

Nigeria's Emerging Net Metering Framework



Nigeria's electricity market continues to evolve against a backdrop of rising energy costs, persistent grid constraints, and increasing interest in distributed renewable energy solutions. The release of the Draft Net Billing Regulations by the Nigerian Electricity Regulatory Commission (NERC), pursuant to Section 226 of the Electricity Act 2023 (EA or "the Act"), is a recent development which requires attention.

NERC conducted several stakeholder engagements prior to its issuance, and the Regulations provide useful insight into the regulatory framework that is expected to govern the integration of customer-owned renewable energy systems into Nigeria's distribution networks. This may significantly impact the deployment of off grid renewable energy solutions in the country.

This also aligns with Nigeria's broader energy transition and climate change objectives such as achieving net-zero greenhouse gas emissions by 2060¹ and increasing the share of renewable energy in electricity generation to 30% by 2030 in line with the National Renewable Energy Action Plan (NREAP) of 2015².

The proposed framework applies to renewable energy systems with a minimum installed capacity of 50 kWp and a maximum capacity of 5 MWp per user. Participation is open to residential and commercial/ industrial customers with solar and small wind renewable energy installations. Statistics show that Nigeria's distributed solar home system (SHS) market has grown significantly over the past few years. As at 31 December 2024, the World Bank's Nigeria Electrification Project (NEP) reported over 1.08 million verified and paid standalone solar connections, delivering electricity access to more than 5.4 million people and representing approximately 46.4 MW of installed photovoltaic (PV) capacity under the programme alone (World Bank NEP Implementation Status & Results Report, 2024)¹.

Notwithstanding this growth, it is important to note that the majority of existing SHS installations in Nigeria are small-scale systems, typically below 5 kW, designed primarily for basic household electrification and self-consumption. By contrast, the proposed framework introduces a minimum installed capacity threshold of 50 kWp, which represents a significantly larger system size. For context, the average cost of a 10 kW solar power system (including installation) is currently estimated at approximately ₦7 million². A 50 kWp installation would therefore require materially higher capital expenditure, placing it beyond the financial reach of most Nigerians.

¹ World Bank Document

² Complete Solar System Prices in Nigeria (February 2026) | Nigerian Price

Accordingly, while participation is technically open to residential and commercial/ industrial customers, in practical terms, uptake at that threshold is likely to be concentrated among commercial and industrial users and high-net-worth residential customers only.

How is the regulation expected to work? The Regulations have introduced a credit-based net billing framework under which eligible electricity consumers (based on the earlier mentioned criteria) may export surplus electricity to the distribution network and receive energy-based compensation in form of credits. Specifically, the framework allows excess electricity supplied to the grid to be recorded and valued using an injected energy tariff which would be determined/ approved by the Commission, with the resulting value applied to reduce the customer's future electricity charges (valued at the applicable end-user tariff) rather than being settled through direct payment.

The Regulation also addresses the flow of electricity in Chapter III (Technical and Operational Standards), which provides that the system must operate in parallel with the distribution network through a single, compliant point of interconnection, with appropriate protection, synchronisation, safety, and metering requirements to ensure safe, reliable, and controlled import and export of electricity between the prosumer (an electricity user who is both a consumer and a producer of electricity) and the grid.

The Regulations further provide that the credits are tied to the premises under a net billing arrangement and may only be transferred where the agreement itself is formally assigned to a new occupier of the same premises. Accrued credits which are unutilised are extinguished, where the renewable energy system is relocated or the net billing agreement is terminated.

The Regulations impose an aggregate injection limit, to safeguard network integrity. Prosumers on a given network asset cannot inject more than thirty percent (30%) of the asset's average load back to the network.

The framework provided by the Regulations is expected to have broad implications for the commercial viability and structuring of renewable energy installations. There are, however, important considerations as participation expands, particularly among larger installations and higher-export users. **This may include:**

- **Credit-Only Settlement Structure**

The restriction of the settlement structure to only credits may shut out large scale renewable energy deployments set up to operate independently of the grid. These sorts of installations would only be able to generate credits without the ability to utilise them thus making them an unrealisable asset. The

use of credits is understandable given the cash flow situation in the sector but it may be worthwhile to consider a secondary market where the credits may be traded for cash with other willing buyers thus expanding scope and access to the framework.

A comparable international example is India's Renewable Energy Certificates (RECs) mechanism, where renewable energy generators receive tradable certificates for each megawatt-hour of clean power produced and can sell these on exchanges such as the Indian Energy Exchange (IEX) or Power Exchange India Limited (PXIL)³, providing a cash revenue stream separate from electricity sales and helping obligated entities meet renewable purchase obligations. In the United States, some net metering programmes such as California's allows customers to choose whether to roll credits over indefinitely or receive a payment for credits at the wholesale rate⁴. These models demonstrate how secondary markets can broaden participation in distributed generation frameworks.

