NESI IN 2025
KEY INSIGHTS FROM NERC'S ANNUAL REPORT

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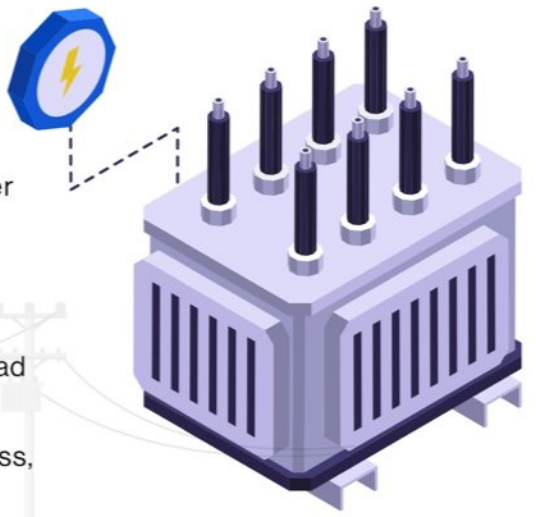
PREFACE



On 25 August 2026, the Nigerian Electricity Regulatory Commission (NERC or the Commission) published its 2025 Annual Report (the Report) on the Nigerian Electricity Supply Industry (NESI), pursuant to section 56(1) of the Electricity Act 2023, which mandates the Commission to keep proper records for all its activities, funds and property, as well as any additional accounts or records the Minister may require.

In this article, we summarise the Report to keep our readers, who may not have the opportunity to read the Report in full, informed about developments in the NESI during 2025. By comparing these developments with the performance of the NESI in 2024, we provide insights into the growth, progress, or otherwise of NESI in 2025.

STATE OF ELECTRICITY GENERATION

Number of grid-connected plants:

Twenty-eight **(28)** grid-connected power plants dispatched electricity to the National Grid in 2025, comprising twenty-three **(23)** gas-fired thermal plants and five **(5)** hydropower plants. The figure remained unchanged from 2024, indicating that no new generation plant was connected to the national grid during the year. As of December 2025, the Commission's total licensed generation fleet comprised thirty **(30)** operational power plants with a combined nameplate capacity of **14,039MW**.

Average available generating capacity:

The average available generation capacity of the grid-connected power plants was **5,398.33MW** in 2025, an increase from **4,853.69MW** in 2024. The overall plant availability factor **(PAF)** for all grid-connected plants was **39.62%**. indicating that more than **60%** of the industry's installed capacity remained unavailable throughout the year. This reflects a minor increase from the 2024 PAF figure of **37.43%.**

Ten **(10)** power plants recorded availability factors above **50%** with **Ikeja_1** recording the highest availability factor of **99.44%**. Ihovbor at **93.72%** was the highest in 2024. **Alaoji_1** was unavailable throughout the year, while **Sapele Steam_1** recorded the lowest active availability factor, at **3.85%**.

The highest monthly average available generation capacity in 2025 was recorded in May, attributable to improved mechanical availability of **Egbin_1**, **Zungeru_1**, **Jebba_1**, **Shiroro_1**, **Okpai_1**, **Omotosho_1**, **Olorunsogo_1** and **Olorunsogo_2** (2024's peak month was September). All hydropower plants except **Shiroro_1** recorded improved availability in the third and fourth quarters of 2025 following improved water reserves after the rainy season.

Average hourly generation:

Total generation for 2025 was **39,208.68GWh**, translating to an average hourly generation of **4,475.88MWh/h**. This represents an increase from 2024, when NESI had **37,093.70GWh** total generation and hourly generation of **4,222.87MWh/h**. Hydropower plants contributed **12,804.18GWh**, or **32.66%** of total generation, an increase from **11,469.85GWh (30.92%.)** in 2024.

