partial Activation of Contract (PAC) regime as described earlier. One major difference that the PAC regime heralded was the ability of each DisCo to determine its own unconstrained power requirements in absolute MW – "Partially Contracted Capacity" (PCC). Although procurement was still done centrally by NBET, each DisCo has a take-or-pay obligation on its PCC meaning that as long the GenCos reported availability, they will be entitled to capacity payments irrespective of actual energy offtake by the DisCo. As mentioned above, this is consistent with international best practices for power procurement.

This new requirement was used to calculate the DisCo's cost reflective tariff using the MYTO model. Furthermore, the cumulative capacity submitted by the DisCos guided the volume of energy that was contracted by NBET with the grid connected GenCos during the PAC negotiation process. One implication of the revision of the vesting contract share with the PCC is that in any situation where the total generation is below the gross contracted amount, the SO will pro-rate the capacity made available to NBET by the GenCos among the DisCos based on their PCC percentages. Table 2 shows the difference in the share of available capacity which was made available to each DisCos before and after the PAC regime was introduced.

Table 2: Vesting Contracts (2022/Q2) vs Partial Activation (2022/Q3)

DisCos	Baseload (MW) Start - End (01:00 - 17:00)	Peak Load (MW) Start - End (17:00 - 1:00)	Average Supply (MWh/h) Duration (24hrs)	Partial Activation Agreement - 2022/Q3 - (%)	Vesting Contracts - 2022/Q2 (%)	Variance - (PAA - Vesting) (%)
Abuja	551	661	588	13.6	11.5	2.1
Benin	336	417	363	8.3	9.0	-0.7
Eko	484	572	513	12.0	11.0	1.0
Enugu	392	458	414	9.7	9.0	0.7
Ibadan	495	611	534	12.2	13.0	-0.8
Ikeja	580	650	603	14.3	15.0	-0.7
Jos	235	285	252	5.8	5.5	0.3
Kano	290	320	300	7.2	8.0	-0.8

[10] Refer to 2022 Q2 report for detailed explanation.

Kaduna	274	317	288	6.8	8.0	-1.2
Port-Harcourt	296	355	316	7.3	6.5	0.8
Yola	117	144	126	2.9	3.5	-0.6
Delivered to DisCos	4050	4790	4297	100.0	100.0	
Sent - Out Generation	4378	5178	4645			

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

As reported in the 2022/Q2 report, if a DisCo's inability to earn the MTS is as result of its actions or operational challenges, the cost is borne entirely by the DisCo. The improved accountability framework is geared towards ensuring that all segments of the value chain are incentivised to provide the necessary services to deliver safe and reliable electricity to Nigerians.

Table 3 shows that the amount of energy received by DisCos at their trading points in 2022/Q3 was 3190.56MWh/h. This is an increase of 317.31MWh/h (+11.04%) from 2873.25 MWh/h (6344.14GWh) recorded in 2022/Q2. The increase is largely reflective of the ramp up in available and actual generation in 2022/Q3.

Table 3: Energy received and Available Partial Contracted Capacity[11]

DisCos	2022/Q2			2022/Q3		
	Received (GWh)	MYTO share (GWh)	Variance (GWh)	Received (MWh/h)	Available PCC (MWh/h)	Variance (MWh/h)
	A	B	C=A-B	A	B	C=A-B
Abuja	847.00	729.58	117.42	445.20	464.43	-19.23
Benin	609.01	570.97	38.04	309.65	289.13	20.52
Eko	688.00	697.86	-9.86	345.11	364.86	-19.76
Enugu	600.96	570.97	29.99	282.16	303.28	-21.13
Ibadan	776.93	824.74	-47.81	392.89	399.57	-6.67

[11] PCC is explained in section 2.5.1.

Ikeja	897.85	951.62	-53.77	466.99	465.96	1.03
Jos	350.01	348.93	1.08	181.18	194.88	-13.70
Kaduna	497.00	507.53	-10.53	226.00	223.33	2.66
Kano	408.00	507.53	-99.53	215.58	222.16	-6.58
Port Harcourt	461.45	412.37	49.08	237.56	249.08	-11.52
Yola	207.93	222.04	-14.11	88.25	97.49	-9.24
All DisCos	6344.14	6344.14		3190.56	3274.16	-83.60

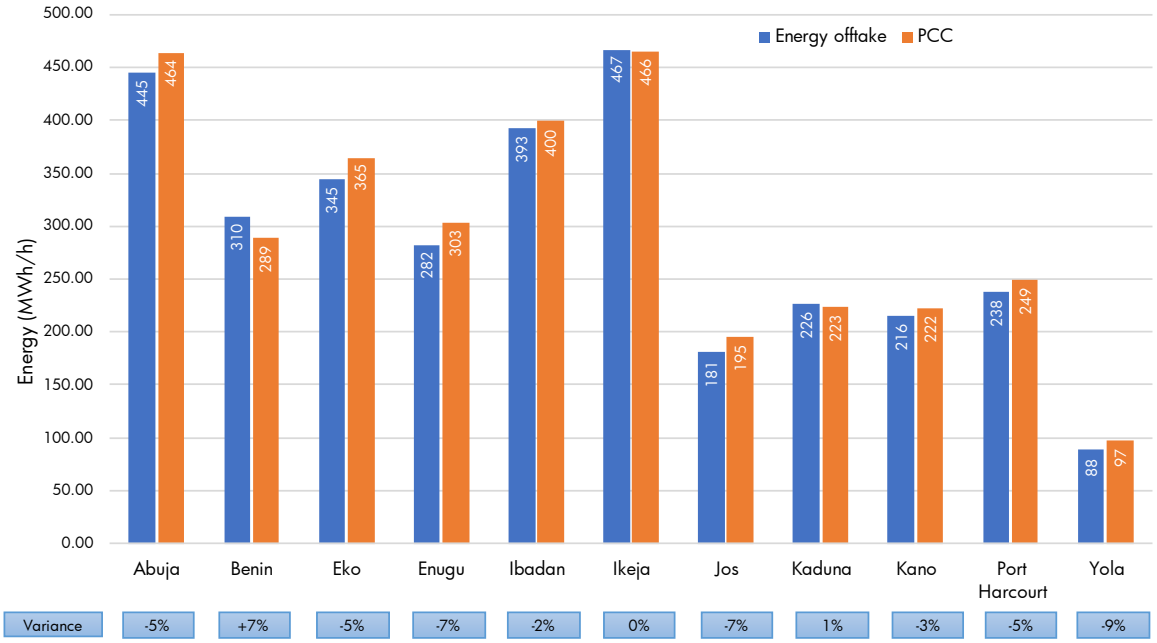
Notes of the table: DisCos are the electricity distribution companies.

A comparison of the actual energy offtake and the available PCC as contained in Table 3 can be used to identify DisCos that perform poorly on energy offtake. The poor performances can be ascribed to incessant infrastructure failures due to high downtime of feeders/lines or deliberate action by a DisCo to limit supply to certain areas often driven by commercial considerations i.e., DisCos might want to limit supply to areas where they record high collection losses. Notwithstanding, the Commission remains committed to putting safeguards in place to ensure DisCos take as much as their available PCC so that electricity consumers across the entire Country can benefit from the available grid electricity.

As represented in Figure 9, Benin, Ikeja and Kaduna DisCos took above their available PCC with 107.10% (+20.52MWh/h), 100.22% (+1.03MWh/h) and 101.19% (+2.66MWh/h) respectively. All other DisCos took less than their available PCC with Yola 90.52% (-9.24MWh/h), Jos 92.97% (-13.70MWh/h), and Enugu 93.03% (-21.13MWh/h) having the largest variances relative to their PCC in 2022/Q3, possibly due to technical limitation of their networks and/or commercially induced low load offtake during the period.

DisCos that consume more than their available PCC will benefit from lower wholesale energy cost as they are only required to make capacity payments to cover their available PCC share despite off-taking more energy i.e. they are only bound to pay energy portion of any offtake above their available PCC. Conversely, DisCos that consumed less than their allocation face increased wholesale energy cost as they still had to pay for unused capacity for which they have no access to revenue.

Figure 9: Energy Off-take by DisCos vs. Partial Contracted Capacity in Q3



2.5.2 Energy Billed and Billing Efficiency

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

The billing efficiency indicator encompasses both technical factors, such as energy loss distribution infrastructure, and commercial factors like meter bypass and the DisCo's inability to account for energy supplied. For example, a billing efficiency of 70% means that ₦30.00 out of every ₦100.00 worth of electricity received by DisCos cannot is not billed to customers due to issues like energy theft, inadequate distribution infrastructure, and poor customer enumeration.

The formula for billing efficiency is represented by equation 4 below:

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

The summary presented in Table 4 shows that the total energy received by all DisCos in 2022/Q3 was 6,761.87GWh, the total energy billed was 5,118.86GWh - the billing efficiency was 75.61%. A billing efficiency of 75.61% implies that for every ₦100 worth of energy received by DisCos in 2022/Q3, energy worth ₦24.39 was not billed to end users. Comparatively, the total energy received and billed in 2022/Q2 were

6344.14GWh and 4959.53GWh respectively which translates to a billing efficiency of 78.17%. Cumulatively, the DisCos recorded a 2.56 pp reduction in billing efficiency between 2022/Q3 and 2022/Q2. Reviewing trends from prior periods, this is partially explained by the increase in total energy offtake – generally when DisCos offtake a low amount of energy – they tend to prioritise supply to areas where they record better billing efficiencies i.e. areas with higher enumeration, less energy theft and resultantly, high collection rates.

The DisCos with the largest increase in energy received between 2022/Q3 and 2022/Q2 are Abuja (136.00 GWh/+16.06%), Ikeja (133.15 GWh/+14.83%), Benin (75.00 GWh/+12.31%), Eko (74.00 GWh/+10.76%), and Kano (68.00 GWh/+16.67%). On the other hand, the DisCos with the largest decrease in energy off-taken are Ibadan (-191.93 GWh/-24.70%) and Yola (-12.93 GWh/-6.22%).

In 2022/Q3, Port Harcourt, Eko, Yola and Ikeja had improved billing efficiencies of 81.06% (+2.24 pp), 90.94% (+1.41 pp), 56.66% (+0.79 pp), and 88.69 (+0.02pp) respectively when compared to 2022/Q2. Most other DisCos recorded reductions in their billing efficiency relative to 2022/Q2 with the most significantly affected DisCos being Kaduna, Benin, Kano, and Ibadan DisCos with 49.10% (-27.76 pp), 83.18 (-4.8 pp), 67.44% (-3.88 pp), and 72.38% (-3.97 pp) respectively.

Table 4: Energy Received and Billed by DisCos in 2022/Q2 and 2022/Q3

DisCos	*Total Energy Received (GWh)*		*Total Energy Billed (GWh)*		*Billing Efficiency (%)*	
	2022/Q2	2022/Q3	2022/Q2	2022/Q3	2022/Q2	2022/Q3
Abuja	847.00	983.00	594.00	690.00	70.13	70.19
Benin	609.01	684.00	507.81	568.72	83.38	83.18
Eko	688.00	762.00	616.00	693.00	89.53	90.94
Enugu	600.96	623.00	441.00	444.00	73.38	71.27
Ibadan	776.93	585.00	593.17	423.18	76.35	72.38
Ikeja	897.85	1,031.00	796.10	914.45	88.67	88.69
Jos	350.01	400.00	258.58	283.22	73.88	70.80
Kaduna	497.00	499.00	382.00	245.00	76.86	49.10
Kano	408.00	476.00	291.00	321.00	71.32	67.44
PH	461.45	525.00	363.70	425.19	78.82	81.06
Yola	207.93	195.00	116.17	110.41	55.87	56.66
All DisCos	**6,344.14**	**6,761.87**	**4,959.53**	**5,118.16**	**78.17**	**75.61**

In 2022/Q3, Eko Disco recorded the highest billing efficiency of 90.94% while Yola DisCo recorded the lowest billing efficiency of 56.66%. This indicates that Yola DisCo lost about 43.34% (84.59GWh) of the energy it received in 2022/Q3 to a combination of technical and commercial losses.

The low billing efficiency reported by the DisCos remains a major source of concern for the Commission with respect to the financial sustainability of the NESI. The Commission is committed to working with DisCos to ensure that distribution losses are further reduced as part of the efforts towards steering the industry to financial sustainability. This effort will hinge on reinforcement of DisCo's infrastructure to reduce technical losses, improve consumer enumeration, customer service, metering systems, and implementation of steps that will drive timely bill payments and the roll out of initiatives to curb energy theft.

2.5.3 Revenue and Collection Efficiency

Collection efficiency is an indicator of the proportion of the amount that has been collected from customers relative to the amount billed to them by the DisCos. Many customers continue to default in payment of their billed amounts in part due to a lack of willingness to pay (sometimes driven by unsatisfactory DisCo services). This has led to mounting commercial losses recorded by DisCos. A collection efficiency of 80% for instance implies that for every ₦100.00 worth of energy billed to customers by DisCos, approximately ₦20.00 remained unrecovered from the billed customers.

The formula for collection efficiency is represented by equation 5 below:

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

The total revenue collected by all DisCos in 2022/Q3 was ₦210.67 billion out of ₦291.66 billion billed to customers — this translates to a collection efficiency of 72.23%. The DisCos cumulative collection efficiency increased by 1.36 pp from 70.87% in 2022/Q2 to 72.23% in 2022/Q3. While the total collections increased by 11.88% (compared to ₦188.29 billion in 2022/Q2), the total energy billed increased by 9.77% (compared to ₦265.68 billion in 2022/Q2).

