



The “Mini-Grid Tariff Tool”: Strengthening Nigeria’s Electricity Regulation

Introduction

A mini-grid is a small-scale electricity supply system specifically designed to generate and distribute electricity cost-efficiently in underserved and off-grid areas. The Nigerian Electricity Regulatory Commission (“**Commission**”) has consistently striven to ensure that the deployment of mini-grids in Nigeria is bankable and has minimal regulatory hurdles. The Commission has also ensured that electricity tariffs are data-driven and properly regulated.

On December 13, 2024, the Commission adopted the African Forum for Utility Regulators Mini-Grid Tariff Tool (the “**Tool**”) and mandated its application in Nigeria as from December 16, 2024. The adoption of the Tool is welcome. It gives economic rationality and clarity to, and therefore supports, the proliferation of mini-grids and, with it, improved access to electricity nationwide.

In this article, we (a) provide an overview of the text of the Tool, (b) highlight some of its provisions in the Tool, and (c) discuss the application of the Tool to mini-grids in States with established electricity regulatory frameworks.

Overview

Prior to the adoption of the Tool, the pricing framework for determining electricity tariffs for mini-grid projects was the Multi-Year Tariff Order (“**MYTO**”) mini-grid model, based on the prevailing general MYTO methodology. The MYTO methodology is developed by the Commission to set electricity tariffs for the Nigerian electricity supply industry. However, amendments to the 2016 Mini-Grid Regulations in 2023 (“**Extant Regulation**”) necessitated a review of the pricing framework for mini-grid projects, hence the recent adoption of the Tool.¹

The Tool is a product of the Africa Framework for Utility Regulators’ (“**AFUR**”) after extensive consultation with key mini-grid stakeholders and review of the tariff settlement tools of Nigeria, Sierra Leone, Kenya, Tanzania and Zambia.² AFUR’s primary objective is to promote regulatory uniformity across 5 (five) primary sectors - energy, communications, water and sanitation, and transport - in African countries.

The text of the Tool is divided into seven segments as follows: (a) Tool User Guide, (b) Basic Information, (c) Inputs, (d) Calculations, (e) Output, (f) Portfolio Tab and (g) Grid Arrival. While the Tool may not reduce the cost of retail electricity on the face of it, its cost-reflective tariff structure ensures that the cost of retail electricity is backed by data and that mini-grid projects remain commercially viable. This is achieved by accurately capturing capital expended on electricity generation and supply.

Highlights of the Text of the Tool

1. Pursuant to the Extant Regulation, a single tariff application may be filed for all sites within a portfolio of mini-grids.³ The Tool now sets out the details needed for such filings. Through the Portfolio Tab, developers of hybrid or multiple sites within a portfolio of mini-grids may file a single tariff application. This process will reduce the administrative costs and streamline the permit application process for hybrid or multiple sites. It does not, however, preclude submitting independent tariff applications for each site within a portfolio of mini grids.
2. Where, in the case of multiple mini-grids, general assets (such as sub-stations and transformers) are shared, the Tool requires the disclosure of the cost-allocation principles to

¹ Extant Regulation, schedule 14. The Tool is the most recent tariff calculation mechanism communicated by the Commission to the public. Thus, references to “MYTO calculation tool” or “MYTO methodology” in the Extant Regulations are to the Tool.

² <https://afurnet.org/mini-grid-tariff-tool/>.

³ Extant Regulation, r. 22 (4)(a).

be applied.⁴ The effect is that tariffs charged to end users sourcing power from one site within a portfolio of mini-grids are reflective of the reduction in the cost of capital and cost of operation and maintenance occasioned as a result of the shared assets.

