



From bottlenecks to breakthroughs

Easing customs and financing challenges for renewable energy in Nigeria

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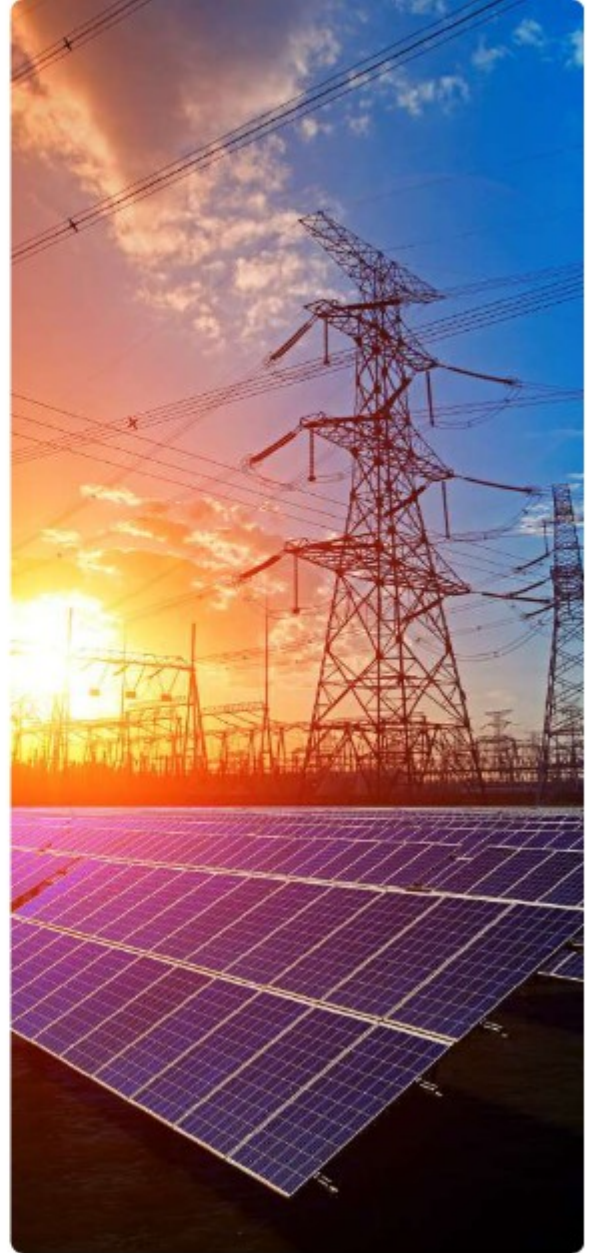
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Executive Summary

Nigeria faces one of the world's most pressing energy access deficits, with over 92 million people lacking reliable electricity. Solar energy offers a practical path forward – particularly in off-grid, mini-grid, and commercial segments – and Dutch companies are well-positioned to contribute. Yet despite strong technical capabilities and growing interest, their participation in Nigeria's solar market remains limited. This study, conducted under the Solar Combi Track initiative, explores the key barriers to trade and investment, and outlines practical recommendations grounded in the lived experiences of developers and financiers on the ground.

While the Nigerian government has made commendable policy reforms – including reaffirming zero-duty status for solar panels and launching a renewable energy import handbook – day-to-day customs practices remain inconsistent and costly. Developers continue to face misclassification of solar components, unexpected duties, and delays caused by limited institutional knowledge at ports. Documentation requirements are complex and fragmented, involving multiple agencies and shifting digital platforms. Although tools like the Advance Ruling system exist, enforcement and awareness among frontline officers are limited. For many importers, the official reforms have yet to translate into practical relief.



Even more fundamentally, access to finance remains the single most binding constraint for solar developers. Most projects – whether rural mini-grids or industrial solar systems – must be fully pre-financed, exposing developers to significant capital and performance risk long before any revenue is generated. High interest rates, short loan tenors, and heavy collateral requirements make local bank financing virtually inaccessible. While concessional funds and donor-backed programmes do exist, developers describe them as difficult to access, bureaucratic, and often misaligned with real business needs.

Stakeholders interviewed repeatedly called for working capital solutions, asset aggregation funds, and blended finance tools that include soft costs like customer onboarding and after-sales support. There is also a strong demand for Dutch-led coordination – to help structure viable, bankable projects at the right scale, and match them with local partners and financing. Developers emphasised that many promising opportunities never materialise simply because the transaction cost is too high or the deal size is too small.

Despite these challenges, the study finds that the potential for Dutch–Nigerian collaboration remains strong – provided solutions are practical, targeted, and co-created. If customs reforms are fully enforced, financing becomes more accessible, and trusted partnerships are built around shared risk and local knowledge, Dutch companies can play a far greater role in Nigeria's energy transition.