The lowest monthly average hourly generation **(4,090.83MWh/h)** was recorded in September 2025, while the highest **(4,842.32MWh/h)** was recorded in March. In 2024, the lowest was in February at **3,796.11MWh/h**, and the highest was in December at **4,524.21MWh/h**. Therefore, despite Nigeria having a significant installed generation base, the **39.62%** overall Plant Availability Factor **(PAF)** indicates that a substantial proportion of grid-connected generating capacity is routinely unavailable. In practical terms, this means the sector is not fully converting installed generation capacity into dependable electricity supply, contributing to supply shortfalls, increased reliance on self-generation and higher electricity costs for consumers.

Like the 2024 report, the 2025 Report attributes the low PAF to recurring challenges, including ageing generating plants and maintenance issues, liquidity constraints affecting generating companies, and unreliable gas supply. Of particular concern is the Report's finding that, as of December 2025, only **5** of the **23** grid-connected thermal power plants had firm gas supply arrangements. This highlights the vulnerability of Nigeria's generation fleet to fuel supply disruptions and suggests that increasing installed generation capacity alone may not translate into a corresponding increase in reliable electricity supply.

STATE OF ELECTRICITY TRANSMISSION

1

Frequency

The average lower and upper daily system frequencies of the grid in 2025 were **49.33Hz** and **50.74Hz**, respectively (a range of **1.41Hz**), remaining outside the Grid Code's normal operating limits **(49.75Hz–50.25Hz)** but within the stress limits **(48.75Hz–51.25Hz)** throughout the year. In 2024, the figures sat at **49.28Hz** and **50.83Hz**; range of **1.55Hz**.

2

Voltage

The average lower and upper daily operating voltage of the grid in 2025 were **299.17kV** and **346.99kV**, respectively (a range of **47.82kV**), which remained outside the normal operating limits specified in the Grid Code. In 2024, it was **299.42kV** and **352.55kV**; range of **53.13kV**.

3

Grid Collapse

Two **(2)** incidents of system collapse (one **(1)** partial and one **(1)** total) occurred on the national grid in 2025, a marked improvement on the nine **(9)** incidents recorded in 2024 (five (5) partial and four **(4)** total). The full collapse on 10 September 2025 was restored within **28** minutes; the partial collapse on 29 December 2025 was attributed to the failure of a Benin–Onitsha **330kV** line circuit breaker at the Benin transmission station. This reduction indicates improved grid stability and reliability in 2025, with fewer disruptions to electricity supply and a lower risk of widespread power outages compared with 2024. However, the occurrence of both partial and total system collapses highlights the need for continued investment in grid resilience, maintenance, and system management.

STATE OF THE MARKET AND ELECTRICITY DISTRIBUTION

METERING

In April 2025, the Commission rebased the register of electricity customers in the NESI to reflect only active registered customers. According to the Commission's methodology, active registered customers are customers who vended or were billed at least once within a 12-month period. On this basis, **6,966,584 (57.27%)** of the **12,163,412** active registered customers in the NESI were metered as at December 2025. DisCos installed **972,040** end-use customer meters during the year. In 2024, **572,055** meters were installed against 13,503,342 total registered customers, of which **6,288,642**, or **46.57%**, were metered. The increase in meter installations indicates continued progress towards Nigeria's metering objectives, which will drive billing accuracy and reliable consumption data.

AVERAGE ENERGY OFFTAKE

The DisCos' aggregate energy offtake performance in 2025 was **92.29%**, a decline from **94.55%** in 2024. Benin **(99.80%)** and Enugu **(97.22%)** recorded the highest offtake performances. Kaduna DisCo **(79.38%)** was the only DisCo with offtake performance below **80%**, recording the lowest performance in the year. In 2024, the highest was Enugu at **98.18%**, followed by Benin at **98.03%**; the lowest was Yola at **85.04%**.

BILLING AND COLLECTION EFFICIENCY

NB: this represents the difference between energy supplied to the DisCos and energy billed to customers.

The Naira value of total energy supplied by all DisCos in 2025 was **₦3,683.10 billion**, of which **₦2,988.30 billion** was billed to customers, representing a billing efficiency of **81.14%**. Of the amount billed, **₦2,318.81 billion** was collected, leaving an outstanding balance of **₦669.49 billion** and translating to a collection efficiency of **77.60%**. Eko DisCo recorded the highest billing efficiency (**95.41%**) and, together with Ikeja, the highest collection efficiency (**87.90%** and **87.89%** respectively); Yola recorded the lowest billing efficiency (**60.99%**) and Kaduna, the lowest collection efficiency (**45.68%**).

