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Nigeria Electricity market insights (NEMI)

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No simple solutions: EMRC's review of the Nigeria Electricity Industry (NESI)

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The Nigerian Electricity sector has numerous inadequacies in meeting customer needs. In this opinion piece, the leading sector consultants, Energy Markets and Regulatory Consultants (EMRC), take a critical look at sector challenges and proffer solutions for a better future in 2020.

The key sector challenge in 2019 was inadequate metering, tariffs and liquidity, threat of large customer power supply switch, and upstream bottle necks.

1. Metering

N354bn required to close the metering gap in NESI

For many years, the lack of meters in the Nigerian Electricity Supply Industry (NESI) has led to customer dissatisfaction. Customers are hit with huge estimated bills and are unable to accurately determine their energy consumption.

The introduction of the Meter Asset Provider (MAP) was hailed as the solution to the metering problems, but progress has been glacial. Since the implementation of the MAP regulation on the 1st of May 2019, less than 100 thousand of the required 5 million meters have been installed.

What is limiting the MAP Implementation? Firstly, the original intention was to allow customers pay for meters in instalments as part of their electricity bills under the Meter Service Charge (MSC). However, no mechanism was put in place to actualize the MSC option. Secondly, there was a huge hike in

the import duty on meters in Nigeria – from 10% to 45%. With the capping of meter cost at N36,000 and N67,000 for single-phase and for three-phase meters respectively, MAPs are presently unable to pass through and recover higher costs. Together, these challenges have stifled the rollout of meters. The requirement of 30% of meter supply from local content (manufacturers) has also been a hurdle for the Discos. This initiative would have cushioned the impact of the import duty increase but the production capacity of local manufactures has not been established and most local manufacturers are also MAPs in Discos.

EMRC estimates an indicative amount required to bridge the entire metering gap in NESI at **N227bn**. However, following the increase of the customs duty and VAT, it comes to **N354bn**.

Less than 100,000 meters installed under MAP

EMRC's recommendation on achieving 100% metering in NESI is for Federal Government of Nigeria (FGN) to intervene in one of the following ways:

- Review the current import duty on meters.
- Provide subsidies to the MAPs/Discos (if the MAP regulation fails) to cushion the impact of the import duty hike.

- Review the local content requirement to meet current market realities.
- Handle the metering of electricity customers. A Metering fund can be set up to close the gap within the stipulated time in MAP regulation

Unless there is a change like those proposed above, it is difficult to see metering improve in 2020. The cap on metering prices and the customs charges have undercut the MAPs' business models.

2. Tariffs and liquidity

Electricity tariffs should be reviewed every six months to gradually incorporate changes in macroeconomic parameters (inflation, exchange rate, gas prices) and generation cost. While tariff reviews have been conducted, none have been implemented since February 2016. For four years, retail tariffs have remained the same, even though market conditions keep changing.

This creates two problems:

- The sector is accumulating huge debt for its participants. This means that when tariffs are reviewed to reflect market realities, it will be a huge shock to consumers. The longer tariff changes are delayed, the more painful the eventual change will be.
- Massive investment is needed to reduce losses and improve power supply. However, customers are paying less than the service costs, and so the lack of cash means this investment is not being made

Despite the unfavourable tariffs, NERC has set a minimum mandatory payment (MMP) for the Discos in settling market invoices. The Discos are currently struggling to meet this MMP as the calculation assumes significant loss reduction has already been achieved. Eight (8) Discos defaulted on MMP in the first month and were immediately sent a Notice of Intention to cancel their Distribution License by NERC. However, six (6) of the eight (8) have made payments leaving two (2) still defaulting. The question remains:

Can the MMP be sustained in subsequent months without crippling the Discos finance and operations?

The lack of cash in the sector means Discos cannot make necessary investments in loss reduction. The MPP has the assumption that Ministries, Departments, and Agencies (MDAs) pay complete bills, however this is not the case.