Introduction

Nigeria is Africa's most populous nation, but it also suffers from one of the world's largest energy-access gaps. About 92 million people lack access to electricity. In Nigeria almost half of the country's 230 million inhabitants are unserved by the grid, and only about a quarter of the national grid's 6 GW generation capacity is operational. To compensate, businesses and households rely on polluting petrol or diesel generators, leading to high costs, pollution and missed economic opportunities.

Solar energy presents a compelling solution. Nigeria has abundant sunlight and a burgeoning off-grid and mini-grid market; the African Development Bank has estimated that the country's off-grid solar sector alone could be worth more than US\$ 9 billion per year. Segmented demand further illustrates the sector's potential:

- **Residential:** Predominantly served by solar home systems (SHS) and PAYGo kits, typically up to 100W;
- **Commercial & Industrial (C&I):** Over 150 MW deployed via solar–diesel hybrid systems, with demand rising due to unreliable grid supply and rising diesel costs;
- **Mini-grids:** Expansion continues via public and donor-backed programmes such as the REA, DARES, and the Universal Energy Facility (UEF);

While an increasing number of Dutch companies are active across these market segments, their expansion remains limited – raising the question: what is holding them back, and why aren't more entering the market? While Nigeria's solar sector presents enormous long-term potential, several structural barriers remain -ranging from import classification challenges and inconsistent customs practices to infrastructure deficits and affordability issues.

By mapping these trade and market barriers in detail, this study aims to support ongoing policy dialogue and practical interventions under the *Solar Combi Track* initiative, enhancing Dutch participation in Nigeria's energy transition.



>90 million
Nigerians lack access to grid electricity



80%
of SMEs in Nigeria rely on diesel or self-generation



60–70%
of rural C&I projects prefer modular or rent-to-own systems

Methodology

The research combined a review of public reports, policy documents, and market analyses with 19 semi-structured interviews. Interviewees were asked about importation procedures, financing challenges, policy reforms, business models, and opportunities for Dutch–Nigerian collaboration. All interviewees consented to being named as participants in the study; however, no quotes are attributed to specific individuals.

1. Trade barriers

Some of the most significant trade barriers relate to importation/ customs and access to finance, thus we will discuss these separately. However, there are other barriers that impact the deployment of (Dutch) renewable energy technologies in Nigeria.

While customs procedures and access to finance are major hurdles for solar businesses in Nigeria, Dutch stakeholders also face a range of non-financial and non-tariff trade barriers that affect their ability to scale, compete, and form sustainable partnerships. The most important are related to cost, competition, awareness and policy inconsistency.

High cost of Dutch products and Chinese competition

One of the most frequently cited concerns among interviewees is the pricing disadvantage of Dutch solar technology. Dutch components are widely viewed as too expensive relative to both local purchasing power and cheaper Chinese alternatives. Even when the quality of Dutch systems is acknowledged, affordability remains the decisive factor in a price-sensitive market. As one respondent put it, *"Dutch technology is too expensive... not scalable. The Chinese are here, settled, and winning on cost."* One developer remarked, *"By the time products come from the Netherlands, they are very pricey. It simply means we cannot sell... people are now buying more Chinese products."*

Chinese companies dominate the Nigerian solar market, driven by aggressive state-backed export incentives, local warehousing, and logistical responsiveness. As one interviewee explained, *"They get 15–19% export subsidies and beat you on price."*

Chinese suppliers are also more adaptable in negotiations, sometimes offering credit or flexible payment options for established buyers. They provide larger, more scalable solutions, with one stakeholder noting, *"We're working on a 600 kW project – everything is Chinese. Their inverters are 150 or 250 kW, while the Dutch only offer 15 kW."*

Beyond pricing and scale, Chinese firms are viewed as more embedded in the market. Their willingness to provide after-sales support, respond to technical issues quickly, and even produce video explainers has built confidence. One interviewee mentioned: *"Their bureaucracy is short, delivery fast."* Another said, *"China makes it feel like you're getting goods from Cotonou."*



Several respondents advised that Dutch companies need to localise their operations, conduct better market pricing surveys, and be more open to partnership-based models rather than distant trading. One developer remarked, *"If Dutch companies want to succeed here, they need to stop trying to sell from Europe and actually come into the market."*

Policy and regulatory inconsistency

Despite a strong policy framework on paper, implementation remains fragmented and unpredictable. Developers reported confusion between federal and state-level mandates, overlapping licensing requirements, and shifting rules. *"There's no clear plan to standardise what is being done in Yobe, Enugu, Lagos..."* said one respondent.

The 2023 Electricity Act, which decentralises regulation to the states, has introduced new uncertainties, with some states now demanding additional licences and revenue shares. Regulatory limits also prevent developers from feeding excess power into the grid. As one stakeholder put it, *"You can't even feed excess power back into the grid and charge for it – that's not allowed."*

Another major risk is grid encroachment, where politicians extend the national grid into areas already served by private mini-grids. *"Politicians extend the grid for votes, even where developers already operate legally."*

Stakeholders also raised concern about abrupt policy shifts, such as the proposed 2025 ban on solar panel imports to boost local manufacturing. While local content is important, respondents warned that such moves -if poorly planned- could disrupt investment, strand inventories, and deter new entrants.