The summary of the revenue performance of all DisCos in 2022/Q2 and 2022/Q3 is contained in Table 5. The 2022/Q2 to 2022/Q3 improvement in collection efficiency was largely driven by Kaduna, Yola and Kano whose collection efficiencies increased by 13.38, 7.44 and 4.99 pp respectively. Conversely, Jos, Abuja and Benin DisCos

however recorded collection efficiency declines of -4.9, -4.25, and -3.61pp respectively.

Table 5: DisCos Revenue Collection Performance in 2022/Q2 vs. 2022/Q3

DisCos	Total Billings (₦'Billion)		Revenue Collected (₦'Billion)		Collection Efficiency (%)	
	2022/Q2	2022/Q3	2022/Q2	2022/Q3	2022/Q2	2022/Q3
Abuja	33.82	39.27	28.99	31.99	85.72	81.47
Benin	27.17	30.76	16.22	17.25	59.70	56.09
Eko	32.63	37.69	27.74	32.27	85.02	85.64
Enugu	23.56	24.40	16.74	16.95	71.03	69.51
Ibadan	32.01	34.08	21.24	23.56	66.35	69.16
Ikeja	39.53	46.55	36.87	43.40	93.27	93.23
Jos	15.55	17.25	7.64	7.64	49.10	44.20
Kaduna	19.50	13.40	6.57	6.31	33.72	47.10
Kano	15.81	17.97	10.20	12.48	64.54	69.45
Port Harcourt	19.65	23.59	13.01	15.11	66.24	64.09
Yola	6.45	6.71	3.07	3.68	47.57	55.01
All DisCos	265.68	291.66	188.29	210.67	70.87	72.23

The overall rise in collection efficiency in 2022/Q3 could be attributed to the increased metering and efficient implementation of the capping order[12]. For post-paid customers, the different DisCos continue to put in place various innovative collection campaigns and programs to improve remittance. Notwithstanding, the low collection efficiency performance of the DisCos poses a major threat to the financial sustainability of the NESI. Therefore, the Commission intends to reinvigorate its monitoring of the various metering programs being implemented by the DisCos e.g. the National Mass Metering Program (NMMP) funded through the Central Bank of Nigeria and the Meter Asset Provider (MAP) scheme.

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

[12] The objective of the Capping order is to limit the amount of energy an unmetered customer can be billed through estimation by their utility. The value is determined by the average vending of metered customers on the same feeder in the preceding 3 months.

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

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

ATC&C losses are broken into the following 3 components:

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

The formula for ATC&C losses is represented by Equation 6 below:

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

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

As contained in Table 6, the ATC&C losses in 2022/Q3 was 45.39% composed of 24.39% technical and commercial losses, and 27.77% in collection loss. This level of ATC&C losses implies that over the course of 2022/Q3, on average, as much as ₦45.4 in every ₦100.00 worth of energy received by a DisCo was unrecovered due to a combination of inefficient distribution networks, energy theft, low revenue collection and unwillingness of customers to pay their bills.

By way of comparison, the ATC&C losses for 2022/Q3 increased by 0.79 pp from the 44.60% recorded in 2022/Q2 — this means that on average, the financial performance of the DisCos deteriorated by 0.79 pp between 2022/Q2 and 2022/Q3. This increase was largely driven by Jos (68.71%), Benin (53.34%) and Abuja (42.81%) DisCos which had increased ATC&C losses of -+4.99, +3.12 and +2.92 pp respectively between 2022/Q2 and 2022/Q3.

Table 6: ATC&C Losses (%) by DisCos in 2022/Q2 vs 2022/Q3

DisCos	MYTO Target (%)	Average ATC&C (%)	
	2022	2022/Q2	2022/Q3
Abuja	19.27	39.89	42.81
Benin	17.37	50.22	53.34
Eko	14.18	23.88	22.11
Enugu	11.31	47.87	20.46
Ibadan	15.47	49.34	49.66
Ikeja	11.37	17.30	17.31
Jos	27.27	63.72	68.71
Kaduna	10.65	74.08	76.87
Kano	15.85	53.97	53.17
Port Harcourt	21.45	47.80	48.05
Yola	64.14	73.42	68.83
All DisCo MYTO Target	20.27		
ATC&C loss	-	44.60	45.39
Technical & Commercial losses	-	21.83	24.39
Collection losses	-	29.13	27.77

The overall ATC&C loss of 45.39% is significantly higher than the allowed ATC&C 20.27% provided in the MYTO for the quarter – no DisCo achieved its target with all DisCos recording ATC&C losses that were above their allowed targets. The inability of most DisCos to meet their allowed loss targets means they are unable to meet revenue requirements thereby compromising their long-term financial position. There is an urgent need for all the DisCos to take emergency remedial actions on their networks, effective customer enumeration and increased revenue assurance to improve their ATC&C losses. Failure to resolve these will not only prevent the DisCos from being able to meet their upstream obligations, but it will also saddle them with too much debt and erode their equity.

2.5.5 Market Remittance to NBET and MO

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

been made. This escrow mechanism also provided visibility into the financial performance of the DisCos with respect to collections.

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

In the absence of cost-reflective tariffs, the Government undertakes to cover the resultant gap (between the cost-reflective and allowed tariff) in the form of tariff shortfall funding. This funding is applied to the NBET invoices that are to be paid by DisCos. The amount to be covered by the DisCo is based on the allowed tariff approved by the Commission and set out as their Minimum Remittance Obligation (MRO) in the periodic Tariff Orders issued by the Commission.

The MROs for each DisCo during 2022/Q3 are outlined in Table 7. The ₦37.04 billion that has been netted off the full invoice as a result of the application of the MRO represents that government's subsidy support to the NESI in 2022/Q3. The ₦12.35 billion per month support represents a major reduction in the size of government subsidy support to the NESI which peaked at ~₦49.50 billion per month in 2019. As the implementation of government reforms continue, the objective is to eliminate MROs (subsidies) completely thereby allowing the market to operate purely on commercial terms without government intervention. The MRO is limited to NBET, while MO recovers 100% of its revenue requirement from DisCos.

Table 7: NBET Invoice and MRO Adjusted final Obligation for 2022/Q3

DisCos	NBET Invoice (₦' billion)	MRO (%)	Final Obligation (₦'billion)
Abuja	28.55	94.73	27.04
Benin	18.76	88.28	16.56
Eko	21.24	92.08	19.55
Enugu	18.78	94.16	17.68
Ibadan	24.83	86.71	21.53
Ikeja	29.20	89.45	26.12
Jos	11.23	65.81	7.39
Kaduna	14.10	88.05	12.41
Kano	13.67	87.61	11.98
Port Harcourt	15.19	84.85	12.89
Yola	5.81	10.50	0.61
All DisCos	201.37		173.76

The summary presented in Table 8 shows that the combined invoices issued to the DisCos in 2022/Q3 was ₦214.26 billion split as follows: i) generation costs from NBET: ₦173.76 billion; ii) transmission and administrative services from the MO: ₦40.50 billion. Out of this amount, the DisCos collectively remitted a total of ₦173.55 billion (₦140.67 billion for NBET and ₦32.88 billion for MO), creating a total deficit of ₦31.29 billion and translating to a remittance performance of 84.73% in 2022/Q3 (+16.25 pp increase compared to 2022/Q2—68.48%).

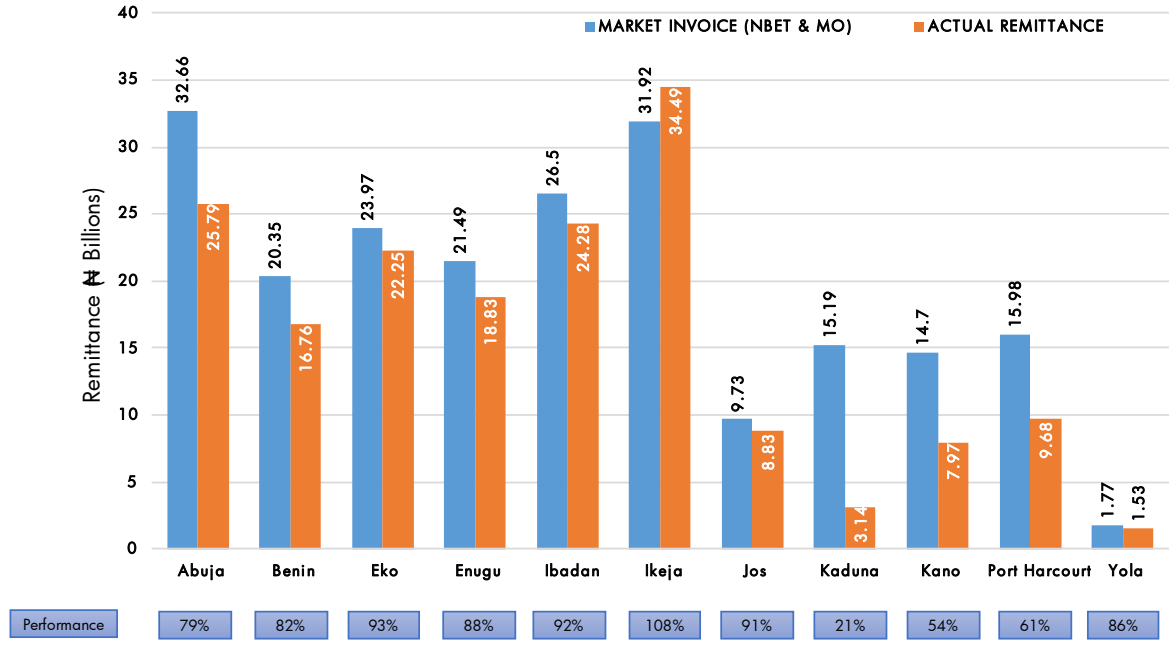
Table 8: DisCos Remittance Performance to NBET and MO in 2022/Q3

DisCos	Total Invoice (₦'Billion)		MRO Adjusted Invoice (₦'Billion)		Actual Remittance (₦'Billion)		Remittance Performance (%)	
	NBET	MO	NBET	MO	NBET	MO	2022/ Q2	2022/ Q3
Abuja	28.55	5.62	27.04	5.62	20.93	4.86	84.42	78.97
Benin	18.76	3.79	16.56	3.79	14.17	2.59	57.31	82.36
Eko	21.24	4.42	19.55	4.42	17.89	4.36	102.63	93.24
Enugu	18.78	3.81	17.68	3.81	15.84	2.99	53.57	87.62
Ibadan	24.83	4.97	21.53	4.97	19.11	5.17	63.26	91.62
Ikeja	29.20	5.80	26.12	5.80	28.22	6.27	86.90	108.05
Jos	11.23	2.34	7.39	2.34	6.90	1.93	51.87	90.75
Kaduna	14.10	2.78	12.41	2.78	2.67	0.47	9.80	20.67
Kano	13.67	2.72	11.98	2.72	6.67	1.30	53.59	54.22
Port Harcourt	15.19	3.09	12.89	3.09	7.86	1.82	74.08	60.58
Yola	5.81	1.16	0.61	1.16	0.41	1.12	230.01	86.44
All DisCos	201.4	40.5	173.76	40.5	140.67	32.88	68.48	80.99

Compared to 2022/Q2, the total invoice, remittance and remittance performance changed as follows: +29.25 billion (+15.8%), +46.86 billion (36.99%) and +12.51 pp, respectively. Figure 10 indicates that Ikeja had the highest remittance performances of 108%[13] (₦34.49 billion) in 2022/Q3. Eko and Ibadan DisCos had remittances of 93.24% (₦22.25 billion) and 91.62% (₦24.28 billion) respectively. In the quarter, Kaduna DisCo had the lowest remittance performance with 20.67% (3.14 billion).

Compared to 2022/Q2, six (6) DisCos – Jos, Enugu, Ibadan, Benin, Ikeja, and Kano DisCos had improved remittances of +38.88 pp, +34.05 pp, +28.36 pp, +25.05 pp, +21.15 pp, and +0.63 pp respectively to the market (NBET+MO) in 2022/Q3. However, Yola, Port Harcourt, Eko and Abuja DisCos recorded decreased remittance performance between 2022/Q2 and 2022/Q3.

Figure 10: Market Invoice and Remittance by DisCos in 2022/Q3



It is noteworthy to highlight that the reason why DisCos recorded market remittance improvements that outstrip their collections improvements was the introduction of regulatory net-offs in favour of the DisCos. A retroactive review of the tariff and remittance of all DisCos between 2015 and 2021 showed that a number of DisCos had effectively overpaid NBET relative to what the MRO should have been at the time.

[13] Beginning January 2022, as contained in the MRO, Yola's Minimum Remittance to NBET is 0%. This is as a result of the ownership transition and the terms of the re-privatization agreed with the government. As Yola's MRO has been set to zero, their remittance to the market dropped sharply in 2022/Q3 by 93pp - notwithstanding, they still exceeded their remittance requirement (132%) in 2022/Q3.

Furthermore, the Commission was informed by the FGN on a framework for the payment of ₦80 billion to DisCos to cover unpaid debts from the FGN's Ministry, Departments and Agencies (MDAs) incurred between 2017 and 2021. Based on these, the regulatory net-off provision was made which reduced the MRO of DisCos with the expectation that the Federal Ministry of Finance, Budget and National Planning will provide funds to NBET to cover the amounts that were netted-off.