The total revenue collected by the DisCos from customers in 2024 was **₦1,659.76 billion** out of the total bill of **₦2,196.71 billion** to customers, leaving an outstanding balance of **₦536.95 billion**. This translates to a collection efficiency of **75.56%** and implies that for every **₦100.00** worth of energy billed to customers by DisCos in 2024, approximately **₦24.44** was not recovered from customers. In 2024, Eko with **86.85%** and Ikeja with **83.37%** DisCos recorded the highest collection efficiencies among the DisCos, while Yola DisCo (**51.53%**) had the lowest collection efficiency. The improved collection efficiency will increase DisCos liquidity and enable them to meet their obligations to NBET and other market stakeholders. Also, sustained record of higher recovery rates signals financial discipline, and will make DisCos more attractive for private capital.

Ikeja and Eko DisCos consistently outperform their counterparts in billing and collection efficiency because of higher prepayment meter penetration. Higher metering ratios directly improve billing accuracy and curb the revenue losses associated with estimated billing disputes. In fact, under the Lagos State Electricity Law[1], it is now an offence to supply electricity without meter. Other DisCos can improve billing and collection efficiency through aggressive metering. It should also be noted that Ikeja and Eko DisCo have geographical advantages, in that their franchise areas have high concentration of commercial and industrial customers who consume large blocks of power and who comply with payment obligations as a matter of necessity. The geographically compact and urbanized areas also make infrastructure monitoring, disconnection protocols, and revenue enforcement logistically easier. This is not the case in other areas dominated by dispersed rural or low-income residential consumers.

AGGREGATE TECHNICAL, COMMERCIAL AND COLLECTION (ATC&C) LOSS

The aggregate ATC&C loss across all DisCos in 2025 was **37.03%**, comprising **18.86%** in technical and commercial losses and **22.40%** in collection losses. This was a marginal improvement from the **37.95%** recorded in 2024, although the 2025 loss level remained **16.49** percentage points above the aggregate efficient loss target of **20.54%** allowed under the 2025 MYTO. In 2024, the aggregate ATC&C loss was **37.95%**, comprising **17.88%** in technical and commercial losses and **24.44%** in collection losses, against a MYTO target of **24.73%**.

The reduction in aggregate ATC&C losses indicates some improvement in the efficiency of the distribution segment, driven largely by the reduction in collection losses. However, the significant gap between actual losses and the MYTO efficient loss target highlights the continued need to strengthen network infrastructure, reduce technical and commercial losses, improve metering and billing, and enhance revenue collection across the DisCos.

Eko DisCo was the only DisCo to outperform its ATC&C target (actual **16.13%** vs. target **16.88%**) and again recorded the lowest ATC&C loss overall. Kaduna DisCo remained the worst-performing DisCo, with an ATC&C loss of **71.88%** against a target of **21.32%**. In 2024, Eko had the lowest at **22.30%**; Kaduna again had the worst at **66.52%**).

MARKET REMITTANCE

NB: This represents the cumulative upstream invoice payable by DisCos to other Market Participants.

NBET and the Market Operator (**MO**) issued a DisCo Remittance Obligation-adjusted gross invoice of **₦1,428.88 billion** to all DisCos for energy costs in 2025, of which the DisCos remitted **₦1,356.21 billion**, representing a remittance performance of **94.91%**. Eko, Ikeja and Port Harcourt DisCos achieved **100%** remittance to NBET; Kaduna DisCo recorded the lowest remittance performance, at **40.13%**. The overall NBET remittance performance in 2024 was **86.47%**; the highest performers were Eko (**99.33%**), Ikeja (**94.43%**) and Abuja (**90.42%**); while the lowest went to Kaduna again (**32.77%**)).