Weak Public Awareness of Solar Technology

A key non-financial barrier to solar adoption in Nigeria is the limited public understanding of how solar energy works. Many potential users are unfamiliar with system sizing, energy consumption, or the long-term cost benefits. As one stakeholder explained, *“People do not know how to translate KVA to load.”* This lack of knowledge creates a perception that solar is overly technical or unaffordable: *“They think solar is beyond their reach.”*

This perception – often referred to as the *“illusion of cost”* – is reinforced by poor access to trustworthy information and low visibility of functioning solar systems in everyday settings. It discourages informed decision-making and can lead to the underuse or mismanagement of installed systems.

Some companies noted that customer education is critical to adoption, especially in rural areas. As one interviewee remarked, *“You spend a lot of time explaining how the system works and what they’re paying for – otherwise, people don’t understand why their power shuts off when they turn on a fridge.”*

This gap in awareness also contributes to mismatched expectations, skepticism, and reluctance to switch from diesel or petrol generators. Without stronger communication efforts, even high-quality, cost-effective systems risk being overlooked. In the words of one developer, *“Until people see solar working in a neighbour’s house or shop, they won’t really trust it.”*

Lack of skilled labour and workforce capacity

Finally, several interviewees highlighted the shortage of skilled technicians and engineers in Nigeria’s solar sector. Less than 20% of installers are formally certified, based on industry estimates. Demand is growing, but training has not kept pace. Some companies invest in internal training programmes, but many newer firms rely on poaching staff from established players instead of building capacity – undermining sector stability and complicating the rollout of complex systems. Some 40–50% of complaints received by companies relate to faulty installations or substandard products, which impacts how solar products will be perceived.



While Dutch companies bring high-quality technology and valuable expertise, their ability to scale in Nigeria’s solar market is constrained by a complex mix of non-tariff barriers. These include high perceived costs, regulatory inconsistency, limited local capacity, and a market dominated by faster, cheaper Chinese alternatives. Without strategic adjustments – such as localisation, partnerships, and flexible financing – Dutch players risk being sidelined in a rapidly growing but highly competitive sector.

2. Customs and importation

Overall, Nigeria has taken meaningful steps in 2024–2025 to modernise customs procedures and reaffirm duty-free status for solar panels. However, inconsistent classification, high duties on related components, burdensome import processes and conflicting policy signals continue to hamper the renewable-energy sector.

“We’ve had projects stall for three months waiting for customs clearance.”

Import procedures and documentation

- 1. Company registration & pre-import requirements** – The importer must be a registered Nigerian business and work through an authorised dealer bank. Before importing, companies must obtain a pro-forma invoice, a bill of lading and packing list from the supplier, a manufacturer’s certificate (proving the goods are new), and a product certificate (PC) from an international accredited firm for SONCAP (Standards Organisation of Nigeria Conformity Assessment Programme). The PC is needed to open an electronic Form-M on the Nigerian Single Window trade portal.
- 2. Form-M and SONCAP** – The importer submits the Form-M through its authorised bank, which reviews the documents and forwards the request to the Nigeria Customs Service (NCS). If accepted, the exporter obtains a SONCAP certificate (proof that the goods meet Nigerian standards) before shipment.
- 3. Pre-Arrival Assessment Report (PAAR) & clearance** – After shipment, the importer requests a PAAR from Customs through the bank. Customs reviews the documents and issues the PAAR, after which the importer prepares a Single Goods Declaration (SGD), pays duties and levies (administrative charge of 1% of FOB value plus other fees), and submits the SGD and PAAR along with shipping documents for final clearance.
- 4. Related agencies and compliance** – Additional approvals include marine insurance, environmental import clearances and possible duty waiver requests. Failure to match HS codes across the Form-M, SONCAP and PAAR can lead to rejection or re-classification. The import process involves multiple agencies (Customs, Standards Organisation of Nigeria, National Environmental Standards and Regulations Enforcement Agency, banks, etc.), leading to complexity and delays.