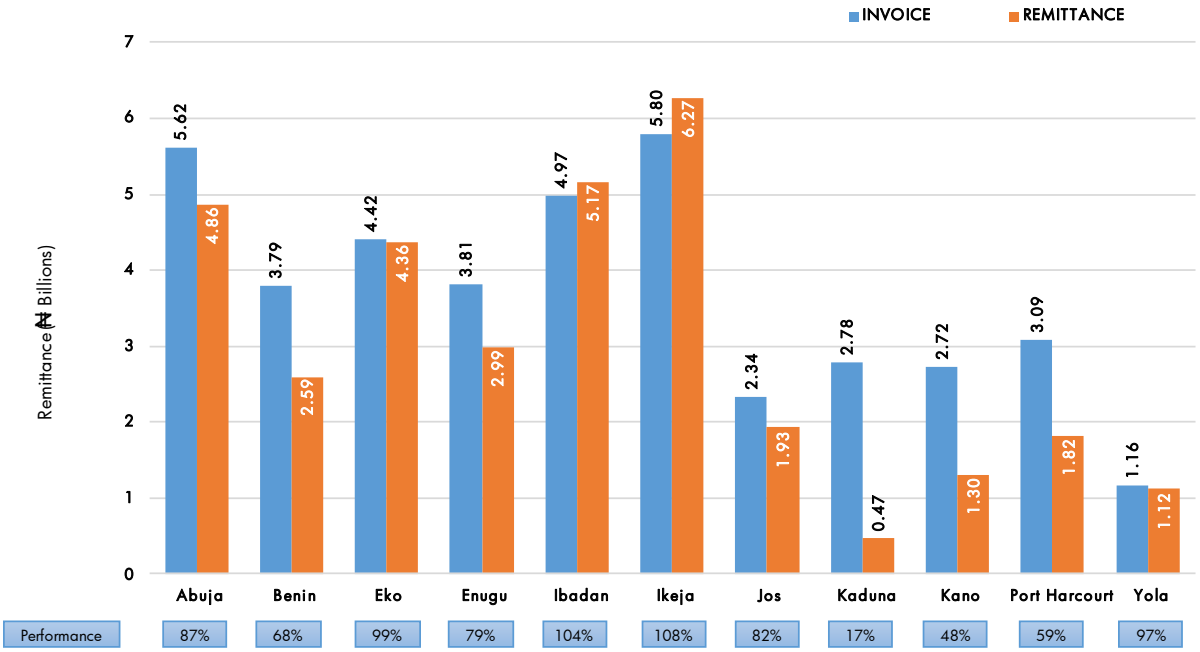
Notwithstanding, there is an urgent need for all the DisCos to implement new strategies to increase their collections in order to improve their remittance performances. If this is not done, they will be saddled with too much market shortfall debts which can compromise their equity positions.

2.5.6 Market Remittance to MO

The Market Operator issues invoices to DisCos and international customers for energy transmission and administrative services. The average remittance performance to the MO in 2022/Q3 was 81.18% compared to 69.30% in 2022/Q2 (11.88 pp increase). In 2022/Q3, Ikeja had the highest remittance performance at 108.09% (₦6.27 billion against invoice of ₦5.80 billion) while Kaduna had the lowest remittance performance with 17.08% (₦0.47 billion against invoice of ₦2.78 billion).

Ikeja, Ibadan, Eko and Yola were the only DisCos with remittance rates above 90% with 108.09% (₦6.27 billion), 103.91% (₦5.17 billion), 98.75% (₦4.36 billion) and 96.76% (₦1.12 billion) respectively. Figure 11 shows that Kano and Kaduna DisCos had remittances below 50% with 47.85% (₦1.30 billion), and 17.08% (₦0.47 billion) respectively in 2022/Q3. Compared to 2022/Q2, Port Harcourt and Kano DisCos had decreased remittances of -9.75 pp and -0.97 pp respectively to the MO in 2022/Q3.

Figure 11: DisCos Remittance Performances to MO in 2022/Q3



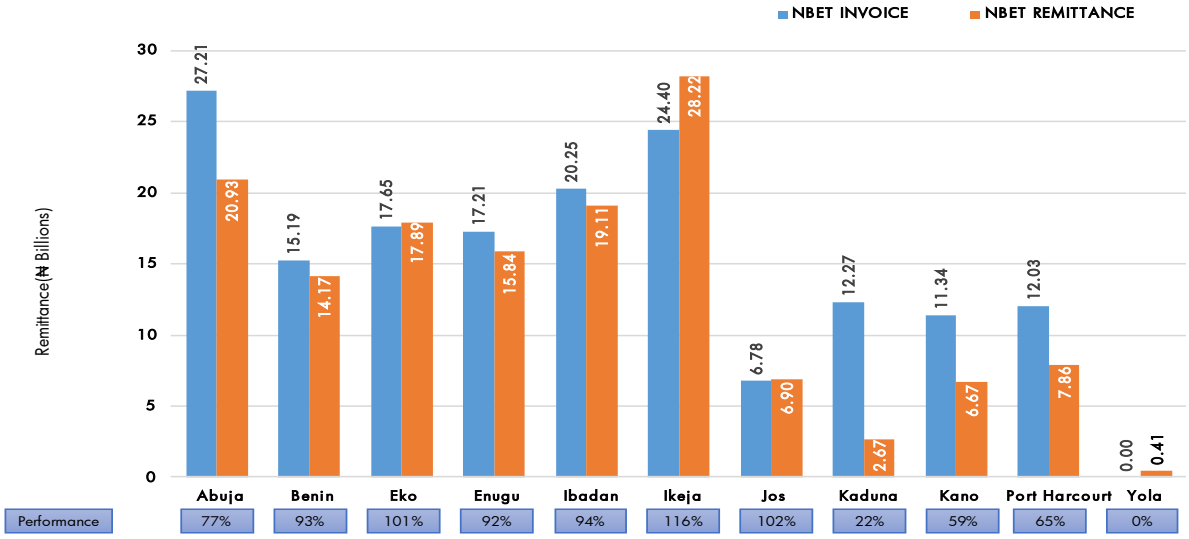
2.5.7 Market Remittance to NBET

The Nigerian Bulk Electricity Trading Company issues invoices to DisCos to cover energy generation costs over a given period. Figure 12 shows that the average remittance performances of the DisCos to NBET in 2022/Q3 was 80.95% compared to 68.28% in 2022/Q2 (+12.73 pp change). Ikeja Disco had the highest remittance rate 108% (₦28.22 billion vs. an MRO adjusted invoice of ₦26.12 billion which was due to the retroactive review of MRO in December 2022 in line with the MYTO provisions. Kaduna on the other hand had the lowest remittance rate with 21.79% (₦2.67 billion vs. an MRO adjusted invoice of ₦12.41 in 2022/Q3).

Remittance performance to NBET in 2022/Q3 increased for several DisCos which is a direct consequence of their improved collections as discussed earlier. The biggest improvements were recorded at the following DisCos – Jos (+39.75pp), Enugu (+35.39pp), Ibadan (+29.75pp), Benin (+27.18pp), and Ikeja (+21.13pp). Conversely, Port-Harcourt (-14.33pp), Eko (-13.65pp) and Abuja (-7.41pp) recorded decline in their remittance performances relative to 2022/Q2.

Cumulatively, the ~19% that was not remitted to NBET poses a challenge to the sector because this shortfall translates into GenCo underpayments which could affect their ability to finance critical maintenance activities required for sustaining generation availability.

Figure 12: DisCos Remittance Performances to NBET in 2022/Q3



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

2.5.8 Remittance by Special and International Customers

The summary presented in Table 9 shows the remittances made in 2022/Q3 by international, bilateral, and special customers. The data indicates that in 2022/Q3, Transcorp-SBEE, Mainstream-NIGELEC and Odukpani-CEET received invoices of $1.85 million, $5.67 million and $1.71 million respectively from MO and made remittances of $1.20 million (64.96%), $5.55 million (97.87%) and $1.67 million (97.59%) respectively. However, no remittance was made to the MO by Paras-SBEE against an invoice of $1.92 million.

In 2022/Q3, the MO issued invoices to the tune of ₦1,487.77 million to all 18 bilateral customers in the NESI. Out of this invoiced amount, only ₦1,149.09 was paid representing a remittance rate of 77.23%. Compared to 2022/Q2, cumulative remittance from bilateral customers increased by 11.48 pp. Only 6 of the 18 customers making payments to the MO, the 12 customers that did not remit are listed in Table 9.

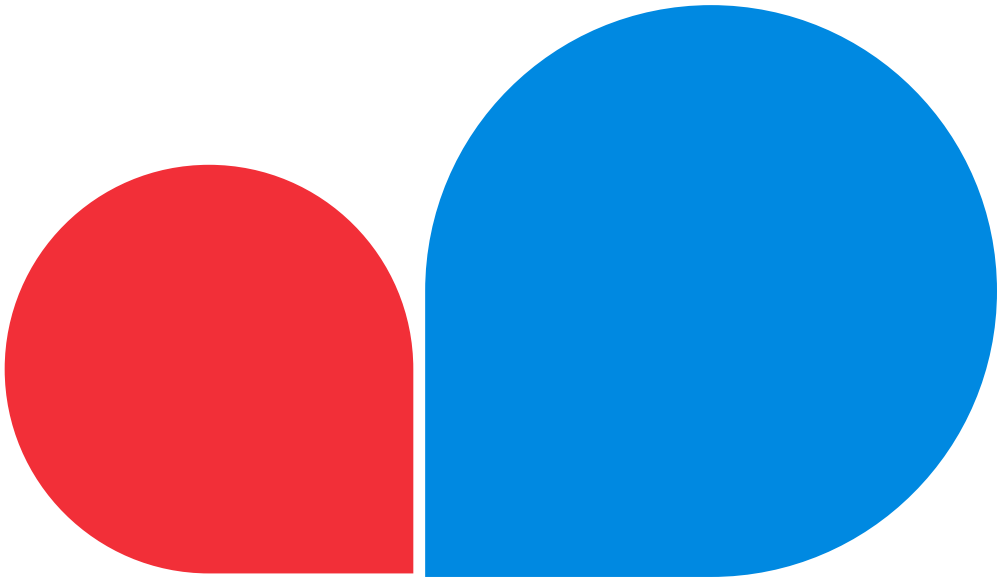
The MO must utilise all the mechanisms available to it to ensure that there is 100% remittance from International Customers and Bilateral Customers.

It is worth noting that special customers (Ajaokuta Steel Co. Ltd and the host community) did not make any payment for the ₦0.37 billion (NBET) and ₦0.07 billion (MO) invoices received in 2022/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.

Table 9: Special Customer Invoices and Remittances in 2022/Q3

Customers	NBET				MO			
	Invoice (Million)	Remittance (Million)	Performance (%)		Invoice (Million)	Remittance (Million)	Performance (%)	
	2022 /Q3	2022 /Q3	2022 /Q2	2022 /Q3	2022 /Q3	2022 /Q3	2022 /Q2	2022 /Q3
International Customers								
PARAS-SBEE($)	0	0	0	0	1.92	0	0	0
TRANSCORP-SBEE ($)	0	0	0	0	1.85	1.20	100	65
MAINSTREAM-NIGELEC ($)	0	0	0	0	5.67	5.55	100	98
ODUKPANI-CEET ($)	0	0	0	0	1.71	1.67	0	98
Total	**0**	**0**	**0**	**0**	**11.14**	**8.41**	**50**	**76**
Bilateral Customers								
MSTM/INNER GALAXY (₦)	0	0	0	0	601.52	623.05	57	1.04
MSTM/KAM INDUSTRIES (₦)	0	0	0	0	43.17	49.06	93	1.14
MSTM/KAM INTERGRATED (₦)	0	0	0	0	135.7	201.09	84	1.48
KAM STEEL SHAGAMU (₦)	0	0	0	0	98.99	182.97	44	1.85
NDPHC/SUNFLAG (₦)	0	0	0	0	24.17	0	0	0
NORTH SOUTH/ STAR PIPE (₦)	0	0	0	0	21.67	35.18	248	1.62
NORTH SOUTH/ OAU (₦)	0	0	0	0	16.82	-	0	0
MSTM/ADFV (₦)	0	0	0	0	37.26	57.74	0	1.55
EGBIN IKEJA (₦)	0	0	0	0	0	0	-	0
MSTM/CROWN FLOOR (₦)	0	0	0	0	0	0	-	0
MSTM/LORD'S MINT (₦)	0	0	0	0	0	0	-	0
NDPHC/WEEWOOD (₦)	0	0	0	0	0	0	-	0
TRANSCORP/PREM STEEL (₦)	0	0	0	0	0	0	-	0
TRANS-AMADI/OAU (₦)	0	0	0	0	16.78	0	-	0
OMOTOSHO II/PULLKIT (₦)	0	0	0	0	10.41	0	-	0
OMOTOSHO II/PRISM (₦)	0	0	0	0	113.31	0	-	0
OMOTOSHO II/EKEDC (₦)	0	0	0	0	188.11	0	-	0
APLE (₦)	0	0	0	0	179.86	0	-	0
Total	**0**	**0**	**0**	**0**	**1487.77**	**1149.09**	**65.75**	**77.24**
Special Customer								
AJAOKUTA STEEL	369.79	0	0	0	68.38	0	0	0

Notes of the table:1. NBET, MO, SBEE, CEET and NIGELEC are Nigeria Bulk Electricity Trader, Market Operator, Société Beninoise d'Energie Electrique, Compagnie Energie Electrique du Togo and Société Nigerienne d'electricite, respectively.



