

Unlocking Renewable Energy Access in Nigeria

Barriers and Breakthroughs in Naira-Based Concessional Loan Deployment



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Executive Summary

This report analyses the role of local currency concessional finance to unlock access to renewable energy in Nigeria despite high lending risks, limited institutional abilities, and weak awareness in the market. It forecasts new advancements in capital flow in blended finance, digital automated lending, and repayment terms based on impact. Strategic suggestions include increased risk management, streamlining of activities, and coordination across stakeholders. Aligning finance to local opportunity, concessional lending can help Nigeria's energy transition, support inclusive economic growth, and create long-term climate and social returns.

Introduction

Nigeria, a country blessed with resources that can sufficiently solve her energy challenges still grapples with energy poverty. According to the International Energy Agency (IEA), 140 million people in Nigeria do not have access to energy, that is 71% of the country's population. Energy access here means people's ability to access modern energy services, including electricity, clean cooking facilities, and modern fuels [1]. This energy inaccessibility has had a significant negative impact on economic development. With the growing population in the country, energy demand will definitely increase and the need to integrate various renewable energy (RE) technologies has become obvious.

Importance of Concessional Finance for RE Adoption.

Around the world, concessional funding is essential to the creation and execution of renewable energy projects. It describes financial aid that is given on conditions that are far more favourable than those of market loans, usually with longer payback terms, reduced interest rates, or even grants. In the context of renewable energy, where high upfront costs and lengthy payback periods may discourage investment, this kind of financing is especially important[2].

High initial expenditures and perceived risks are two major financial obstacles that renewable energy projects frequently encounter. Concessional financing lessens the financial strain on project developers, which helps to lessen these difficulties. This accelerates the shift to a more sustainable energy mix by increasing the viability and appeal of renewable energy projects to investors.

For renewable energy projects, concessional financing is essential to closing the financial gap. For investors, the substantial upfront costs associated with renewable energy infrastructure, such as solar panels or wind farms, can be a major turnoff. Concessional financing lowers the cost of capital for these projects by offering funding at below-market rates, increasing their viability from an economic standpoint[2].

Nigeria's renewable energy sector faces barriers like high capital costs, regulatory gaps, and limited technical expertise, hindering sustainable energy access [1]. Concessional financing, offering low-interest loans, mitigates these challenges but often overlooks gender disparities [2]. Women, particularly in rural Nigeria, face restricted access to finance due to low financial literacy and societal norms. Solutions include gender-responsive financing schemes, such as microloans for women-led households, and training programs to enhance women's technical and financial skills. Partnerships with local vendors can build trust, ensuring inclusive, equitable energy transitions [2].

Barrier Analysis

Regulatory and Policy Gaps: In many countries, inconsistent or under-implemented RE finance policies undermine investment in clean energy by increasing perceived risk and reducing investor confidence. Frequent changes or weak enforcement of financial incentives such as feed-in tariffs, loan guarantees, or green bonds lead to regulatory uncertainty, deterring both public and private financing [3][4]. Moreover, policy fragmentation, especially in developing nations, results in weak

financing environments and limited bankable projects, further obstructing renewable energy deployment [5][6]. To unlock capital and accelerate the energy transition, robust, stable funding frameworks are essential.

There is a growing disconnect between the financing guidelines issued by Nigeria's Central Bank (CBN) and the Bank of Industry (BOI) and the actual needs of the renewable energy sector. While these institutions provide funding frameworks, they often lack alignment with market realities such as flexible repayment terms, risk guarantees, and capacity-building support. This mismatch limits access to finance for small and medium-sized clean energy enterprises, slowing sector growth [3]. A more responsive policy design that reflects on-ground challenges is essential to catalyse private investment and meet Nigeria's energy access and decarbonisation goals [4].