Tariffs, equipment classification and exemptions

Equipment/ component	HS classification (official guidance)	Duty & VAT regime
Solar modules and panels	NCS clarified that panels, whether assembled into modules or fitted with diodes/ motors, fall under HS codes 8541.42.00.00 and 8541.43.00.00 , not heading 85.01.	0 % duty and VAT-free under the ECOWAS Common External Tariff (CET) 2022-2027. Misclassification can result in 5 % duty + 5 % VAT
Solar panels with diodes	Earlier rules subjected modules with diodes to 5 % duty , but the 2024/2025 circular clarifies that they still fall under HS 8541.42/43 and are exempt.	0 % duty & VAT (after clarification).
Other renewable technologies	Wind turbines: 15 % duty; hydropower turbines and biogas equipment: 10 % duty. Off-grid solar batteries often get misclassified as automotive batteries, attracting 20 % duty instead of lower renewable-energy rates.	Higher duty discourages diversification into non-solar renewables.
Raw materials for solar manufacturing	Photovoltaic cells are duty-free, but other inputs —tempered PV glass, EVA film, junction boxes, frames, silicone etc.—face significant import duties. Assembled panels can be imported duty-free, so foreign panels undercut local manufacturers	Duties on inputs inflate production costs and discourage local manufacturing.
Batteries & inverters	Battery and inverter classifications are not clearly defined; misclassification can mean paying general duties (e.g., 20 % for automotive batteries).	Absence of sub-codes leads to disputes and higher costs.

Recent reforms (2024-2025)

- **Handbook and trade facilitation measures (May 2025)** – At a stakeholder forum, the NCS launched a “Handbook on Import and Export Procedures for Renewable Energy and Energy-Efficient Technologies.” The handbook explains customs regulations, documentation requirements and tariff classification for clean-energy imports. NCS officials said the handbook and the Advance Ruling programme would reduce delays, clarify HS codes and align procedures with Nigeria’s Energy Transition Plan.
- **Advance Ruling and Unified Customs Management System** – The NCS rolled out a unified customs management system (B’Odogwu), an advance ruling system and an Authorised Economic Operator programme to modernise operations. Officials at the May 2025 forum stated that customs plays “a pivotal role” in facilitating renewable-energy technologies and will classify them under specific HS codes. The service also pledged support for the Green Customs Initiative and net-zero targets.
- **Clarification on solar panels (Sept 2024)** – Following confusion in 2024, the NCS issued a circular confirming that solar modules remain duty-free under HS 8541.42/43. Misclassification of panels under Heading 85.01 had caused some ports to impose 5% duty and 5% VAT; the circular overruled previous guidance.

“You can get hit with a duty on a solar product because they classify it as electronics.”

Misclassification and inconsistent practices across ports

One of the most widely reported issues is the arbitrary classification of renewable energy components. The absence of specific HS sub-codes for key equipment – such as batteries, inverters, and charge controllers – leads customs officers to apply incorrect categories. Solar batteries, for instance, are frequently treated as automotive batteries and charged 20% duty. Similarly, several importers were made to pay 5% duty and VAT on solar modules misclassified under heading 85.01, despite panels being duty free under HS codes 8541.42/43. The situation improved following a 2024 NCS circular, but implementation remains uneven.

Customs officers often lack the technical knowledge required to properly classify renewable energy components. Stakeholders consistently emphasised the importance of building institutional capacity if recent policy reforms are to yield practical results. As one developer put it, even with documentation, *“Customs may still classify wrongly – it depends on who you meet.”*

Persistent trade barriers despite reform efforts

Nigeria has made visible efforts in 2024–2025 to improve its trade environment for renewable energy technologies, particularly solar. The initiatives are meant to reduce delays, harmonise classifications, and signal alignment with the Energy Transition Plan. However, industry feedback paints a more cautious picture: while the policy direction is positive, the day-to-day reality at ports and customs offices remains riddled with inconsistencies, delays, and hidden costs that continue to undermine investor confidence.

Bureaucratic delays and border compliance costs

The importation process remains burdensome, especially for SMEs. Importers must navigate extensive documentation – including Form M, SONCAP certificates, PAAR, and multiple agency approvals – all of which must be processed through banks and authorised agents. A respondent noted that platform changes meant they *“had to hire agents because we could no longer file electronically ourselves.”* Customs-related delays are often compounded by port inefficiencies, congestion, and inconsistent application of procedures.

Border compliance for imports into Lagos averages 242 hours, far above the sub-Saharan Africa average. Demurrage and storage charges add substantial costs when goods are delayed. While new tools such as the customs handbook and Advance Ruling system may improve clarity, enforcement is inconsistent. As one importer noted, *“They launched the handbook – but the officers on the ground haven’t read it.”*

Although duty waivers exist for government or donor-funded renewable projects, the process to obtain them is opaque and time-consuming. Applicants must go through multiple layers of approval (Ministry of Finance, Customs), submit extensive documentation, and prove the project’s benefit to Nigeria. This process can take several months, and decisions are sometimes discretionary.