03 Regulatory Functions

3.0 Regulatory Functions

3.1 Regulations/Orders

Regulations are a set of rules that the Commission may issue from time to time to optimise the performance of licensees with a view to giving effect to the object of the 2004 EPSRA. Although the Commission did not issue any new regulation in 2022/Q3, it commenced the review of the Mini-Grid Regulations, 2016. A Consultation Paper for the review of the Mini-grid Regulations 2016 was released to the public on September 16, 2022 for a period of 21 days. This is in accordance with the statutory provisions of the amendment process for the review of extant regulations, which affords stakeholders an opportunity to make inputs and comments on the proposed amendments to the Regulation. Upon the expiration of the 21-day period, the Commission will proceed to the next stages as enshrined in its rule making process.

In June 2022, pursuant to the provisions of the MYTO, the Commission issued updated tariff orders to each of the DisCos - **(NERC/320 – 332/2022); JULY 2022 Minor Review of the Multi-year Tariff Order 2022**. The objectives of the Tariff Order which took effect from July 1, 2022, include;

i. Reflect the impact of changes in the projected Minor Review Variables for the period January to June 2022 for the determination of Cost Reflective Tariffs.
ii. Ensure sustained improvement in reliability and supply in line with Discos CAPEX proposal and PIP commitment.
iii. Ensure that tariffs payable by customers are commensurate and aligned with the quality and availability of power supply committed to customer clusters by Discos and
iv. Steer the market to gradual transitioning to CRT and activation of market contracts in line with power sector reform objectives.

An **'Order on Performance Monitoring Framework'** for each Disco (NERC/316 - 326/2022) was issued by the Commission on September 29, 2022 and took effect on October 1, 2022. This Order sets specific Key Performance Indicators for the Discos to ensure market discipline and operational efficiency required to improve reliability and quality of service and ensure long-term performance improvement and sector sustainability. The objectives of the Order are listed below;

i. Ensure that Discos maintain market discipline and operate in compliance with industry targets.
ii. Ensure improved reliability and quality of supply in accordance with Discos' commitment in the Performance Improvement Plan ("PIP").
iii. Lay the foundation for long term sustainability of Discos.
iv. Hold the Board and management of Discos accountable for meeting operational targets specified in the Order.

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

3.2 Licences and Permits Issued or Renewed

During 2022/Q3, the Commission approved the issuance of six (6) new generation licenses with a total nameplate capacity of 40.95MW. The Commission also authorised the issuance of a trading license to Ecof Nigeria Limited. Ecof Nigeria Limited becomes the second private electricity trading licensee within the NESI. It joins Commercio Electricity Exchange Limited which got a similar approval in 2022/Q2.

This is pursuant to Commission's commitment to transition the market into a bilateral one with little to no Government intervention along the value chain in compliance with the provisions of the EPSRA 2004. With such licences, both Companies may subject to specific approval from the Commission undertake generation aggregation and sale to eligible customers or the DisCos. The details of the licenses issued in 2022/Q3 are contained in Table 10 below.

Table 10: Generation and Trading Licences issued in 2022/Q3

S/N	Licensee	Capacity (MW)	Type	Location	Fuel Type
	A. New Issue				
1	Daybreak Power Solutions Limited	1.6	Off-Grid Generation	NBC Benin (A), Edo	Solar
2	Daybreak Power Solutions Limited	2	Off-Grid Generation	NBC Benin (B), Edo	Solar
3	Daybreak Power Solutions Limited	2.1	Off-Grid Generation	NBC Owerri, Imo	Solar
4	Daybreak Power Solutions Limited	1.75	Off-Grid Generation	NBC Port Harcourt	Solar
5	Daybreak Power Solutions Limited	3.5	Off-Grid Generation	NBC Badagry	Solar
6	Victoria Island Power Limited	30	Embedded Generation	Victory Island, Lagos	Gas
7	Ecof Nigeria Limited	NA	Trading Licence	Kaduna	NA

3.3 Captive Power Generation Permits

Captive power plants are energy generating plants owned and maintained by the generating entity for its own consumption and not for sale to a third party. In 2022/Q3, the Commission granted two (2) new captive power generation permits with a total nameplate capacity of 14.6MW. Details of the permit holders, location and plant capacities are listed below in Table 11.

Table 11: Captive Generation Licenses Issued in 2022/Q3

S/N	Company Name	Location/State	Capacity (MW)
1	Cadbury Nigeria Plc	Lateef Jakande, Agidingbi, Ikeja, Lagos	5.8
2	Niger Mills Company Limited	Murtala Mohammed Highway, Calabar	8.8

3.4 Mini-grid Operators Registered with the Commission

Following the satisfactory evaluation of mini-grid applications, the Commission approved twenty-three (23) Mini-grid Permits with a cumulative capacity of 3,283 kilowatt (3.2 MW) and four (4) registration certificates in 2022/Q3. The details of the successful mini-grid applicants and their locations are presented in Table 12.

Table 12: Mini-grid Permits and Registration Certificates Approved in 2022/Q3

S/N	Name	Location	Type	Capacity (kW)
1	Triple E System Limited	Onirogbo, Odigbo, Ondo	Registration	5
2	Ay Global Integrated Resource	Binjun Muza Bunji Sokoto	Registration	60
3	Maskh Limited Bauchi	Magorta Hos Gatour	Registration	50
4	Maskh Limited Bauchi	Hakatafi Ganjuwa Bauchi	Registration	30
5	Renewvia Solar Nigeria Limited	Ekong – Anaku, Akampa, Cross River	Permit	60
6	Renewvia Solar Nigeria Limited	Opu, Ikom, Cross River	Permit	14
7	Renewvia Solar Nigeria Limited	Bendeghe Afi, Ikom, Cross River	Permit	18
8	Renewvia Solar Nigeria Limited	Emereoke Eastern Obolo Akwa Ibom	Permit	28
9	Renewvia Solar Nigeria Limited	Balep Ikom Cross River	Permit	9
10	Engie Energy Access	Gbangba, Gbako, Niger	Permit	90
11	Husk Power Limited	Kiguna, Lafia, Nassarawa	Permit	100
12	Husk Power Limited	Sabon Gida, Lafia, Nassarawa	Permit	100
13	Husk Power Limited	Akura, Lafia, Nassarawa	Permit	100
14	Husk Power Energy System Nig. Limited	Yelwa Ediya Doma Nassarawa		100
15	Nayo Tropical Tech Limited	Soba Mashegu Niger100	Permit	100
16	Nayo Tropical Tech Limited	Sahon Rami Mashegu Niger	Permit	228
17	Nayo Tropical Tech Limited	Sabon Rijiya Mashegu Niger	Permit	198

18	Nayo Tropical Tech Limited	Bokani Mokwa Niger	Permit	150
19	Nayo Tropical Tech Limited	Shafini Magama Niger	Permit	60
20	Nayo Tropical Tech Limited	Adogo Mallam Mashegu Niger	Permit	180
21	Wavelength-Commur pwr Networks Limited	Imula Danre Ondo	Permit	132
22	Darway Coast Nig. Ltd	Lokpowkwu 1, Uwunneochi Abia	Permit	449
23	Darway Coast Nig. Ltd	Lokpowkwu 2, Uwunneochi Abia	Permit	449
24	Darway Coast Nig. Ltd	Fule-Uma Ahoada West Rivers	Permit	449
25	Darway Coast Nig. Ltd	Orwu-Ogita Teche Rivers	Permit	269
26	Darway Coast Nig. Ltd	Umuoye Eteche Rivers	Permit	221
27	Darway Coast Nig. Ltd	Akpokui lopai Niger	Permit	159

3.5 Certification of Metering Service Providers/Meter Asset Providers

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

In 2022/Q3, the Commission authorized four (4) MAP Permits to the following companies as presented in Table 13.

Table 13: Approved MAP permits in 2022/Q3

MAP	DISCO
Erasko Energy Ltd	Ikeja Electric Plc.
Mojec Meter Asset Management Company Ltd	Yola Disco
Volvo & Vision Business Ltd.	Yola Disco
Crest Hill Engineering Ltd	Yola Disco

The Commission certified seven (7) MSPs within the quarter following the satisfactory evaluation of applications. The list of the certified MSPs in the quarter is presented in Table 14.

Table 14: Approved Meter Service providers in 2022/Q3

S/N	Name	Certification Type
1	Felcon Multi Services Ltd	C1
2	Pro Engineering Innoveture Ltd	A1
3	Tee jay -Ade-Afolabi Electrical Enterprises	A1
4	Crestzone Resource Ltd	A1[14]
5	Princaasi Integrated Services	A1
6	Specline Integrated Services Ltd	A1
7	Estervo System Company Limited	C1[15]

The Commission did not receive any applications for the issuance of vendor certificate under the NERC Guidelines for Certification of Metering Services and Related Matters in the quarter.

3.6 Public Consultation and Awareness

There were no public consultations on new regulations in 2022/Q3 as there were none under consideration.

The Commission engaged customers and stakeholders through radio programs such as "Electricity Update" as part of its continuous initiatives to update existing regulations, consumer rights, and obligations. It also continued to hold regular town hall meetings and power consumer assemblies in accordance with EPSRA provisions. The goal of these engagements is to improve stakeholders' understanding of existing regulations, their rights and obligations as outlined in industry rules and EPSRA.

[14] Class "A1" Certification authorizes a holder to undertake installations of (i) Low Voltage single-phase and three-phase Metering systems for installation exceeding 750 metering Systems/Contract, and (ii) Installations at grid voltages exceeding 5 Metering Systems.

[15] Class "C1" Certification authorizes a holder to undertake installations of Low Voltage Distribution single-phase and three-phase Metering Systems exceeding 500 Metering Systems/Contract.

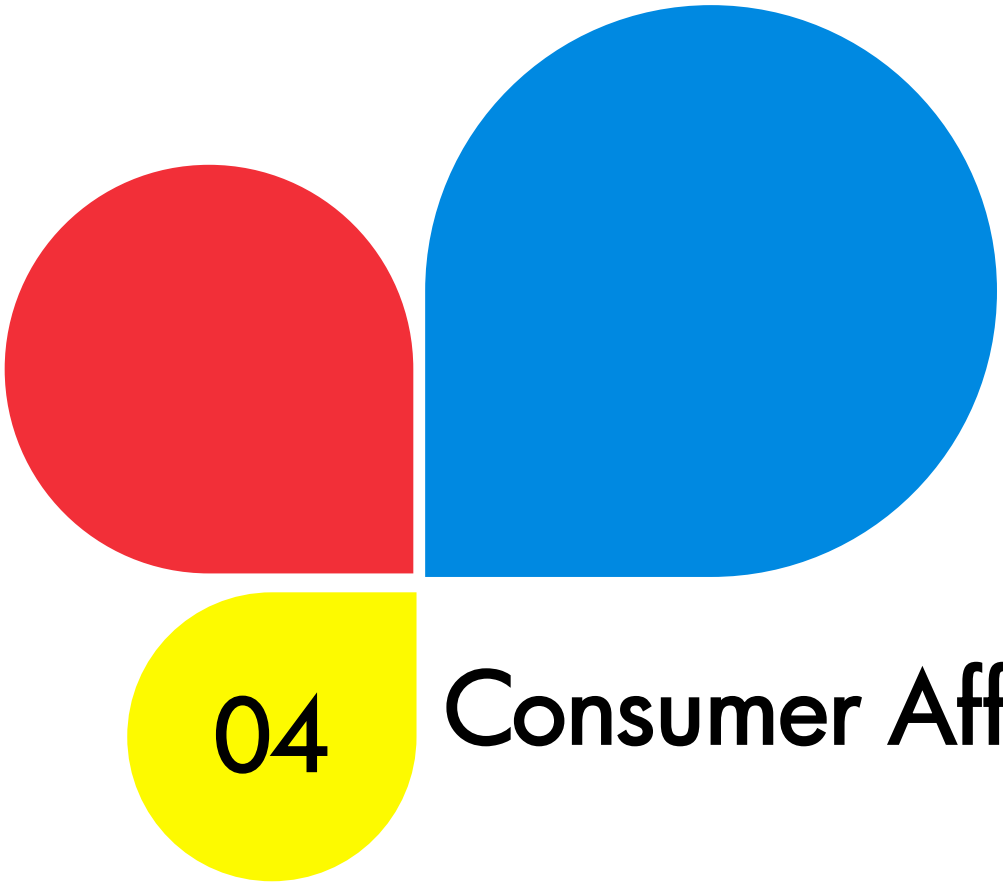
3.7 Compliance and Enforcement

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

3.8 Alternative Dispute Resolution

The Commission has established an Alternative Dispute Resolution (ADR) process to resolve disputes between market participants in the NESI. This includes the appointment of a Dispute Resolution Panel (DRP) and a Dispute Resolution Counsellor (DRC) to administer the dispute resolution provisions of the Market Rules and Grid Code. No disputes were reported to the Commission for oversight in this quarter.

The Commission remains committed to promoting the effective use of the DRP and is exploring ways to improve its utilization among industry stakeholders.