The significant improvement of **8.44** percentage points in overall remittance performance indicates stronger payment discipline among DisCos and improved compliance with their financial obligations to the market. The higher level of remittance also strengthens cash flow through the electricity market and supports the ability of upstream market participants to meet their own payment obligations. This represents an important improvement in market discipline and financial liquidity; however, the continued variation in remittance performance across DisCos, particularly the substantially lower performance recorded by Kaduna, highlights the need for sustained efforts to ensure more consistent compliance across the distribution segment.

The MO issued a gross invoice of **₦292.76 billion** to DisCos, who collectively remitted **₦275.83 billion** (**94.22%**). Abuja, Benin, Eko, Enugu, Ikeja, Port Harcourt and Yola DisCos achieved **100%** remittance to the MO; Kaduna DisCo again recorded the lowest performance, at **48.11%**. The highest performers in 2024 were: Yola (**96.73%**), Ikeja (**95.71%**), Eko (**93.12%**); lowest, Kaduna (**26.29%**).

The ATC&C losses and market remittance figures above indicate a concerning pattern of poor market performance by Kaduna DisCo in 2025. This appears not to have improved in the year 2026 as the Commission had to invoke its intervention powers under the Electricity Act to dissolve the Kaduna DisCo board and appoint an administrator with the ultimate aim of repositioning Kaduna DisCo to improve its market remittance figures, operate more sustainably. [2]

REMITTANCE PERFORMANCE BY SPECIAL AND BILATERAL CUSTOMERS

The three international bilateral customers: Societe Beninoise d'Energie Electrique, Compagnie Energie Electrique du Togo and Societe Nigerienne d'Electricite, received a cumulative invoice of **$73.91 million** from the MO and paid **$62.75 million**, a remittance performance of **84.90%**. In 2024, **$56.07 million** was invoiced, **$42.06 million** was paid indicating a **75.01%** remittance rate.

Domestic bilateral customers received a total invoice of ₦**13,203.50 million** and paid ₦**12,754.58 million**, a remittance performance of **96.60%**. This represents a significant increase from 2024: ₦**7,929.25 million** invoiced; ₦**5,970.85 million** paid, indicating a **75.30%** remittance rate.

NERC'S REGULATORY FUNCTIONS

The Commission issued a total of 512 regulatory instruments in 2025 compared to a figure of 297 in 2024. It is summarised below.

REGULATORY INSTRUMENT

- Regulations: none issued;
- Orders: one hundred and fifty-nine (**159**);
- Licences/Permits: one hundred and ninety-four (**194**);
- Rectification Directives: thirty-eight (**38**);
- Notices to Commence Enforcement Action: fifty-five (**55**); and
- Fines: sixty-six (**66**).

LICENSING AND PERMITS BREAKDOWN

- On-grid generation licences: two (2);
- Off-grid generation licences: six (6);
- Independent Electricity Distribution Network (IEDN) licences: seven (7);
- Embedded generation licences: five (5);
- Trading licences: six (6);
- Captive power generation permits: thirty-one (31);
- Mini-grid permits: sixty-four (64);
- Meter Service Provider (MSP) permits: forty-three (43); and
- Meter Asset Provider (MAP) permits: thirty (30).

The Commission issued **194** licences, permits and certifications in 2025, representing a **15.5%** increase from the **168** issued in 2024. Beyond the increase in the overall volume of approvals, the composition of approvals shifted significantly towards decentralised and distributed electricity solutions. Mini-grid permits more than doubled, rising from **27** in 2024 to **64** in 2025, while captive power approvals increased from **24** to **31** and Meter Service Provider certifications rose from **36** to **43**. In addition, the Commission issued seven Independent Electricity Distribution Network licences and five embedded generation licences in 2025.

HEARINGS AND PUBLIC CONSULTATION

As in 2024, the Dispute Resolution Panel did not handle any disputes among industry stakeholders in 2025. The Commission conducted six (**6**) hearings during the year, including appeals concerning eligible customer status, fault attribution ratios under the Band A Service Level Agreement, and competition transition charges. The Commission's hearings on eligible customer status and Competition Transition Charges (**CTCs**) highlight emerging regulatory issues associated with the transition towards a more competitive electricity market.