High duties on raw materials undermine local manufacturing

Ironically, while finished solar panels can be imported duty free, local manufacturers pay duties on most raw materials – including tempered glass, EVA film, junction boxes, and frames. This creates an uneven playing field and makes local production more expensive than imports, undermining Nigeria’s industrialisation ambitions and job creation potential. As one manufacturer observed, *“Why would I set up a factory when someone can import finished panels cheaper than I can buy the glass?”*

Despite important policy steps in recent years, practical barriers to trade in renewable energy persist. Misclassification, unclear sub-codes, high duties on components and raw materials, and bureaucratic complexity continue to undermine Nigeria’s renewable energy ambitions. If Nigeria is serious about positioning itself as a hub for clean energy investment, these issues must be addressed not just through policy announcements but through consistent implementation, streamlined processes, and strengthened institutional capacity on the ground.



3-6 months:
Typical customs
clearance delay
reported by some
companies



Up to ₦5 million:
Estimated losses from
penalties, equipment
damage, or demurrage
due to port delays



70-90%
of solar components
are imported from
China



2-3 times
increase in solar
panel prices between
2022 and 2024 due to
FX and import duties



5-15%:
Unofficial “facilitation
fees” often necessary
to expedite customs
clearance

3. Financing bottlenecks and interventions in Nigeria's solar sector

Access to finance: a precondition, not a luxury

For most solar developers in Nigeria, access to finance is not merely a growth enabler – it is a precondition for participation. Whether working on rural mini-grids or commercial and industrial (C&I) systems, developers are routinely required to pre-finance entire installations, taking on capital and performance risk long before revenue flows in.

In the mini-grid segment, projects must be fully deployed and commissioned before developers can claim performance-based grants from programmes like the Nigeria Electrification Project (NEP). The reimbursement process can take 18–24 months, tying up capital and limiting how many projects developers can deliver at once. As one interviewee explained, *"You must first bring your money, finish the project, and then wait for REA to verify and pay. It can take two years."*

A similar challenge exists in the commercial solar space. Clients – including factories, hospitals, and estates – increasingly prefer energy-as-a-service models, asking providers to build, operate, and maintain systems at no upfront cost, paying only per kilowatt-hour consumed. *"Even the industrial clients say: we're not paying anything. Give us power, and we'll pay per kWh,"* said one developer.

This model puts a heavy financial burden on providers. To scale effectively, developers need access to patient, affordable capital – especially equity, concessional debt, and working capital. Without it, even capable firms are unable to compete for opportunities or expand successful solutions

"We hear about these funds, but we don't know who to talk to..."

Key financing challenges

High cost of capital

Commercial lending rates in Nigeria typically range from 25–35%, with banks requiring substantial collateral. *"Accessing local currency financing... has not been easy because you have to look at the interest rates in Nigeria, which is one of the highest all over the world,"* one developer noted. Loans are often short-term – less than three years – while solar infrastructure requires long-term capital.

The high cost of finance reflects persistent inflation and a risk premium for what many banks still view as an unfamiliar sector. *"The interest rates are too high for you to do business with,"* said another respondent. Developers who seek international loans face currency mismatch risks, as revenues are earned in naira. *"You go to the international financiers, and then because of the currency... the volatility makes it difficult again to get all on board."*

Limited local currency debt and equity

Local banks remain cautious. *"Access to capital is a fundamental problem doing business in Nigeria,"* one respondent observed. While a few institutions – such as Sterling Bank and FCMB – offer dedicated solar loans, terms are often prohibitive. *"My Bank is already asking me for collateral which is like 150 percent... if I had that, I wouldn't be asking for money."*

Equity is also scarce. *"We have a lot of debt financiers, but we still lack equity investors who are ready to open the skin again,"* one interviewee said, highlighting the lack of long-term, risk-tolerant capital.

Others pointed to the opacity of financing channels, especially where donor funds are routed through layers of institutions. *"Fund managers are hiding behind other funds... you can't even talk to the actual people managing the money."* This indirect access adds cost, delays, and discourages smaller players from applying.

Consumer financing gaps and revenue risk

Most Nigerians cannot afford to pay upfront for solar systems. While PAYGo and microfinance loans exist, they remain limited in reach and are often expensive. *“We need institutions that can lend directly to entities like us at lower rates,”* said one developer, underscoring the need for accessible, end-user finance.

Even when systems are installed, revenue inconsistency is a concern. Developers stressed that mini-grid viability depends on reaching communities with enough paying customers. *“Mini-grids must serve enough people that can pay,”* one explained. *Seasonal income patterns also impact consumption. “In rural areas, your customers may not have money to buy electricity during the rainy season.”*

As a result, developers increasingly prioritise communities with productive use potential, such as agro-processing or commercial activity. *“You can’t rely on households alone; the project won’t survive,”* one stakeholder said.

Awareness and bureaucratic challenges

Even when financing exists, developers often struggle to access it. *“The Solar Energy Fund by the Bank of Industry is difficult to access due to a lot of documentation... the process is cumbersome,”* said one respondent. Others cited delays, changing requirements, and unclear eligibility criteria among the different financial providers. *“You submit everything they ask for, and then they say come back in three months. But by then, your project is gone.”*

Well-established companies also expressed frustration with inconsistent processes and short tenors. Some funds require steep security. For example, the BoI Solar Fund demands 20 % equity and 10 % cash security, excluding many small or mid-sized players.