04 Consumer Affairs

4.0 Consumer Affairs

4.1 Consumer Education and Enlightenment

The Commission considers continuous customer education and enlightenment as an important tool to enlighten consumers on the activities of the Commission. It also offers opportunity to discuss customer rights and obligations as well as to ensure swift resolution of complaints. Among the enlightenment mechanisms instituted by the Commission for consumer education are the town hall/customer complaints resolution meetings. The only Town Hall Meeting conducted by the Commission during the quarter was held at in Owerri, Imo State between July 6 – 8. At the meeting, issues around Service Based Tariff, Customers' rights and obligations, Customers' redress mechanisms, capping of estimated billing, metering gaps, and the strategy being adopted by the Commission to bridge the metering gap in the industry were discussed.

4.2 Metering End-Use Customers

The total number of registered customers as of September 30, 2022 was 12,791,897 out of which 5,021,682 have been metered representing 39.26% metering rate as presented in Table 14. Between 2022/Q2 and 2022/Q3, the number of registered customers increased by 148,267 (+1.17%) while the metering rate increased by +0.52 pp.

Since the Commission issued the updated MAP & NMMP Regulations (2021), there has been a sustained improvement in the deployment of end-use customer meters. This has improved transparency in customer-DisCo relations.

Metering addresses one of the major concerns customers have with DisCos – the fear of unfair billing. In 2022/Q3, an additional 142,887 end-user customers were metered. This represents a decrease of 25,069 installations (-14.93%) when compared to the 167,956 meters installed in 2022/Q2 (Table 15). Out of the 142,887 meters installed for end users in 2022/Q3, 24,017 (16.81%) were metered under the NMMP scheme while 118,870 (83.19%) customers were metered under the MAP intervention. This represents an 11% decrease in MAP meter deployments compared to 2022/Q2.

Table 15: Metering Progress as at the end of 2022/Q3

DisCos	Total Number of Registered Customers	No of Metered Customers	Metering Performance (%)
Abuja	1,250,563	726,553	58.10
Benin	1,680,279	634,457	37.76
Eko	660,087	372,113	56.37
Enugu	1,691,865	571,700	33.79
Ibadan	2,176,067	858,822	39.47
Ikeja	1,298,323	713,508	54.96
Jos	699,455	222,868	31.86
Kaduna	837,389	196,599	23.48
Kano	838,091	201,537	24.05
Port Harcourt	1,179,194	435,670	36.95
Yola	480,584	87,855	18.28
Total	**12,791,897**	**5,021,682**	**39.26**

On a DisCo-by-DisCo basis, some DisCos recorded significant changes in their number of metered customers. Abuja (20.93%), Eko (88.67%), Enugu (26.10%), Kano (41.62%), Port Harcourt (21.82%), and Yola (294.25%) DisCos saw increases compared to 2022/Q2. Meanwhile, Ibadan (-37.78%), Ikeja (-37.92%), Jos (-15.11%), and Kaduna (-96.35%) DisCos recorded decreases in the number of customers metered between the second and third quarters of 2022.

Further details on the metering progress under the NMMP and MAP between 2022/Q2 and 2022/Q3 are presented in appendix XI and XII respectively. Under the MAP intervention in this quarter, a total of 118,870 meters were installed representing a -14,696 (-11.00%) decrease in metering compared to the 133,566 installations recorded in 2022/Q2. Ikeja DisCo recorded the highest number of installations with 28,733 representing 24.17% of the total number of customers metered under the MAP scheme. Yola DisCo did not record any installation under the MAP scheme in 2022/Q3.

Table 16: MAP and NMMP meter deployment by DisCos 2022/Q2 VS 2022/Q3

DisCos	Total number of Metered Customers as at 2022/Q3	Customers Metered in 2022/Q3	Customers Metered in 2022/Q2	Change in Metering between 2022/Q2 and Q3
Abuja	1,163,553	27,249	22,532	4,717
Benin	1,665,886	0	677	-677
Eko	654,184	12,207	6,470	5,737
Enugu	1,666,840	18,185	14,421	3,764
Ibadan	2,141,404	26,488	42,570	-16,082
Ikeja	1,298,323	28,733	46,285	-17,552
Jos	696,211	264	311	-47
Kaduna	818,890	799	21,882	-21,083
Kano	884,799	245	173	72
Port Harcourt	1,178,868	9,434	7,744	1,690
Yola	474,672	19,283	4,891	14,392
Total	**12,643,630**	**142,887**	**167,956**	**-25,069**

In the same period, a total of 24,017 customers metered under the NMMP represented a decrease of 30.16% from 34,390 customers metered in 2022/Q2. Except for Yola DisCo, all other DisCos reported a decrease in customer metering through NMMP in Q3 compared to Q2. This is as a result of the winding down of the NMMP Phase zero. As explained in the 2022/Q2 report, Yola's delayed performance in terms of meter deployment is as a result of the ownership transition which took place at the DisCo during the initial rollout of the NMMP – the DisCo deployed 19,000 NMMP meters in 2022/Q3.

The MAP and NMMP continue to provide the clearest path for mass customer metering. On NMMP, the Commission is actively engaging with the CBN, World Bank and other relevant stakeholders to accelerate the financial close and funds disbursement for the next round (Phase One) of the NMMP. On MAP, the Commission is undertaking steps to increase customer uptake through a combination of enlightenment and a mechanism for the implementation of the customer refund. Also being explored are ways by which to hold DisCos to account for increased enlightenment and ultimately offtake of the MAP meters are also being evaluated.

4.3 Customers Complaints

The complaints received and resolved by DisCos in 2022/Q2 and 2022/Q3 are represented in Table 17. The total number of complaints received in 2022/Q3 was 247,326 across all DisCos and 226,523 of these were resolved. The average resolution rate recorded in this quarter was 91.59%. Compared to the preceding quarter, the number of complaints received, number of cases resolved, and average resolution rate changed by -3,681 (-1.47%), -5,382 (-2.32%) and -0.80 pp respectively.

Port Harcourt Disco had the highest number of complaints (47,550 representing 19.23 % of total complaints) while Yola Disco had the least number of complaints (2,777 representing 1.12% of total complaints). In comparison with 2022/Q2, Abuja, Kano, Eko, and Yola DisCos recorded increased customer complaints of 5,533 (+21.72%), 4,331 (+41.06%), 2,136 (+5.85%) and 745 (+36.66%) respectively.

Conversely, Benin, Enugu, Ibadan, Ikeja, Jos, Kaduna and Port-Harcourt DisCos received fewer complaints from customers in 2022/Q3 compared to 2022/Q2 of 40 (-0.48%), 503 (-2.42%), 5,092 (-13.69%), 8,746 (-21.44%), 37 (-0.32%), 266 (-3.16%) and 1,742 (-3.53%) respectively. All the DisCos except Ibadan, Enugu and Benin DisCos had over 90% resolution rate for the complaints received in 2022/Q3 with Jos, Kano, PH and Yola DisCos having resolution rates of 98%+.

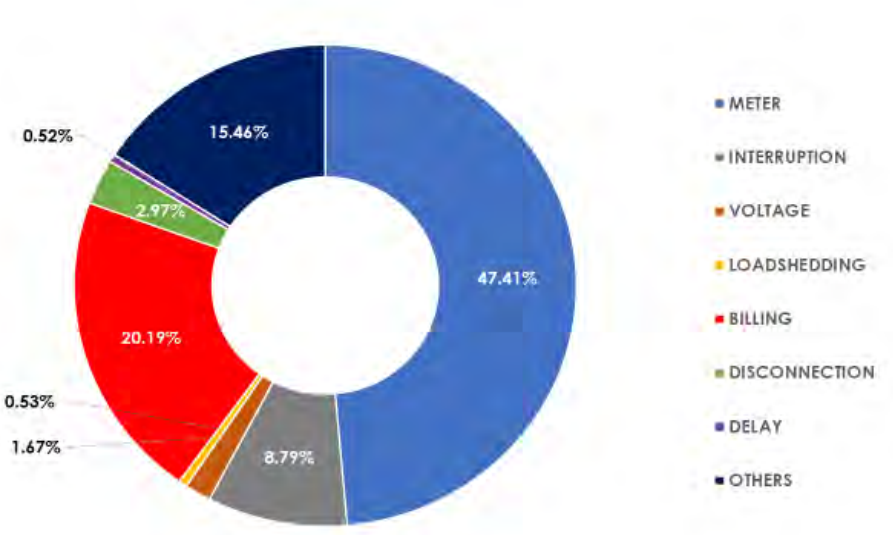
Table 17: Complaints Received and Resolved by Disco in 2022 Q2 and 2022 Q3

DisCos	2022/Q2			2022/Q3		
	Complaints Received	Complaints Resolved	Resolution Rate	Complaints Received	Complaints Resolved	Resolution Rate
Abuja	25,471	24,908	97.79%	31,004	30,325	97.81%
Benin	8,252	7,612	92.24%	8,212	7,168	87.29%
Eko	36,502	35,995	98.61%	38,638	35,881	92.86%
Enugu	20,815	15,742	75.63%	20,312	16,430	80.89%
Ibadan	37,186	29,752	80.01%	32,094	24,040	74.90%
Ikeja	40,790	37,579	92.13%	32,044	28,868	90.09%
Jos	11,708	11,524	98.43%	11,671	11,581	99.23%
Kaduna	8,410	7,862	93.48%	8,144	7,744	95.09%
Kano	10,549	10,461	99.17%	14,880	14,723	98.94%
PH	49,292	48,458	98.31%	47,550	46,996	98.83%
Yola	2,032	2,012	99.02%	2,777	2,767	99.64%
Total	251,007	231,905	92.39%	247,326	226,523	91.59%

In 2022/Q3, the top three most frequently reported issues among the 247,326 complaints received by DisCos were metering (47.41%), billing (20.19%), and service interruptions (8.79%), accounting for over 76% of total complaints, as shown in Figure 13.

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

Figure 13: Category of Complaints Received by DisCos in 2022/Q3



In furtherance of its mandate, the Commission monitors complaint handling and resolution processes adopted by DisCos. In this regard, it requires monthly submission of customer complaints reports from DisCos to ensure timely regulatory intervention when necessary. The Commission is reviewing its strategy for monitoring DisCos' customer complaints handling and resolution processes to further enhance regulatory oversight. This review includes the operations of the Commission's Forum Offices, which are established to address customer complaints that cannot be resolved by the DisCos.

4.4 Forum Offices

In line with the Commission's mandate on customer protection, Forum Offices are set up pursuant to section 80(1)(b) of the EPSRA to hear and resolve customer complaints that are not satisfactorily resolved at the DisCos' Customer Complaints Units (DisCos-CCU). The Forum Office is managed by the Forum Secretariat while the Hearings are conducted by five Forum Members who are not Commission staff and are selected from the following groups/agencies –

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

The Forum enables customers and DisCos to explore options to resolve service-related disputes as enshrined in the NERC's Customer Complaints Handling Standards and Procedures (CCHSP) Regulations. As of 30th September 2022, the Commission had thirty-one (31) operational Forum Offices in twenty-nine (29) states and the FCT, Abuja. The details including names, addresses and contacts of the Commission's Forum Offices are presented in the Appendix XIV.

Table 18 presents a summary of the complaints across the Forum Offices in 2022/Q3. A total of 2,657 (1,387 new complaints and 1,270 pending complaints from Q2) complaints were received across all Forum Offices. This represents an increase of 215 (8.09%) compared to 2,442 complaints in the previous quarter. The Forum Office serving Ikeja DisCo received the highest number of complaints (910) while Yola DisCo received the fewest (40).

The Forum Offices resolved 50.40% of the total active appeals in the 2022/Q3, which is a slight improvement (+0.36pp) from the 2022/Q2 resolution rate of 50.04%. This increase is attributed to the higher number of sittings in 2022/Q3; 74 compared to the 51 sittings conducted in 2022/Q2. The Commission is taking steps to increase the frequency of sittings. This is intended to hasten the resolution of appeals at Forum Offices.

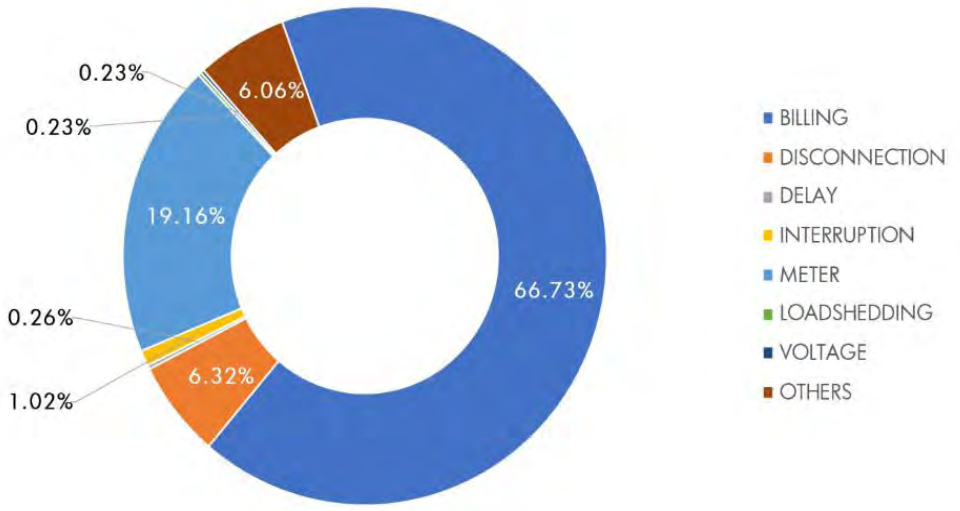
Table 18: Appeals Handled by Forum Offices in 2022/Q3.