Capital and Lending Risks: In Nigeria, the inadequate capitalisation of banks significantly constrains renewable energy (RE) financing. Deposit Money Banks (DMBs), with limited capital buffers, struggle to extend long-term credit required for capital-intensive RE projects, which often have longer payback periods and higher perceived risks. [7] found that well-capitalised banks are better positioned to create credit, whereas undercapitalised ones face liquidity pressures and reduced lending capacity. This shortfall limits the flow of funds to the RE sector, particularly to small and medium-scale developers, slowing the transition to sustainable energy. Strengthening bank capital bases could enhance credit access for RE investments.

Lenders see RE projects as high-risk due to unproven technology, long payback periods, and volatile policy landscapes [8]. In Ghana, financiers cite "long payback periods," "limited track record," and "high upfront cost" as key deterrents [8]. More broadly, in developing economies, exaggerated macroeconomic risks like currency swings and weak regulatory frameworks inflate cost of capital, even when project-level risks may be moderate [9]. Compounding this, banks struggle with scant data and expertise in assessing RE portfolios, further amplifying perceived uncertainty [10][11].

Interest Rates and Tenor Mismatch: In Nigeria, loan terms offered by financial institutions are often misaligned with the cash flow realities of renewable energy (RE) projects. Most banks provide short- to medium-term facilities, typically three to five years, with high interest rates exceeding 20% [12]. However, RE projects, especially solar mini-grids and utility-scale installations, have longer payback periods of 7–15 years, requiring patient capital [13]. This mismatch strains developers' ability to service debt from project revenues, discouraging investment and scaling. Aligning loan tenures and repayment structures with RE cash flow cycles is essential to improve bankability and attract private capital into the sector.

Financial institutions and businesses in Nigeria face real hurdles when seeking long-term loans in naira. Many lenders lean on foreign-denominated financing due to limited capacity to manage currency risk locally [14]. This reluctance is due to underdeveloped domestic capital markets and an inability to hedge against volatile exchange rates. As a result, projects especially in sectors like energy and infrastructure that would benefit from naira financing often struggle to secure funding aligned with their cash flow timelines. Without deeper local markets, accessing viable, long-term

naira loans remains a significant barrier.

Technical and Market Limitations: One of the biggest problems that stops the growth of sustainable energy in Nigeria is an absence of technical knowledge. The specialised skills needed to properly plan, evaluate, and oversee RE projects are simply not taught to many local developers and financiers. "Skills shortages related to knowledge transfer and upskilling capacity are a constraint to unlocking private funding" for RE initiatives is also highlighted in the Nigeria Energy Transition Plan [15]. Developers find it difficult to create dependable, bankable projects that meet investor expectations in the absence of deeper technical capacity, from electrical engineering to project finance.

Consumer Awareness and Financial Literacy: Many low-income consumers still don't know what financial services exist, or how to use them. Even when they have access to a savings or transaction account, awareness remains low, and usage is often minimal. The World Bank notes that millions are still excluded not just because institutions aren't available, but because people simply don't understand the benefits or how to engage with them through lack of information, trust, or financial literacy [16]. Without better awareness campaigns and consumer education, creating sustainable access won't translate into meaningful financial inclusion.

Many Nigerians still struggle when things go wrong like busted meters or shoddy solar setups, because there's limited awareness of their rights or access to support for fixing issues. The KPMG report highlights that consumers have little trust in local service providers due to poor product quality and weak structures for redress. Without clear, reliable channels to make complaints or demand maintenance, even when official protections exist people feel powerless and often just endure substandard service in silence [17].

Global and Regional Lessons

Kenya: PAYGo financing

In Kenya, the magic of PAYGo (Pay-As-You-Go) financing is powered by mobile money and clever tech to make clean energy accessible in refreshingly flexible ways. Instead of hefty upfront costs, families pay small daily or weekly amounts via mobile wallets, spreading payments over time in line with their cash flow. Thanks to this digital-first model, even people without formal bank access can bring home solar systems or clean cookstoves. Repeat use builds their transaction history and trust, paving the way for future services and upgrades. It's a fintech-powered solution that meets people where they are [18].