6–24 months:
Typical payment delay for donor or public projects



25–35%:
Commercial bank interest rates faced by solar companies



>100%: Collateral requirement from many Nigerian banks



20–25%: Share of total project costs eaten up by customs clearance, in some cases

Major financing programmes and interventions

Intervention	Key Features
Nigeria Electrification Project (NEP)	Offers results-based finance through minimum subsidy tenders and performance-based grants for mini-grid developers, and an output-based fund for SHS providers. Projects must be pre-financed.
CBN Solar Connection Facility	Offers long-term, low-interest credit (up to 10 years, ~9% interest) for mini-grid and SHS projects, covering up to 70 % of capital costs.
Solar Power Naija (CBN/REAN/REA)	Offers 10 % credit to manufacturers and assemblers (10 years) and SHS distributors (3 years).
InfraCredit Clean Energy Programme	Issued a ₦ AAA-rated green Sukuk in 2024 with a first-loss guarantee to fund 850 kWp of mini-grids and attract institutional investment.
All On & GEAPP DART	\$10 million programme supporting bulk procurement, discounted equipment, and developer finance. By June 2023, supported 25 mini-grid projects and 2,700 SHS systems.
Green Energy Fund & Other Blended Finance	African Guarantee Fund's facility via Access and Wema Banks. Others include Sunref, SunFunder, Nithio, and Sun King. Partial risk guarantees also available.
BoI Solar Energy Fund	₦6 billion fund offering loans at 9 % (BoI direct) or up to 15 % (via PFIs), but with strict collateral and equity requirements.
PAYGo & MFIs	PAYGo models available but limited by poor mobile money infrastructure. MFIs (e.g. LAPO, Grooming Centre, Olive) offer loans at high rates with limited reach.
Sun King – IFC/Stanbic Loan	₦80 billion local currency loan announced in May 2025 to reduce FX risk for PAYGo customers.

“We’re pre-financing our projects for two or more years. That’s a lot of risk.”

Plenty of funds – but limited access on the ground

Despite an abundance of solar financing initiatives, many developers struggle to access support in practice. Donor-backed programmes, green investment vehicles, and concessional loans are widely publicised – but rarely felt where they are most needed.

As one developer remarked, *“There’s money everywhere – you hear of this fund and that facility – but try to access it, and it’s like they don’t exist.”* Application procedures are often opaque and inconsistent. “You submit everything they ask for, and then they say come back in three months,” another said.

Developers also described bureaucratic hoops and shifting goalposts, with eligibility rules that vary across banks, ministries, and intermediaries. *“Fund managers are hiding behind other funds,”* one stakeholder explained. Smaller players are particularly disadvantaged, lacking the networks or capital to navigate complex processes.

Unless financing mechanisms become more transparent, predictable, and aligned with real business needs, the gap between policy ambition and on-ground access will persist – and the sector’s potential will remain under-realised.



4. Current reforms and their effectiveness in resolving sector-specific issues

Over the past several years, the Nigerian government and its partners have rolled out various reforms to improve the business environment and expand energy access. These include nationwide regulatory streamlining through PEBEC and targeted electrification support through the Nigeria Electrification Project (NEP) and the Rural Electrification Fund (REF). While these initiatives mark important progress, their effectiveness in addressing solar sector-specific challenges – such as customs inefficiencies, regulatory inconsistencies, and deployment hurdles – remains uneven. This chapter reviews two of the most relevant interventions and how they are perceived by industry stakeholders.

PEBEC and Business Facilitation Act

The Presidential Enabling Business Environment Council (PEBEC) was established in 2016 to simplify doing business in Nigeria. Its key achievements include the Business Facilitation Act 2022 and, more recently, the launch of the Ports and Customs Efficiency Committee (PCEC) in April 2025. This committee brings together Customs, the Nigerian Ports Authority, and PEBEC to reduce cargo dwell time, harmonise documentation, and implement a national Port Community System to digitise import and export processes.

Effectiveness

PEBEC reforms have improved overall business processes – such as company registration and tax compliance – but their impact on solar-specific trade bottlenecks remains limited. Developers welcomed the intentions behind the PCEC but described slow and inconsistent implementation. *“There are a lot of committees, but we don’t see the changes on the ground yet,”* said one stakeholder.

Some voiced frustration that structural transaction costs remain high. *“Transaction costs in Nigeria are simply too high. The reforms must reduce that if we want to grow,”* a developer noted. However, others offered a different perspective. *“The cost is the same all over Africa – Nigeria is not even the worst,”* said a representative from a Dutch company. Most developers agree that waiting for ideal conditions is not an option. *“You have to design your model to work despite the inefficiencies,”* one respondent put it.