Forum Offices	Accountable DisCos	Complaint Received[1]	Complaint Resolved[2]	Complaint Pending[3]	No of Sittings
Abuja, Lafia & Lokoja	Abuja	88	56	32	4
Asaba & Benin	Benin	142	114	28	9
Eko	Eko	62	47	15	3
Abakaliki, Akwa, Enugu, Owerri, & Umuahia	Enugu	353	255	98	17
Ibadan, Abeokuta, Ilorin & Osogbo	Ibadan	407	206	201	10
Ikeja	Ikeja	910	360	550	9
Bauchi, Gombe, Jos & Makurdi	Jos	68	47	21	4
Gusau, Kaduna, Kebbi & Sokoto	Kaduna	113	71	42	6
Jigawa, Kano & Katsina	Kano	64	21	43	1
Calabar, Port Harcourt & Uyo	P/Harcourt	410	127	283	9
Yola	Yola	40	35	5	2
All Forum Offices	All DisCos	2657	1339	1318	74

Note of tables: [1] Complaint received includes outstanding complaints from the preceding quarter.
[2] Complaint resolved excludes complaints withdrawn or rejected.
[3] Complaints are still within the regulatory timeframe of 2 months to resolve.

Figure 14 shows the breakdown of the various categories of complaints received at the Forum Offices in the 2022/Q3. Billing was the most prevalent complaint within the quarter, accounting for 66.73% of the total. Complaints about metering and disconnection represented 19.16% and 6.32% of the complaints respectively. To address these issues, the Commission is reviewing its customer service regulations and has introduced improved processes on estimated billing and its enforcement. The Commission is also exploring measures that are required to increase definitive and mutually satisfactory case resolution at the DisCO-CCU. This will reduce the number of complaints escalated to the Forum Offices.

Figure 14: Category of Complaints Received by Forum Offices in 2022/Q3



With only 34 (1.28%) of the undecided appeals at the Forum Offices being due to incomplete submissions or withdrawal by consumers, it is clear to the Commission that the major avenues for increasing the speed of resolution of appeals at the Forum Offices lies in improved operational efficiency. In addition to establishing additional Forum Offices and other customer complaint resolution channels, the Commission will continue to explore strategies to improve the operational efficiency of Forum Offices. This will improve overall customer complaint management in the NESI, helping the Commission achieve its strategic objective of providing high-quality customer service.

4.5 Health and Safety

Pursuant to its objective "to ensure the provision of safe and reliable electricity to consumers" as specified in Section 32(1)(e) of the ESPRA, the Commission monitors health and safety performance of the NESI. In the quarter, 82 out of 87 mandatory health and safety reports were received, with Benin and Port-Harcourt DisCos having one outstanding report each. The Commission monitors submission of health and safety reports and will enforce relevant actions against licensees that fail to meet their reporting obligations.

Accident statistics for the NESI in the second and third quarters of 2022 are presented in Table 19. The total number of incidents in 2022/Q3 was seventeen (17); 5 injuries and 12 deaths. This represents a reduction of 67.92% (36), 79.17% (19) and 58.62% (17) in the number of incidents, injuries and deaths compared to 2022/Q2 respectively. These improvements are laudable and must be sustained to improve the health and safety in the NESI. The Commission has nevertheless initiated investigations into all health and safety incidents and will continue to work with stakeholders for improvement.

Table 19: Health and Safety (H&S) Reports in 2022 Q2 and 2022 Q3

Item	2022/Q2	2022/Q3	Net Change
Number of Expected H&S Reports	87	87	0
Number of H&S Reports Submitted	86	82	-4
Number of Deaths (employees & third parties)	29	12	-17
Number of Injuries	24	5	-19

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

05 The Commission

5.0 Commission

5.1 Financial Report

The Commission's revenue and expenditure for the 2022/Q3 and 2022/Q2 are presented in Table 20. In 2022/Q3, the Commission had a total revenue of ₦3,871.36 million and a total expenditure of ₦2,550.25 million.

The Total revenue in this quarter, was ₦1,078.4 million (-21.79%)[16] less than the ₦4,807.36 million realised in 2022/Q2. This decrease in revenue is attributed to the decrease in operating levies (market charges), which decreased by ₦1,040.34 million (-21.64%) from ₦4,807.36 million in 2022/Q2 to ₦3,767.02 million in 2022/Q3.

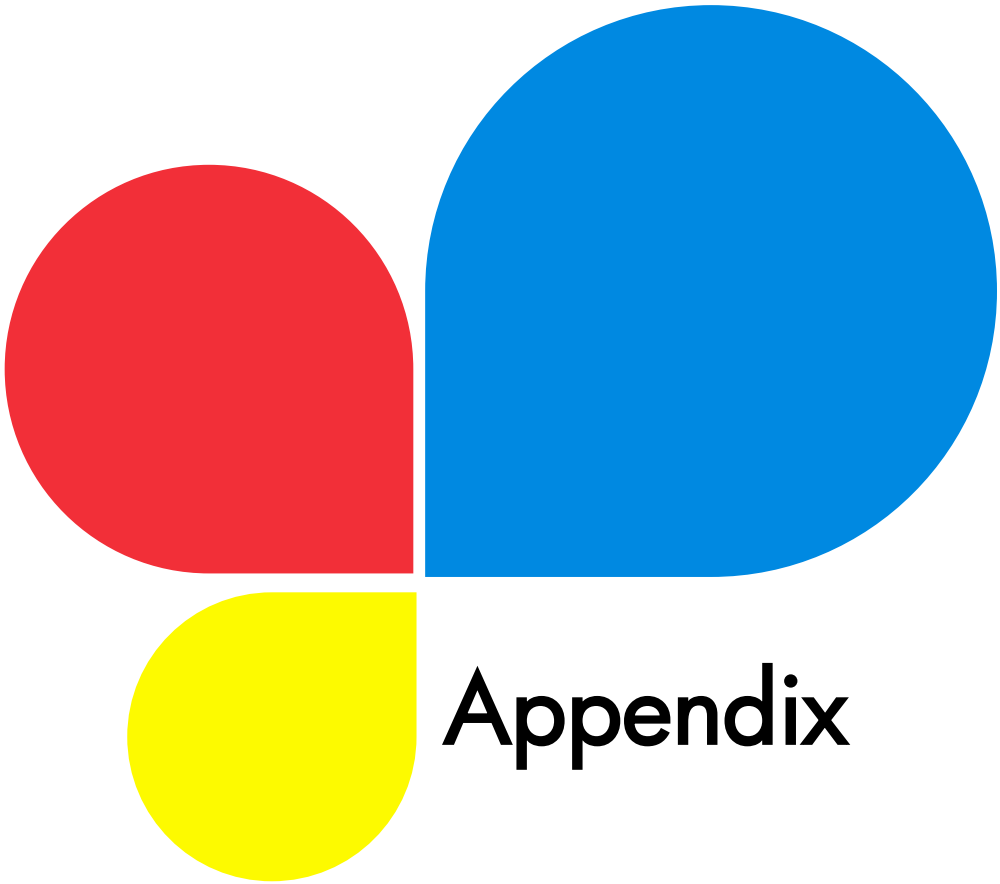
Additionally, the Commission also saw a 26.72% decrease in other internally generated revenue (OIGR), falling from ₦142.39 million in 2022/Q2 to ₦104.34 million in 2022/Q3.

On the other hand, the Commission's total (capital and recurrent) expenditure increased by ₦357.92 million (16.33%) from the ₦2,192.33 million in 2022/Q2 to ₦2,550.25 million in 2022/Q3. This increase can be attributed to the rise in personnel costs and regulatory expenses. In terms of net cashflow, the 2023/Q3 performance was ₦1,321.11 million which represents a -52.08% reduction compared to the ₦2,757.43 million recorded in 2022/Q2 – this is largely driven by the drop of revenue which has been explained above. As at the end of 2022/Q3, the Commission's outstanding liabilities stood at ₦5,629.19 million which is a 37.72% increase compared to the end of 2022/Q2 (₦4,087.34 million). The efficient management of the Commission's cash flow remains one of its key financial obligations. Thus, the Commission continued to monitor its expenditure and liabilities while continuously working on the regulatory interventions necessary to improve the liquidity in the industry.

[16] The 2022/Q2 revenue of the Commission was inflated due to delayed payment of the February regulatory charges by the Market Operator.

Table 20: Quarterly Cash Flow of the Commission for 2022/Q3

	Summary for 2022/Q3 (₦' Million)			2022/Q3	2022/Q2
	July	August	September		
A. Revenue					
Operating Levy (i.e., MC)	1,124.49	1,302.19	1,340.34	3,767.02	4,807.36
Other IGR	16.38	52.93	35.03	104.34	142.39
Total Revenue	**1,140.87**	**1,355.12**	**1,375.37**	**3,871.36**	**4,949.76**
B. Expenditure					
Personnel Cost	422.87	404.03	440.40	1,267.30	1,684.14
Regulatory Expenses	373.18	328.11	456.69	1,157.98	427.96
Admin & General Maintenance	69.98	30.89	24.10	124.97	80.24
Total Expenditure	**866.03**	**763.03**	**921.19**	**2,550.25**	**2,192.33**
C. Net Cash Flow (A-B)	**274.84**	**592.09**	**454.18**	1,321.11	2,757.43
Outstanding Liabilities as at the end of the Stated Quarters				5,629.19	4,087.34



Appendix

Appendix I: Energy Generation in 2022/Q2 and 2022/Q3

GenCos	*Available Capacity (MW)*		*Average Daily Generation (MWh)*		*Quarterly Generation (GWh)*	
	2022/Q2	2022/Q3	2022/Q2	2022/Q3	2022/Q2	2022/Q3
AES	-	-	-	-	-	-
Afam _VI	81.84	49.78	983.56	1157.42	90.49	106.49
Afam IV_V	99.40	41.13	1,414.42	670.15	130.13	62.32
Alaoji NIPP	55.22	108.77	1,685.05	1670.08	155.02	93.79
Azura-Edo IPP	447.60	452.60	9,655.31	9818.42	888.29	903.39
Dadin Kowa	15.77	21.33	350.52	456.66	32.25	41.70
Delta	491.11	415.88	8,554.29	9158.49	786.99	844.09
Egbin	344.12	486.77	8,326.78	10887.99	766.06	1001.31
Egbin ST-6	-	-	-	-	-	-
Gbarain NIPP	-	-	-	-	-	-
Geregu Gas	337.22	131.05	5,748.12	1849.39	528.83	171.29
Geregu NIPP	102.01	128.17	2,561.40	2412.64	235.65	221.97
Ibom Power	48.89	72.69	909.17	985.15	83.64	91.01
Ihovbor NIPP	84.94	72.98	1,357.72	1434.08	124.91	132.84
Jebba	258.27	338.84	5,580.50	7849.67	513.41	720.75
Kainji	289.32	332.62	5,913.69	7730.09	544.06	708.71
Odukpani	405.28	283.35	3,556.06	6154.38	327.16	565.21
Okpai	292.73	229.54	4,881.23	4944.06	449.07	451.17
Olorunsogo Gas	171.63	123.28	3,546.09	2555.14	326.24	235.59
Olorunsogo NIPP	140.73	26.77	2,139.86	429.40	196.87	13.31
Omoku	58.46	40.08	1,163.85	1101.92	107.07	101.46
Omotosho Gas	142.62	110.71	3,184.72	2490.25	292.99	229.65
Omotosho NIPP	127.20	136.87	1,969.28	2402.27	181.17	222.11
Paras Energy	57.99	60.00	1,133.38	1037.41	104.27	95.49
Rivers IPP	136.47	131.64	3,241.79	2949.18	298.24	271.78
Sapele	105.49	30.03	1,762.29	343.15	162.13	31.81
Sapele NIPP	50.56	45.75	720.99	807.66	66.33	74.59
Shiroro	261.78	511.30	3,993.63	11336.72	367.41	1041.34
Trans Amadi	74.41	46.29	994.62	1167.08	91.51	107.29
Total	4,681.06	4,428.23	85,328.32	93798.83	7,766.66	8540.45

Appendix II: Monthly Energy Received and Billed by DisCos in 2022/Q2 and 2022/Q3

DisCos	Energy Received (GWh)						Energy Billed (GWh)						Billing Efficiency (%)	
	2022/Q2			2022/Q3			2022/Q2			2022/Q3			2022/Q2	2022/Q3
	Apr	May	Jun	Jul	Aug	Sep	Apr	May	Jun	Jul	Aug	Sep		
Abuja	320	288	239	314	331	338	208	191	195	217	234	239	70.13%	70.19%
Benin	200	212	196	209	237	237	169	176	163	184	188	197	83.38%	83.18%
Eko	231	258	199	226	273	263	211	222	183	211	245	237	89.53%	90.94%
Enugu	207	204	190	217	213	193	152	145	144	162	144	138	73.38%	71.27%
Ibadan	279	271	227	291	294	283	211	209	173	210	213	208	76.35%	72.38%
Ikeja	312	326	260	312	355	364	275	286	235	278	314	323	88.67%	88.69%
Jos	121	104	125	128	127	144	92	82	85	84	90	110	73.88%	70.80%
Kaduna	189	167	141	154	176	169	154	135	93	84	81	80	76.86%	49.10%
Kano	158	132	118	151	168	157	109	96	86	101	116	104	71.32%	67.44%
Port Harcourt	145	139	177	177	175	172	123	119	121	143	141	141	78.82%	81.06%
Yola	80	67	62	65	65	64	44	38	34	37	36	37	55.87%	56.66%
All Discos	2242	2169	1933	2245	2415	2385	1748	1700	1511	1710	1803	1814	78.17%	75.61%

