

# Planning a Grid Nigerians Are Leaving Behind

## Three crucial gaps in Nigeria's first Integrated Resource Plan

**BLUF:** [Nigeria's first Integrated Resource Plan](#) (NIRP) recommends expanding the national grid tenfold by 2045. But it rests on three doubtful assumptions:

- That customers — already off-grid — will return to the grid.
- That a net-zero emissions target should shape near-term investment.
- And that capital will flow toward the cheapest resources.

The plan must reflect how Nigerians actually get power today, or it will misdirect investment toward a grid that arrives too late and no longer matches demand.

### Why It Matters

Nigeria's Ministry of Power published the NIRP to guide investment decisions in generation and transmission at a national level. But Nigerian states are already establishing their own electricity markets and consumers are investing in alternatives to the national grid. Today's infrastructure choices will shape the sector for decades, so a plan that ignores or misreads these shifts risks directing investment toward a power system that Nigerians increasingly do not use.

### The Plan Rests on Three Unrealistic Assumptions

- 1. The NIRP assumes Nigerians will stay on the grid → But the national grid is losing customers to self-generation, state-led power markets, and distributed solar.**

Grid-connected Nigerians still independently procure about half of the electricity they consume, mainly with diesel and petrol generators. The plan's answer is to increase grid generation tenfold and eliminate self-generation by 2035. That solution depends on customers returning as grid supply improves. However, customer behavior is already changing before the new grid capacity arrives.

Furthermore, the Electricity Act 2023 decentralized regulation. It empowered states to regulate electricity markets within their territories, and by February 2026, [18 states had passed electricity laws](#). These markets can authorize embedded generation, mini-grids, and captive power that compete with the national grid for customers and capital. The NIRP recognizes state devolution, but treats it mainly as a coordination challenge. It does not fully examine how redistributing regulatory authority changes the national grid's future role as the main electricity provider.

Solar investment is also changing the market. Distributed solar is becoming a way to bypass the grid and not just a tool for expanding access. [Nigeria imported 1.7 gigawatts \(GW\) of solar panels in 12 months](#) — the second-highest total in Africa. Even the federal government has launched a solar program covering public facilities. Consumers who have invested in solar and batteries will continue using them even if grid service improves.

Customer exit creates a separate financing problem for the grid. If higher-paying businesses defect or reduce their grid purchases, utilities lose customers who can support cost-reflective tariffs and help subsidize residential service. A stronger grid might eventually offer cheaper electricity, but its financial foundation could weaken before it arrives.

None of these changes makes the national grid redundant. It will remain essential for moving bulk power, balancing regional supply, and serving customers who cannot afford their own systems. But it will coexist with state markets, captive generation, mini-grids, and rooftop solar. Nigeria is likely to operate a hybrid system for years, so the plan should target eliminating diesel self-generation while including cleaner distributed systems in its demand and network forecasts.

**2. The NIRP assumes a goal to achieve net-zero emissions should direct Nigeria's near-term investment decisions → But climate targets distract from the more urgent tasks of replacing diesel generators, maintaining affordability, and improving reliability.**

The plan correctly identifies the country's most valuable near-term transition: replacing private fossil fuel generators with reliable public or distributed power. Generators cost roughly three times the grid tariff and pollute five times as much. The plan estimates that delaying their phase-out from 2030 to 2035 would add \$29 billion in system costs.

But the plan makes eliminating generators part of a longer pathway to net-zero emissions by 2060. The target changes which investments come first and narrows the options for providing firm power. A plan organized around net-zero asks which mix minimizes emissions. A plan organized around diesel displacement asks which investments can provide readily available and affordable electricity fastest. In Nigeria, that could mean retaining more gas and hydro in the near term, accelerating network upgrades, and integrating additional solar as storage becomes cheaper.

Nigeria does not need to abandon its climate commitments. But the government should compare the current net-zero pathway to a diesel-displacement pathway without a net-zero target and publish the effects on cost, reliability, and technology choices. Policymakers can then judge the trade-offs rather than treating the climate target as costless.

**3. The NIRP assumes the cheapest resources will attract investment → But political, geographic, and market realities suggest otherwise.**

The model correctly identifies northern Nigeria's low-cost solar and hydro resources. Accordingly, the plan places most new solar and hydro generation in northern Nigeria and gas generation in the south. It allocates \$79 billion (65% of total generation investment) to northern zones through 2045, supported by new north-south transmission.

But Nigeria's investment record suggests that capital doesn't automatically flow to where energy resources are cheapest. My [analysis](#) of electricity-regulator licensing data from 2017 to 2025 found that the South West and South South received more than 75% of newly licensed generation capacity in several years. The North East and North West remained marginal despite their strong solar resources and deep electricity poverty.

Investors do not choose projects on resource quality alone. They consider demand, payment risk, existing infrastructure, security, and the likelihood that a project will be completed on time. These factors continue to favor projects near established demand centers — mostly in the south.

If the plan expects the north to attract significant investment, it must identify and cost the transmission links, concessional finance, security arrangements, and risk guarantees needed to alter existing investment patterns. Without that bridge from model to market, the northern build-out is just a scenario, not a plan.

### Three Changes Would Make the Plan More Credible:

1. **Plan for a hybrid electricity system.** Include captive power, state markets, mini-grids, and distributed solar in demand forecasts and network planning, and test how continued customer defection would affect utilities' finances.
2. **Make diesel displacement the near-term objective.** Compare the current pathway with one that has no net-zero constraint. Publish the effects on cost, reliability, and technology choices.
3. **Cost out the northern investment package.** Specify the transmission, concessional finance, and security support required to attract capital to northern projects.

### Conclusion

The plan provides a useful national baseline for where to direct grid investment. Its next iteration should test whether consumers will return to the grid, show what achieving net-zero would cost on different timelines, and establish whether its northern investment assumptions are financeable. Without those tests, the least-cost system on paper may bear little resemblance to the one Nigeria actually builds.