The Eligible Customer framework enables qualifying large consumers to procure electricity directly from generators, increasing customer choice and competition. However, such migration can affect DisCo revenues, creating the need for CTCs to address eligible and demonstrable costs associated with lost customers. The prominence of these matters reflects the practical challenges of balancing increased competition with the financial sustainability of incumbent DisCos. Effective resolution of these issues will therefore be important to supporting a competitive, transparent and financially sustainable electricity market.

CONSUMER AFFAIRS

TOWN HALL MEETINGS

01

The Commission conducted three (**3**) customer education/town hall meetings in 2025.

- Sokoto State (20–22 February, covering Kaduna DisCo);
- Bauchi State (26–28 June, covering Jos DisCo); and
- Anambra State (4–6 September, covering Enugu DisCo). This is a significant reduction from the nine (**9**) meetings held across nine states in 2024.

CUSTOMER COMPLAINTS

02

NB: This is a summary of the types of complaints and resolution rates of complaints across the various channels.

- NERC Customer Complaints Unit (CCU): **8,305**, of which **3,840** were resolved, corresponding to **46.24%** resolution rate;
- DisCo CCUs: **708,699**;
- Forum Offices (appeals received): **5,825**; and
- Forum Offices (appeals resolved/sittings): **4,165 (71.50%)/186** sittings.

Billing (**34.35%**), metering (**29.62%**), service interruption (**14.82%**) and disconnection (**9.24%**) were the leading complaint categories at the NERC-CCU in 2025. At the DisCo CCUs, metering (**44.56%**), billing (**16.73%**) and service interruption (**8.47%**) remained the dominant issues. At the Forum Offices, billing (**54.33%**) and metering (**27.34%**) were again the most prevalent categories.

STAKEHOLDER ENGAGEMENTS

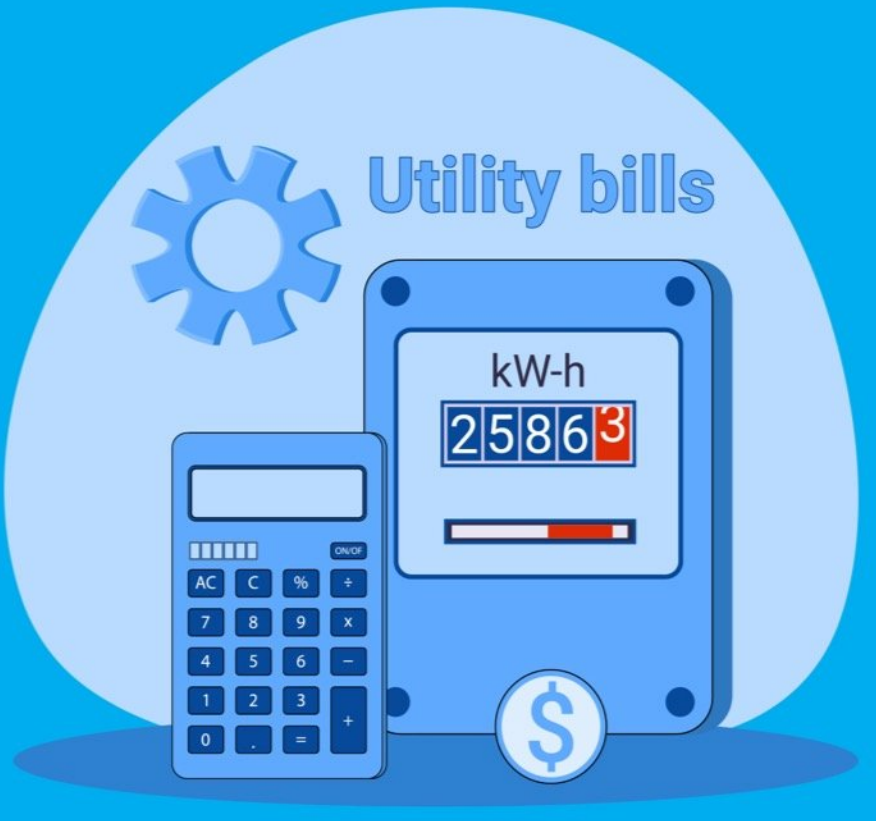
The Commission held its customary four (4) quarterly NESI stakeholder meetings in 2025 (Q1: Abuja, 24 February; Q2: Lagos, 2 June; Q3: Lagos, 1 September; Q4: Abuja, 2 December).