Appendix III: Monthly Revenue Performance by DisCos in 2022/Q2 and 2022/Q3

DisCos	Total Billing (₦' Billion)						Revenue Collected (₦' billion)						Collection Efficiency (%)	
	2022/Q2			2022/Q3			2022/Q2			2022/Q3			2022/Q2	2022/Q3
	Apr	May	Jun	Jul	Aug	Sep	Apr	May	Jun	Jul	Aug	Sep		
Abuja	11890	10892	11036	12455	13253	13565	9853	8748	10387	10783	10346	10867	85.72%	81.47%
Benin	9104	9424	8638	9972	10125	10658	5625	5668	4925	5516	5481	6253	59.70%	56.09%
Eko	11112	11722	9798	11514	13240	12934	9373	9385	8986	10253	11122	10902	85.02%	85.64%
Enugu	8149	7748	7667	8736	7898	7762	5801	5256	5681	6094	5588	5276	71.03%	69.51%
Ibadan	11295	11357	9361	11414	11443	11220	7200	7012	7029	8057	8010	7502	66.35%	69.16%
Ikeja	13585	14429	11515	14108	16022	16424	12958	12142	11767	13820	14972	14611	93.27%	93.23%
Jos	5540	4841	5174	5131	5447	6672	3009	2000	2629	2526	2349	2749	49.10%	44.2%
Kaduna	7853	6721	4922	4605	4412	4380	2386	2123	2065	1903	2144	2263	33.72%	47.1%
Kano	5829	5175	4804	5677	6399	5895	3455	3219	3528	4129	4350	4001	64.54%	69.45%
Port Harcourt	6622	6433	6590	7907	7788	7897	4148	4288	4577	5205	5004	4910	66.24%	64.09%
Yola	2399	2051	2003	2227	2178	2301	1012	1013	1044	1136	1217	1336	47.57%	55.01%
All DisCos	93378	90792	81507	93746	98204	99709	64820	60855	62616	69423	70584	70671	70.87%	72.23%

Notes of the table:

1. DisCos are the electricity distribution companies
2. ₦'Billion is Billions of Nigeria Currency

Appendix IV: Monthly DisCos Invoices & Remittances to MO in 2022/Q2 and 2022/Q3

DisCos	Invoice (₦' Billion)						Remittance (₦' billion)						Remittance Performance (%)	
	2022/Q2			2022/Q3			2022/Q2			2022/Q3			2022/Q2	2022/Q3
	Apr	May	Jun	Jul	Aug	Sep	Jun	Jul	Apr	Jul	Aug	Sep		
Abuja	1.5	1.3	1.2	1.7	2.0	1.9	1.20	0.96	1.15	1.6	1.5	1.8	82.14%	87%
Benin	1.1	1.3	1.2	1.1	1.3	1.3	0.63	0.55	0.76	0.8	0.7	1.0	53.16%	68%
Eko	1.5	1.5	1.0	1.3	1.7	1.5	1.36	1.32	0.99	1.9	1.1	1.4	91.96%	99%
Enugu	1.4	1.3	1.2	1.2	1.3	1.3	0.73	0.57	0.70	1.0	1.0	0.9	51.11%	79%
Ibadan	1.7	1.8	1.6	1.6	1.7	1.7	0.94	2.09	1.04	1.1	2.9	1.2	78.86%	104%
Ikeja	1.8	1.7	1.2	1.8	2.0	2.0	1.61	0.78	1.73	1.9	2.0	2.2	86.75%	108%
Jos	0.8	0.8	0.7	0.7	0.8	0.8	0.42	0.23	0.47	0.6	0.4	0.8	47.19%	82%
Kaduna	0.7	0.6	0.6	0.8	1.0	0.9	0.09	0.02	0.05	0.1	0.2	0.1	9.12%	17%
Kano	0.9	0.7	0.8	0.8	1.0	0.9	0.48	0.26	0.44	0.5	0.2	0.6	48.82%	48%
Port Harcourt	0.6	0.7	0.9	1.0	1.1	1.0	0.40	0.59	0.55	0.6	0.7	0.5	68.53%	59%
Yola	0.4	0.2	0.2	0.4	0.4	0.4	0.40	0.43	0.38	0.3	0.4	0.4	167.76%	97%
All DisCos	12.4	12.0	10.7	12.4	14.3	13.8	8.26	7.80	8.28	10.4	11.1	11.3	6 9.30%	81%
Ajaokuta Steel (₦'M)	22.47	23.65	20.59	22.4	23.36	22.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Other Bilateral($'M)	4.38	4.43	3.59	3.72	3.71	3.75	2.44	3.01	2.5	0.00	0.00	0.00	64.11%	0.00%

Notes: 1. Where the remittance by a DisCo for a given period is more than the invoice received (Remittance performance >100%), it reflects payment for outstanding bills/arrears

Appendix V: Monthly DisCos Invoices & Remittances to NBET in 2022/Q1 and 2022/Q2

DisCos	Invoice (₦' Billion)						Remittance (₦' billion)						Remittance Performance (%)	
	2022/Q2			2022/Q3			2022/Q2			2022/Q3			2022/Q2	2022/Q3
	Apr	May	Jun	Jul	Aug	Sep	Jun	Jul	Apr	Jul	Aug	Sep		
Abuja	8.27	7.85	7.09	9.28	9.40	9.87	6.51	5.74	6.52	7.06	5.98	7.90	80.85%	76.94%
Benin	5.70	5.93	5.65	6.03	6.25	6.47	2.93	2.44	2.80	4.61	4.19	5.38	47.29%	93.27%
Eko	6.80	7.25	6.26	6.64	7.85	6.75	6.08	6.46	5.20	5.52	6.73	5.63	87.38%	101.32%
Enugu	5.80	5.80	5.53	6.31	6.41	6.06	3.10	2.47	2.93	5.54	5.29	5.01	49.66%	92.01%
Ibadan	8.08	8.02	7.17	8.36	8.23	8.24	4.44	3.06	3.70	6.51	5.71	6.89	48.13%	94.37%
Ikeja	9.18	9.46	8.24	9.10	9.78	10.32	8.41	4.22	6.89	8.78	9.45	9.99	72.66%	115.62%
Jos	3.53	3.51	3.24	3.65	3.72	3.88	1.39	0.71	1.23	2.35	2.04	2.52	32.40%	101.73%
Kaduna	5.24	4.95	4.50	4.44	4.84	4.83	0.68	0.20	0.38	0.79	1.05	0.84	8.62%	21.79%
Kano	4.77	4.40	4.04	4.39	4.72	4.55	2.57	1.58	1.83	2.42	1.12	3.12	45.33%	58.81%
Port Harcourt	4.21	4.16	4.06	5.15	4.97	5.07	2.43	2.98	2.00	2.79	2.80	2.28	59.64%	65.37%
Yola	2.24	2.07	1.94	1.93	1.91	1.97	0.24	0.22	0.00	0.007	0.20	0.20	7.24%	0.00%
All DisCos	63.82	63.37	57.72	65.29	68.07	68.01	38.78	30.09	33.48	46.36	44.55	49.77	55.35%	85.60%
Ajaokuta Steel (₦'M)	127.63	137.13	0.00	125.50	119.46	124.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Bilateral($'M)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Notes of the table:

1. DisCos and NBET are electricity Distribution Companies and Nigeria Bulk Electricity Trader respectively.
2. ₦'Billion is billions of Nigeria Currency.

Appendix VI: Category of Complaints Received by Discos in 2022/Q3

DISCO	COMPLAINTS RECEIVED	COMPLAINTS RESOLVED	UNRESOLVED COMPLAINTS	METER	INTERRUPTION	VOLTAGE	LOADSHEDDING	BILLING	DISCONNECTION	DELAY	OTHERS	RESOLUTION RATE
Abuja	31,004	30,325	679	11,136	2,789	268	1,078	3,116	4,829	-	7,788	98%
Benin	8,212	7,168	1,044	166	1,536	286	13	1,227	12	1	4,223	87%
Eko	38,638	35,881	2,757	30,071	1,770	432	11	3,726	282	224	1,867	93%
Enugu	20,312	16,430	3,882	10,679	1,772	110	-	2,199	-	-	5,414	81%
Ibadan	32,094	24,040	8,054	215	-	91	-	26,718	-	-	659	75%
Ikeja	32,044	28,868	3,176	14,610	2,192	366	197	2,743	1,207	953	8,699	90%
Jos	11,671	11,581	90	6,528	1,546	348	-	2,828	205	-	216	99%
Kaduna	8,144	7,744	400	2,451	4,481	675	1	638	255	2	243	95%
Kano	14,880	14,723	157	12,483	1,062	146	3	794	59	2	273	99%
Port Harcourt	47,550	46,996	554	27,213	3,796	1,212	-	5,931	495	102	8,801	99%
Yola	2,777	2,767	10	1,716	806	205	-	4	2	-	44	100%
All DisCos	247,326	226,523	20,803	117,268	21,750	4,139	1,303	49,924	7,346	1,284	38,227	92%

Appendix VII: Appeals Handled by Forum Offices in 2022/Q2 and 2022/Q3

S/N	Forum Offices	2022/Q2				2022/Q3			
		Appeals Received	Appeals Resolved	Appeals Pending	Resolution Rate	Appeals Received	Appeals Resolved	Appeals Pending	Resolution Rate
1	Abakaliki, Ebonyi State	77	0	77	0%	50	32	18	64.00%
2	Abeokuta, Ogun State	39	13	26	33%	70	30	29	42.86%
2	Abuja, FCT	56	33	23	59%	56	34	22	60.71%
3	Asaba, Delta State	121	92	29	76%	92	86	6	93.48%
4	Awka, Anambra State	62	35	25	56%	81	50	31	61.73%
5	Bauchi, Bauchi State	17	14	3	82%	5	4	1	80.00%
6	Benin, Edo State	59	43	16	73%	50	28	22	56.00%
7	Birnin Kebbi, Kebbi State	58	28	30	48%	61	14	47	22.95%
8	Calabar, C/Rivers State	124	55	69	44%	62	47	15	75.81%
9	Dutse, Jigawa State	72	54	18	75%	166	144	7	86.75%
10	Eko, Lagos State	18	15	3	83%	13	12	1	92.31%
11	Enugu, Enugu State	16	13	3	81%	21	17	4	80.95%
12	Gombe, Gombe State	168	90	78	54%	162	107	55	66.05%
13	Gusau, Zamfara State	622	75	547	12%	910	360	550	39.56%
14	Ibadan, Oyo State	33	28	5	85%	61	14	47	22.95%
15	Ikeja, Lagos State	14	0	14	0%	17	0	15	0.00%
16	Ilorin, Kwara State	14	8	6	57%	14	13	1	92.86%
17	Jos, Plateau State	54	35	19	65%	60	36	17	60.00%
18	Kaduna, Kaduna State	19	9	7	47%	38	17	18	44.74%
19	Kano, Kano State	9	5	2	20%	9	4	3	44.44%
20	Katsina, Katsina State	4	0	4	0%	6	0	6	0.00%
21	Lafia, Nasarawa State	19	9	8	47%	24	15	4	62.50%

22	Lokoja, Kogi State	9	5	4	0%	8	7	1	87.50%
23	Makurdi, Benue State	17	8	4	47%	36	18	6	50.00%
24	Osogbo, Osun State	238	191	47	80%	114	55	59	48.25%
25	Owerri, Imo State	22	17	5	77%	10	5	5	50.00%
26	Port Harcourt, Rivers State	217	179	34	82%	176	0	176	0.00%
27	Sokoto, Sokoto State	12	10	2	83%	26	18	8	69.23%
28	Umuahia, Abia State	52	15	35	29%	46	24	11	52.17%
29	Uyo, Akwa Ibom State	165	119	46	72%	173	113	60	65.32%
30	Yola, Adamawa State	35	24	11	69%	40	35	5	87.50%
	All Forum Offices	2442	1222	1200	50%	2657	1,339	1250	50.40%

Appendix VIII: Category of Complaints Received by Forum Offices in 2022/Q2 and 2022/Q3

Forum Office	*2022/Q2*								*2022/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	7	0	0	25	0	0	13	35	4	0	0	7	0	0	4
Abeokuta, Ogun State									53	3	0	2	5	0	0	7
Abuja, FCT	9	0	0	0	43	0	0	4	7	0	0	0	48	0	0	1
Asaba, Delta State	105	4	0	0	11	0	0	1	82	4	0	0	5	0	0	1
Awka, Anambra State	50	3			7			2	62	6	0	0	7	0	0	6
Bauchi, Bauchi State	15	1	0	0	1	0	0	0	5	0	0	0	0	0	0	0
Benin, Edo State	47	3	1	1	3	0	0	4	40	5	0	0	5	0	0	0
B/Kebbi, Kebbi State	52	2	0	0	1	0	0	3	50	5	0	0	2	0	0	4
Calabar, C/Rivers State	73	12	0	4	23	0	0	12	27	8	0	0	22	0	0	5
Dutse, Jigawa State	35	16			20			1	74	23	0	11	49	0	0	9
Eko, Lagos State	9	0	0	0	9	0	0	0	4	0	0	0	6	0	0	3
Enugu, Enugu State	11	0	0	0	5	0	0	0	13	2	0	0	2	0	0	4
Gombe, Gombe State	110	9	0	0	19	0	0	30	102	6	0	1	20	1	0	32
Gusau, Zamfara State	470	20	2	1	111	3	0	15	666	30	6	4	182	3	1	18
Ibadan, Oyo State	10	2	0	0	21	0	0	0	50	5	0	0	2	0	0	4
Ikeja, Lagos State	14	0	0	0	0	0	0	0	14	0	0	0	0	0	0	3