- **Credits Tied to Premises**

Bill credits are expected to be linked to the premises under the net billing arrangement rather than to the system owner. Credits may only be transferred where the net billing agreement itself is formally assigned to a new occupier of the same premises. Where the renewable energy system is relocated, or the agreement is terminated, any accrued credits are extinguished. While this approach is consistent with the area-based structure of electricity distribution, it may reduce flexibility for users whose operations, tenancy arrangements, or site requirements change over time. This is another issue where a secondary market for trading may be apt.



³ [Renewable Energy Certificates in India: REC Guide 2025](#)

⁴ [State Net Metering Policies](#)

- **Reliance on Post-paid Metering**

The Framework relies on post-paid metering as the primary billing mechanism for customers participating in the net billing arrangement. This raises practical considerations, particularly where eligible customers may currently be on pre-paid meters. Assuming a mandatory migration to post-paid metering may limit participation and create unnecessary operational barriers. A more flexible approach could allow existing pre-paid customers to retain their metering structure, with net billing implemented through a periodic reconciliation process, such as a monthly net settlement statement reflecting imported and exported energy.

- **Value Realization Considerations**

Electricity exported to the grid is credited at an Injected Energy Tariff approved by NERC, which is not expected to align with the applicable retail tariff. Under the draft framework, exported energy is credited either at a fixed rate benchmarked against hydropower as a least-cost generation reference, as determined by the Commission from time to time, or at a variable rate limited to the prosumer's interconnection costs, excluding the cost of the renewable energy system.

The resulting value of injected energy credits is therefore likely to be modest, which is understandable given the need for Distribution Companies to recover costs and earn a margin when electricity is sold to final consumers at the retail tariff. However, such tariff levels may be insufficient to incentivise prosumers to invest in development of excess energy generating capacity.

While the current objective of net metering is not to incentivize the deliberate development of excess generating capacity but rather to enable the efficient utilization of available renewable energy, there is nonetheless a need to ensure that the framework does not inadvertently discourage participation by larger or export-oriented users, particularly where surplus energy is routinely injected into the grid without a viable pathway for value realization.

- **Tariff-Setting Approach**

The Commission should not be burdened with setting tariffs for net metering for individual prosumers. Specifically, centrally setting tariffs for energy injected into the national grid by numerous prosumers could overburden the Commission and slow market growth, and a more effective approach

would be for NERC to issue pricing guidelines while allowing Discos and prosumers to agree tariffs on a willing buyer, willing seller basis as the market evolves beyond the Transitional Electricity Market (TEM) phase.



- **Tax Considerations**

It is unclear how Value Added Tax (VAT) would apply to the transaction. The supply of electricity from the Distribution Companies to the consumers is currently liable to VAT at 7.5%. Would the VAT due be computed on the net value after taking into consideration the credit due? This consideration is even more important when you take into account the fact that electricity supplied by Generating Companies to the National grid is zero rated. Power supplied by these renewable energy systems ought to be considered as electricity supplied to the National grid which attracts VAT at the rate of 0%. Therefore, there may be an argument for it to be treated as two separate transactions rather than one for which the cost liable to VAT is the net amount.

Furthermore, while renewable energy equipment, i.e., equipment used in producing renewable, green or low-carbon energy from renewable resources, are currently exempt from VAT, prosumers may nonetheless incur VAT on the installation or other related services. Such VAT should ordinarily qualify as deductible input VAT. The key issue, however, is determining what portion of that input VAT can be claimed, given that a prosumer consumes a portion of the electricity generated for personal/ internal use and exports only a part to the grid (thereby making a taxable supply).

Conclusion

Notwithstanding these considerations, the proposed net billing framework establishes a regulated pathway for optimising on-site renewable energy and supports the orderly integration of distributed renewable generation into Nigeria's electricity market.

However, beyond the regulatory design, the commercial attractiveness of the framework must be assessed in light of the additional costs to be borne by prosumers, particularly those relating to metering requirements and the establishment of interconnection system. The critical question is whether the resulting net economic benefit will be sufficient to drive meaningful investment in residential and commercial renewable energy systems, especially given that installed distributed standalone solar capacity under the Nigeria Electrification Project remains modest at approximately 46MW.

As distributed renewable energy moves from the margins towards the mainstream of Nigeria's electricity market, careful attention to the issues identified above will be important to ensure that the framework provides sufficient economic incentive for holders of excess generation capacity to participate and for investors to adopt renewable energy systems and contribute surplus generation to the grid as the absence of sufficient incentives may limit uptake.



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