In summary, PEBEC’s reforms are a step in the right direction, but solar players see them as background improvements. Critical operational issues such as inconsistent port practices, misclassification of components, and lack of coordination across trade agencies require more targeted interventions beyond the general business reform agenda.



Key opportunity areas:
C&I, public sector/donor-backed projects (e.g. healthcare, schools) and mini-grids



2–3 years timeline:
Suggested minimum commitment period for new market entrants

Nigeria Electrification Project (NEP) and Rural Electrification Fund (REF)

NEP, funded by the World Bank and implemented by the Rural Electrification Agency (REA), provides results-based financing to off-grid solar developers. It includes performance-based grants for mini-grids, output-based subsidies for SHS providers, and minimum subsidy tenders for competitive procurement. REF, managed by REA, supports smaller rural electrification projects through funding calls. Together, NEP and REF have delivered over 1 million SHS installations and connected dozens of communities through solar mini-grids.

Effectiveness

Among public interventions, NEP and REF are consistently viewed as the most effective. Developers commended REA’s transparency, professionalism, and technical support. *“REA is the only government agency that’s really trying. You might not get your money fast, but they follow due process,”* one developer said. Another shared, *“We built our first mini-grid because of NEP. That was the confidence we needed.”*

However, both programmes come with constraints. The requirement to pre-finance projects excludes smaller firms without access to affordable capital. *“The REA platform is not designed for tiny players,”* a stakeholder commented. Developers also pointed to documentation burdens and lengthy reimbursement timelines, which can deter new entrants. Overall, while NEP and REF have delivered real results, they have not eliminated the systemic issues that make solar deployment expensive and risky – particularly for smaller operators.

Nigeria's reform agenda has delivered a mix of promising frameworks and operational gaps. While PEBEC has streamlined general business processes, it has yet to address many of the specific regulatory and logistical hurdles faced by solar companies. Meanwhile, NEP and REF have demonstrated how targeted public-private collaboration can deliver measurable results, but access remains limited to well-capitalised firms.

The broader consensus among developers is that conditions in Nigeria are challenging but not exceptional by regional standards. Most stakeholders no longer expect the business environment to be perfect – they focus instead on how to succeed despite inefficiencies.

Going forward, Nigeria's solar sector would benefit from more tailored implementation of reforms, especially around customs, classification, and port operations. Generally, there must be sustained coordination between trade, energy, and finance authorities to align reform efforts with sector realities

However, as one developer summed it up: *“You can't wait for the system to work. You have to make your project work inside the system.”*

“It's not that the policies are bad – it's that implementation is slow.”



5. Recommendations for trade & investment facilitation

This final section translates stakeholder insights into concrete, realistic actions to improve trade facilitation and unlock investment in Nigeria's solar sector. The recommendations are drawn directly from the experiences, challenges, and solutions offered by the developers, financiers, and local experts interviewed.

Fix customs classification and documentation gaps

What stakeholders said

Developers consistently flagged the misclassification of equipment as one of the most frustrating issues they face. Items like batteries, inverters, and charge controllers are still routinely charged under automotive or generic categories, attracting 10–20% duty. Even when rules are clear, customs officers often apply them inconsistently. One respondent explained, *"They tell you there's no duty, but Customs has a different understanding of what it is."* Another added, *"You must fight at the port. And that's every single time."*

Action points

- Support training for customs officers and clearing agents on renewable energy components and exemptions.
- Work with the NCS and Ministry of Finance to introduce dedicated HS sub-codes for solar components to prevent misclassification.
- Push for full rollout of the Advance Ruling system, with quick response timelines for solar equipment classifications.
- Pilot a pre-approved equipment (and company!) list for faster clearance of standard solar items.

Improve access to capital – and package opportunities more strategically

What stakeholders said

Access to long-term, affordable finance remains one of the toughest barriers for solar developers. Companies are often required to pre-finance entire systems, whether to qualify for performance-based grants or meet energy-as-a-service models where revenue only comes later. One developer noted, *"We still lack equity investors who are ready to put skin in the game."*

Others pointed out that many finance facilities don't include soft costs, such as customer engagement, transport, and after-sales service – which are often more expensive than the equipment itself. There were also repeated calls for working capital facilities that allow developers to bridge the financing gap between project delivery and revenue receipt.

A Dutch developer and others noted that project scale is critical. *"For Dutch products to be viable, you need projects of 1–5 MW. That's when the cost and paperwork of Dutch financing starts to make sense,"* one stakeholder said.

Finally, a recurring theme was that Dutch companies too often respond to fragmented, donor-led opportunities – rather than taking the lead to structure bankable projects from the outset. *"For Dutch products to be viable, you need projects of 1–5 MW. That's when the cost of Dutch financing and products starts to make sense,"* said one developer. Others called on the Dutch embassy or a neutral platform like the Solar Marketplace to pre-quantify and package viable projects, so that Dutch companies are not navigating the market blind.