Ilorin, Kwara State	9	0	0	0	3	0	0	2	9	1	0	0	2	0	0	2
Jos, Plateau State	43	3	0	0	7	0	0	1	28	3	0	0	17	0	0	12
Kaduna, Kaduna State	4	0	0	2	0	1	0	12	17	2	0	1	7	1	0	10
Kano, Kano State	3	3	1	0	1	0	1	0	1	3	0	0	2	1	0	2
Katsina, Katsina State	2	0	0	0	2	0	0	0	4	0	0	0	2	0	0	0
Lafia, Nasarawa State	19	0	0	0	0	0	0	0	14	2	0	0	8	0	0	0
Lokoja, Kogi State	5	1	0	0	1	0	0	2	2	1	0	0	1	0	0	4
Makurdi, Benue State	17	0	0	0	0	0	0	0	36	0	0	0	0	0	0	0
Osogbo, Osun State	98	2			130			8	83	2	0	0	25	0	0	4
Owerri, Imo State	16	1	0	0	3	0	0	2	7	1	0	0	0	0	0	2
P/Harcourt, Rivers State	135	29	0	0	39	0	4	10	126	20	0	0	26	0	4	0
Sokoto, Sokoto State	10	0	0	0	0	0	0	2	10	2	0	0	5	0	0	9
Umuahia, Abia State	41	4	0	1	4	0	1	1	37	3	0	0	4	0	1	1
Uyo, Akwa Ibom State	102	13	1	1	34	0	1	13	92	26	1	1	40	0	0	13
Yola, Adamawa State	25	2	0	3	4	0	0	1	23	1	0	7	8	0	0	1
All Forum Offices	1595	139	5	13	539	4	7	140	1,773	168	7	27	509	6	6	161

Appendix IX: Monthly Cash Flow of the Commission between April and September 2022

	Summary for 2022/Q2 (₦' Million)				Summary for 2022/Q3 (₦' Million)			
	Apr.	May.	Jun.	Total	Jul.	Aug.	Sep.	Total
A. Revenue								
Operating Levy (i.e., MC)	1,233.56	1,316.71	2,257.09	4,807.36	1,124.49	1,302.19	1,340.34	3,767.02
Other IGR	66.51	20.42	55.47	142.39	16.38	52.93	35.03	104.34
Total Revenue	1,300.07	1,337.12	2,312.56	4,949.76	1,140.87	1,355.12	1,375.37	3,871.36
B. Expenditure								
Personnel Cost	504.83	405.48	773.83	1,684.14	422.87	404.03	440.4	1,267.30
Regulatory Expenses	116	84.99	226.96	427.96	373.18	328.11	456.69	1,157.98
A & G Maintenance	26.62	26.7	26.92	80.24	69.98	30.89	24.1	124.97
Total Expenditure	647.45	517.16	1,027.72	2,192.33	866.03	763.03	921.19	2,550.25
C. Net Cash Flow (A-B)	652.62	819.96	1,284.85	2,757.43	274.84	592.09	454.18	1,321.11
Outstanding Liabilities				4,501.88				5,629.19

Notes of the table: MC is Market Charges; IGR internal Generated Revenue; and A&G is admin and general

Appendix X: Meter Installation through the MAP and NMMP Interventions

Discos	Meters contracted	Meters installed in 2019	Meters installed in 2020	Meters installed in 2021	Meters installed in 2022/Q1	Meters installed in 2022/Q2	Meters installed in 2022/Q3	Total number installations
Abuja	1,000,475	63,925	105,253	87,987	705	22,532	27,249	307,649
Benin	664,646	1,169	11,154	72,256	6,336	677	-	91,592
Eko	283,178	5,422	32,353	71,362	3,263	6,470	12,207	131,077
Enugu	713,926	17,410	54,603	97,433	8,852	14,421	18,185	210,315
Ibadan	1,103,867	4,771	38,403	94,309	30,404	42,570	26,488	236,945
Ikeja	1,186,114	22,876	160,469	126,051	18,169	46,285	28,733	402,583
Jos	593,473	15	4,673	87,977	1,966	311	264	104,696
Kaduna	519,152	43	8,258	18,236	8,493	21,882	799	58,012
Kano	562,747	22	3,314	87,736	199	173	245	84,921
Port Harcourt	220,044	7,775	36,546	92,543	7,123	7,744	9,434	161,165
Yola	749,376	-	478	5,565	-	4,891	19,283	30,217
Total	7,596,998	123,428	455,504	841,455	85,510	167,956	142,887	1,819,172

Appendix XI: Meter Installation through the NMMP intervention

Discos	Meters contracted	Meters installed in 2019	Meters installed in 2020	Meters installed in 2021	Meters installed in 2022/Q1	Meters installed in 2022/Q2	Meters installed in 2022/Q3	Total number installations
Abuja	100,475	-	17,777	82,698	-	-	-	100,475
Benin	90,870	-	-	71,152	6,336	354	-	77,842
Eko	79,178	-	55	63,659	2,972	3,545	948	71,179
Enugu	92,381	-	-	92,025	-	130	64	91,512
Ibadan	114,952	-	4,985	93,761	10,966	3,880	3,182	116,774
Ikeja	111,703	-	24	111,679	-	-	-	111,703
Jos	93,473	-	983	87,977	1,966	-	-	90,926
Kaduna	69,152	-	1,555	15,835	7,042	21,590	540	46,863
Kano	87,747	-	11	87,736	-	-	-	80,979
Port Harcourt	82,720	-	14,212	68,508	-	-	-	82,720
Yola	85,376	-	478	5,565	-	4,891	19,283	30,217
Total	1,008,026	-	40,080	780,595	29,282	34,390	24,017	901,190

Appendix XII: Meter Installation through the MAP intervention

Discos	Meters contracted	Meters installed in 2019	Meters installed in 2020	Meters installed in 2021	Meters installed in 2022/Q1	Meters installed in 2022/Q2	Meters installed in 2022/Q3	Total number installations
Abuja	900,000	63,925	87,476	5,289	705	22,532	27,249	207,174
Benin	573,776	1,169	11,154	1,104	-	323	-	13,750
Eko	204,000	5,422	32,298	7,703	291	2,925	11,259	59,898
Enugu	621,545	17,410	54,603	5,408	8,852	14,291	18,121	118,602
Ibadan	988,915	4,771	33,418	548	19,438	38,690	23,306	120,171
Ikeja	1,074,411	22,876	160,445	14,372	18,169	46,285	28,733	290,880
Jos	500,000	15	3,690	-	-	311	264	4,280
Kaduna	450,000	43	6,703	2,401	1,451	292	259	11,149
Kano	475,000	22	3,303	-	199	173	245	3,942
Port Harcourt	137,324	7,775	22,334	24,035	7,123	7,744	9,434	78,445
Yola	664,000	-	-	-	-	-	-	-
Total	6,588,971	123,428	415,424	60,860	56,228	133,566	118,870	908,291

Appendix XIII: Categories of Appeals Received at the Forum Offices in 2022/Q3

S/N	FORUM OFFICES	COMPLAINTS B/F	CURRENT COMPALINTS	COMPLAINTS RECEIVED	COMPLAINTS RESOLVED	COMPLAINTS REJECTED	COMPLAINTS WITHDRAWN	PENDING COMPLAINTS	NO OF HEARINGS	BILLING	DISCONNECTION	DELAY	INTERRUPTION	METER	LOADSHEDDING	VOLTAGE	OTHERS	RESOLUTION RATE
1	ABAKALIKI	30	20	50	32	0	0	18	2	35	4	0	0	7	0	0	4	64.00%
2	ABEOKUTA	32	38	70	30	11	0	29	1	53	3	0	2	5	0	0	7	42.86%
3	ABUJA	23	33	56	34	0	0	22	3	7	0	0	0	48	0	0	1	60.71%
4	ASABA	29	63	92	86	0	0	6	6	82	4	0	0	5	0	0	1	93.48%
5	AWKA	27	54	81	50	0		31	5	62	6	0	0	7	0	0	6	61.73%
6	BAUCHI	3	2	5	4	0	0	1	1	5	0	0	0	0	0	0	0	80.00%
7	BENIN	16	34	50	28	0	0	22	3	40	5	0	0	5	0	0	0	56.00%
8	CALABAR	30	31	61	14	0	0	47	1	50	5	0	0	2	0	0	4	22.95%
9	EKO	19	43	62	47	0	0	15	3	27	8	0	0	22	0	0	5	75.81%
10	ENUGU	74	92	166	144	1	14	7	7	74	23	0	11	49	0	0	9	86.75%
11	GOMBE	3	10	13	12	0	0	1	1	4	0	0	0	6	0	0	3	92.31%
12	GUSAU	0	21	21	17	0	0	4	1	13	2	0	0	2	0	0	4	80.95%
13	IBADAN	78	84	162	107	0	0	55	5	102	6	0	1	20	1	0	32	66.05%
14	IKEJA	627	283	910	360	0	0	550	9	666	30	6	4	182	3	1	18	39.56%
15	ILORIN	29	32	61	14	0	0	47	1	50	5	0	0	2	0	0	4	22.95%
16	JIGAWA	14	3	17	0	2	0	15	0	14	0	0	0	0	0	0	3	0.00%
17	JOS	6	8	14	13	0	0	1	2	9	1	0	0	2	0	0	2	92.86%
18	KADUNA	26	34	60	36	0	7	17	3	28	3	0	0	17	0	0	12	60.00%
19	KANO	7	31	38	17	2	1	18	1	17	2	0	1	7	1	0	10	44.74%
20	KATSINA	3	6	9	4	2	0	3	0	1	3	0	0	2	1	0	2	44.44%
21	KEBBI	0	6	6	0	0	0	6	1	4	0	0	0	2	0	0	0	0.00%
22	LAFIA	10	14	24	15	4	1	4	1	14	2	0	0	8	0	0	0	62.50%
23	LOKOJA	4	4	8	7	0	0	1	0	2	1	0	0	1	0	0	4	87.50%
24	MAKURDI	23	13	36	18	12	0	6	0	36	0	0	0	0	0	0	0	50.00%
25	OSHOGBO	0	114	114	55	0	0	59	3	83	2	0	0	25	0	0	4	48.25%
26	OWERRI	5	5	10	5	0	0	5	1	7	1	0	0	0	0	0	2	50.00%
27	P/H	0	176	176	0	0	0	176	4	126	20	0	0	26	0	4	0	0.00%
28	SOKOTO	0	26	26	18	0	0	8	1	10	2	0	0	5	0	0	9	69.23%
29	UMUAHIA	35	11	46	24	0	11	11	2	37	3	0	0	4	0	1	1	52.17%
30	UYO	106	67	173	113	0	0	60	4	92	26	1	1	40	0	0	13	65.32%
31	YOLA	11	29	40	35	0	0	5	2	23	1	0	7	8	0	0	1	87.50%
	TOTAL	1,270	1,387	2657	1,339	34	34	1250	74	1,773	168	7	27	509	6	6	161	50.40%

Appendix XIV: Categories of Complaints Received by the DisCos in 2022/Q3

DISCO	COMPLAINTS RECEIVED	COMPLAINTS RESOLVED	COMPLAINTS UNRESOLVED	METER	INTERRUPTION	VOLTAGE	LOADSHEDDING	BILLING	DISCONNECTION	DELAY	OTHERS	RESOLUTION RATE
AEDC	31,004	30,325	679	11,136	2,789	268	1,078	3,116	4,829	-	7,788	98%
BEDC	8,212	7,168	1,044	166	1,536	286	13	1,227	12	1	4,223	87%
EEDC	38,638	35,881	2,757	30,071	1,770	432	11	3,726	282	224	1,867	93%
EKDC	20,312	16,430	3,882	10,679	1,772	110	-	2,199	-	-	5,414	81%
IBEDC	32,094	24,040	8,054	215		91	-	26,718	-	-	659	75%
IKEDC	32,044	28,868	3,176	14,610	2,192	366	197	2,743	1,207	953	8,699	90%
JEDC	11,671	11,581	90	6,528	1,546	348	-	2,828	205	-	216	99%
KAEDC	8,144	7,744	400	2,451	4,481	675	1	638	255	2	243	95%
KNEDC	14,880	14,723	157	12,483	1,062	146	3	794	59	2	273	99%
PHEDC	47,550	46,996	554	27,213	3,796	1,212	-	5,931	495	102	8,801	99%
YEDC	2,777	2,767	10	1,716	806	205	-	4	2	-	44	100%
TOTAL	247,326	226,523	20,803	117,268	21,750	4,139	1,303	49,924	7,346	1,284	38,227	92%

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

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

Nigeria Electricity
Regulatory Commission
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