3. In the case of interconnected mini-grids in Nigeria,⁵ where power is purchased from third parties, the cost of such purchase will not form part of the operating and maintenance expenses to be submitted to the Commission for approval. The Tool also subjects planned power purchases to demand projections which must be submitted to the Commission separately.⁶ This protects and guarantees that bulk purchase tariffs paid to third parties will not be considered in the computation of retail tariffs except the developer has submitted a demand projection necessitating the purchase in the first place.
4. Furthermore, developers in effect are required to bring into account in favour of the consumer such revenues as may be received from disconnection penalties, re-connection fees and any other revenues.⁷ Thereafter, the Commission may deduct such ancillary revenues when calculating the developer’s revenue requirement. Additionally, grants received to support operation and maintenance are categorised as “subsidies”.⁸ Under the Tool User Guide segment, subsidies received are deducted from the revenue requirement.⁹ The effect is that it reduces the revenue requirement of the developer which is the basis on which tariffs will be calculated.
5. The Commission has the power to inspect a developer’s accounts for the purpose of adjusting tariffs and ascertaining depreciated value.¹⁰ Findings from the inspection are to be compared against the approved range of benchmarked costs in the Tool or the actual revenues earned by the developer, as evidenced in the Tool. The Tool is therefore a powerful instrument of regulatory oversight.
6. In calculating a developer’s revenue requirement, the depreciated value of the plant over its licence period is taken into consideration.¹¹ The Tool permits the developer to propose its preferred depreciation method, with the Commission having the final authority to approve or change it.¹² The implication is that the developer cannot unilaterally apply the full depreciation value on its own terms. This will lower the retail tariff charged.

Applying the Tool in States with State-Specific Electric Power Supply Legislation

By the proviso to the Electricity Act 2023, s. 63(7)(a), the Commission’s regulatory powers over mini-grids extends to mini-grids operating in any state of the Federation where such state has no regulations in place for mini-grids. Even where a state otherwise has its own electric power supply laws, s. 63(7)(a) will apply where those laws do not include rules regulating mini-grids.

There is a difference between a state with an electricity regulatory framework broadly and a state with a regulatory framework for mini-grids specifically. The latter realistically cannot exist without the former. This is because the House of Assembly of a state must have enacted a law which creates a body responsible for electricity matters within the state.¹³ Thus, unless and until such a body is created and

⁴ Tool, Tool User Guide segment, Inputs, Capital Costs and Useful lives.

⁵ In Nigeria, interconnected mini grids are, by their nature, connected to a distribution network.

⁶ Tool, Tool User Guide segment, Inputs, Operating and Maintenance Costs.

⁷ Tool, Tool User Guide segment, Inputs, Non-tariff revenues.

⁸ Tool, Tool User Guide segment, Inputs, Subsidies/Grants/Contributions Received.

⁹ Tool, Tool User Guide segment, Calculations, Revenue Requirement.

¹⁰ Extant Regulation, r. 13(1).

¹¹ Tool, Tool User Guide segment, Calculations, Depreciation.

¹² Tool, Tool User Guide segment, Calculations, Depreciation.

¹³ Electricity Act, s. 232.

the body establishes regulations for mini-grids, the Tool will remain applicable to mini-grids in the states.

To the best of our knowledge, there is no state with regulations for mini-grids in Nigeria at present. There are, however, states each with a broad electricity regulatory framework. For example, Lagos State.¹⁴ Where a state eventually gets regulations for mini-grids, its electric power supply regulators can and should take a cue from and adopt or copy the Extant Regulations and the Tool.

Conclusion

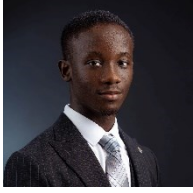
Over the years, the Rural Electrification Agency (“**REA**”) has, through Performance-based Grants, successfully deployed 103 mini-grids across Nigeria.¹⁵ Recently, the REA commissioned the first interconnected hybrid solar mini-grid plant in Toto community, Nasarawa State.¹⁶ The number of mini-grids deployed is expected to increase. The Commission’s adoption of the Tool further demonstrates the government’s commendable commitment to facilitating nationwide electrification, backed by data-driven, cost-reflective tariffs.

¹⁴ The Lagos State Government passed the Lagos State Electricity Bill, 2024 into law on December 3, 2024.

¹⁵ <https://rea.gov.ng/nep-solar-hybrid-mini-grid-component-reaches-milestone-103-mini-grids-successfully-deployed-across-nigeria/#:~:text=The%20REA%20has%20successfully%20deployed,rural%20and%20underserved%20regions%20of>

¹⁶ <https://nep.rea.gov.ng/first-interconnected-hybrid-solar-mini-grid-plant-commissioned-in-toto/>.

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