Action points

- Establish a Dutch working capital facility or bridge fund to support pre-financing for developers implementing mini-grid and C&I projects in Nigeria.
- Develop an asset aggregation model (e.g. asset management fund or portfolio vehicle) to reduce transaction costs and help Dutch investors take equity in bundles of systems, not one-off projects.
- Facilitate the formation of Dutch company consortia, allowing multiple SMEs to deliver parts of a single project – and share risk, compliance, and costs.
- Design investment vehicles that cover soft costs, including logistics, customer acquisition, training, and ongoing maintenance – not just panels and batteries.
- Structure projects first, then locate them – for example, identify a viable mini-grid or C&I model, assemble a project team and financing, and then work with Nigerian partners to find the best-fit site or region.
- Use the Solar Marketplace or Consulate platform to pre-quantify opportunity pipelines, screen for commercial viability, and prepare key documentation (demand data, load profiles, regulatory status) before engaging Dutch firms.
- Offer technical assistance for transaction readiness, including bankable proposals, risk allocation, and compliance support – especially for smaller developers

“Don’t come for short-term profit...”

Reduce the price gap and demonstrate added value

What stakeholders said

Dutch products are widely viewed as too expensive. *“You’re six times more expensive than what they can pay,”* said one developer. However, some interviewees noted that Nigerians are willing to pay for quality – if it’s clearly explained. *“European brands are trusted, but they must justify their cost.”*

Action points

- Co-invest in high-visibility anchor projects (e.g., hospitals, agro-hubs, or C&I estates) that demonstrate durability and cost savings.
- Offer joint after-sales service arrangements with local partners to improve confidence and reduce support costs.
- Pursue bulk procurement and demand aggregation models to reduce unit costs for Dutch suppliers.
- Partner with Nigerian assemblers to explore localisation of key components (e.g., frames, junction boxes, batteries).

“Start small, learn fast...”

Build real partnerships – not just trading relationships

What stakeholders said

There was a strong call for Dutch companies to take a more embedded approach. *“Don’t just send brochures,”* said one developer. *“Come and set up an office. Be present. Visit people. Build trust.”* Several expressed frustration with one-off transactions or market scoping missions that didn’t lead to real collaboration.

Action points

- Encourage Dutch firms to appoint local representatives, not just distributors.
- Prioritise joint ventures, contract manufacturing, or R&D partnerships, especially with trusted Nigerian players.
- Support platforms that match Dutch companies with vetted Nigerian partners, especially in underserved states.
- Frame Dutch support as long-term and partnership-driven, not purely commercial.

Align technical assistance with developer needs

What stakeholders said

Several respondents pointed to a gap between available financing and companies' ability to meet requirements. *"We don't need more money we can't access. We need help getting bankable."* Others requested support with legal templates, cashflow modelling, or grant writing.

Action points

- Provide technical assistance to strengthen project pipelines, including training on financial structuring, grant applications, and risk assessment.
- Facilitate shared services (e.g., legal, accounting, engineering audits) for smaller developers applying to larger funds.
- Offer market intelligence on policy changes and regulatory risks, particularly under the new Electricity Act.
- Link Dutch universities or consultancies with Nigerian solar firms for mentorship and technical backstopping.

The message from the ground is clear: developers are not asking for handouts – they are asking for clarity, fair rules, patient capital, and partnerships that work in real-world conditions. Dutch–Nigerian cooperation can deliver on all these fronts – but only if grounded in practical realities and co-created with those doing the work.



Conclusion

Nigeria's energy deficit presents both a critical development challenge and a major commercial opportunity. Solar solutions are already delivering results across the country – from rural mini-grids to commercial rooftop systems – but the scale of deployment remains far below what is needed. Dutch companies, with their reputation for quality and innovation, are well positioned to contribute meaningfully to this effort. However, for that potential to be realised, persistent trade and financing barriers must be addressed head-on.

This report has shown that while Nigeria's policy environment is improving on paper, gaps remain between reform and implementation, particularly in customs practices, documentation, and regulatory consistency. Access to finance continues to be the greatest bottleneck, with developers required to pre-finance entire projects while navigating high interest rates, limited equity, and cumbersome funding processes.

Yet, stakeholders are not asking for perfect conditions. In fact, they acknowledge that some things may be more challenging or costly in Nigeria, but that a business model must be viable in spite of this. However, they are asking for clarity, workable financing models, and genuine partnerships. Solutions exist. With the right blend of targeted policy advocacy, de-risking instruments, and Dutch–Nigerian collaboration, it is possible to reduce friction, unlock private investment, and scale deployment at the speed the market requires.

The way forward will depend not just on removing obstacles but on structuring opportunities. Dutch actors have a role to play in helping package bankable projects, supporting local partners, and ensuring that quality solutions can thrive – not just in theory, but in practice.



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