Part of the gap left by the MPP obligation is expected to be funded by N600bn FGN intervention. However, N600bn is inadequate compared to the N1.1trn tariff shortfall in 2019 and 2020.

N1.1trn tariff shortfall in 2019-2020

The regulator expects Discos to fund network improvements for loss reduction, but the parlous nature of their balance sheets means no bank would provide the capital.

Currently, it seems unlikely the Discos can continue to meet the unrealistic payment obligation. Without a change in the

regulatory approach, we anticipate further defaults in 2020. If Discos are only able to meet the payment obligation by deferring capital investment and operational requirements, then this payment obligation compliance may be storing up giant problems for the future.

Ultimately, tariffs need to reflect the true cost of power and network improvements will follow. A tariff increase has been mooted for April 2020, and it remains to be seen whether this will start to address the challenges.

3. Eligible customers

The current tariff structure requires industrial customers pay more for electricity to cross-subsidize the residential customers. Today, industrial customer wish to receive supply directly from generators not the Discos. However, to make this change they would need to pay outstanding debts and an ongoing compensation to the Discos to cover the cross-subsidy they would otherwise have been paying.

The transmission company (TCN) had challenged the Discos' right to supply grid-connected customers, but the regulator has

Payments from industrial & commercial customers to become cashless by the end Januarv 2020

ruled in favour of the Discos in the current market arrangements.

Nigeria has a customer mix of 9% industrial, 27% commercial and 64% residential. The Eligible customer regulation could imply an industry shift in focus from residential customer revenue to industrial and commercial customers revenue.

There is a risk that these large customers will cherry-pick the cheapest and most reliable power source, leaving other customers in a worse position. In our view, the eligible customer regulation may have been introduced too soon, and the regulator could reconsider the implementation until the sector is close to financial stability.

4. Upstream Bottlenecks

NESI currently has targets to achieve set grid milestones: 7000MW in 2021, 11,000MW in 2023 and 25,000MW in 2025.

- ***National Peak Demand Forecast is 25,790MW***
- ***Generation capability is 7,653MW***
- ***TCN wheeling capacity is 8,100MW***
- ***2019 average peak generation is 4600MW***

To unlock this stranded generation, it will be important for any future investment by TCN to be in areas where there is a proven and tested ability to accept more power. New grid generators may not help the situation, unless they are embedded in the Disco networks and can deliver directly to customers.

EMRC has identified the factors that have to be addressed across the value chain for the NESI to achieve the first and second milestones

Factors to be addressed:

Generation; Water availability, gas pricing and availability, interface issues, Forex, capacity charge issues and low remittance of Genco invoices.

Transmission; procurement of spinning reserve, interface issues (misalignment of TCN & Discos expansion plan), Acquisition of Supervisory Control and Data Acquisition (SCADA), system frequency control and network investment.

Distribution; Cost reflective tariffs, metering, Network investment, Regulations, and loss reduction.

The Siemens electrification roadmap (SERM) is for investment in transmission and distribution. This is a roadmap for Nigerian electrification defined by the Nigerian and German Governments through Siemens. The roadmap is structured in three phases. Phase 3 directly peaks to the journey to 25,000MW. It is targeted towards the development of the generation capacity with appropriate upgrades and expansions in generation, transmission, and distribution.

The intention is for the Federal Government to provide loans to TCN and Discos to undertake this work, so it won't be affected by the liquidity issues.

There are no simple solutions in the electricity sector, and it will require clear and consistent changes across all these areas of metering, tariffs and network upgrade to deliver the significant improvements that Nigerians expect

Energy Market and Rates Consultants Limited

A member of the MRC Group of Companies

Abuja, Edinburgh, Helsingborg, Madrid, Milan, Montevideo, Moscow, Rio de Janeiro, Auckland, Manila

Abuja Address: Suite 306, Midel Centre, Plot 14 Oladipo Diya Way, Sector Centre D, Gudu, Abuja, FCT

LinkedIn: @ Energy Market and Regulatory Consultants

T: +234 (0) 802 314 3987

Website: info@energy-mrc.com