Other notable 2025 engagements included a workshop on the methodology for delineation of Successor DisCos' assets and liabilities; public consultations on the draft Net Billing Regulations (held in Abuja and Lagos in October 2025); and the Commission's 20th Anniversary Celebrations.

ELECTRICITY TARIFFS

The Federal Government's policy directive freezing all customer tariffs at July 2024 approved rates remained in effect throughout 2025. While the Commission continued to carry out monthly reviews of DisCos' cost-reflective tariffs (pursuant to the April 2024 supplementary MYTO Orders), there was no change to end-user tariffs during the year.

The gross subsidy obligation of the Federal Government of Nigeria in 2025 was ₦**1,928.31 billion**, representing **57.44%** of the total NBET invoice and an average of ₦**160.69 billion** per month. The subsidy obligation declined steadily over the course of the year, reflecting reduced DisCo energy offtake relative to prior quarters and an increase in the share of energy allocated to Band A customers, from **40%** to **45%**.



OUR THOUGHTS

The 2025 reporting year reflects a NESI that improved on several fronts without resolving its underlying structural fragility. Grid stability showed the most gain: system collapses fell from nine incidents in 2024 to just two in 2025, and both grid frequency and voltage deviations narrowed modestly, though both parameters remained outside the Grid Code's normal operating limits throughout the year. Generation capacity also improved, with average available capacity rising by over 11% and plant availability factor edging up to 39.62%, still leaving more than 60% of installed capacity unavailable at any given time.

The decentralisation of Nigeria's electricity market continued to progress in 2025, with the number of states that had formally assumed regulatory oversight of their intrastate electricity markets increasing from 4 in 2024 to 12 in 2025. Regulation is moving closer to electricity consumers while regulators will be able to build a power market that is suited to their local conditions.

The shift in the licensing profile suggests growing regulatory activity around alternative and decentralised electricity supply models, alongside continued expansion of the metering ecosystem. In particular, the substantial increase in mini-grid approvals indicates increasing regulatory facilitation of solutions targeted at underserved and unserved customers and could support greater diversification of Nigeria's electricity supply beyond conventional grid-based generation and distribution. However, the decline in off-grid generation licences and Meter Asset Provider permits indicates that growth was not uniform across all categories of decentralised electricity and metering activities.

On the commercial side, the picture is more mixed. ATC&C losses improved marginally to 37.03%, but remained far above the MYTO-allowed target, and Kaduna DisCo's performance across nearly every metric, offtake, billing, collection, ATC&C and remittance, continued to lag the rest of the industry by a wide margin. Metering coverage rose to 57.27% of active registered customers, aided by a near-doubling of meters installed during the year. Market remittance to NBET and the MO improved appreciably, suggesting firmer discipline under the payment framework, even as the Federal Government's subsidy obligation remained close to ₦2 trillion.

Consumer-facing activity contracted sharply: town hall meetings fell from nine to three, and total complaints logged across the NERC-CCU, DisCo-CCUs and Forum Offices all declined materially, even as resolution rates at NERC-CCU improved. Separately, the sharp rise in fines issued (from 3 in 2024 to 66 in 2025) points to a more assertive compliance and enforcement regime by the Commission, which licensees should factor into their regulatory risk assessments going forward.

Overall, we encourage NERC to sustain the gains made in grid stability and market remittance discipline, prioritise a turnaround in underperforming DisCos (particularly Kaduna), and increase transparency around the drivers of the continued contraction in consumer engagement channels.

1. Lagos State Electricity Law,s. 89(1)
2. Oladehinde Oladipo, 'NERC dissolves Kaduna Disco's board over N456 billion debts' (BusinessDayNg, 10 August 2026) <https://businessday.ng/energy/article/nerc-dissolves-kaduna-disco-board-as-debt-losses-mount/> Accessed 20 September 2026