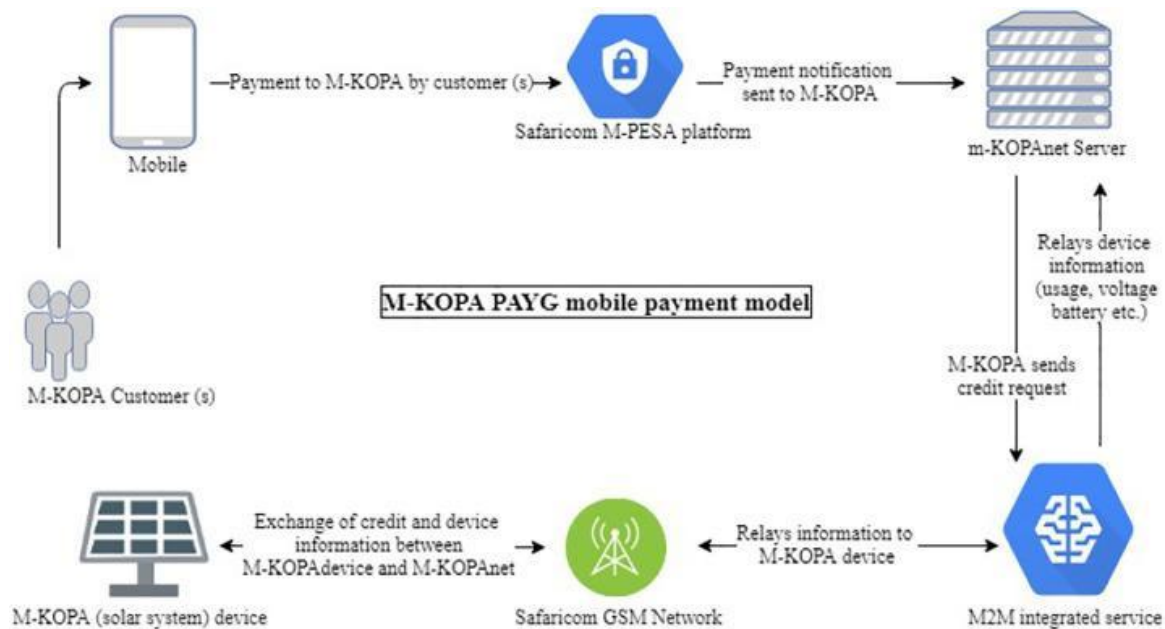


Fig 1: M-KOPA Pay As You Go mobile payment Model [19]

Nigeria:

1. Solar Power Naija initiative

The Solar Power Naija Programme is a bold national effort to connect 5 million off-grid homes to clean solar energy, reaching about 25 million Nigerians. Launched as part of the Economic Sustainability Plan, it pairs long-term, low-interest loans from the Central Bank of Nigeria with government incentives to finance Solar Home Systems and mini-grids [20]. The initiative also boosts local economic development by growing the solar manufacturing and assembly industry and fostering 250,000 new jobs [20]. It showcases how tailored concessional financing, aligned with national goals, can drive renewable energy and socioeconomic growth in Africa.



Fig 2: Advantages of developing a domestic solar value chain [21]

2. AllOn and Lumos SHS models

Think about getting solar energy just like a mobile phone plan—you pay a small initial fee and then easy daily or monthly installments through your mobile line until you fully own the system. That's exactly what Lumos does. In partnership with AllOn and telecom giant MTN, they've rolled out a flexible, tech-savvy PAYG model in Nigeria. This setup brings clean, reliable solar power to hundreds of thousands. Highlights include over 88,000 solar systems installed, 7 MW of cumulative solar capacity, and benefits reaching more than a million people. It's private innovation and smart financing at its best, making clean energy affordable and accessible [22].

Strategic Recommendations

a. Policy Reforms: Nigeria's renewable energy market needs smarter, better-aligned financing. First, concessional loan policies from the Central Bank of Nigeria (CBN) and Bank of Industry (BOI) should be streamlined in partnership with the Renewable Energy Association of Nigeria (REAN) to ensure terms match sector realities—like longer tenures and flexible repayment [12]. Second, introducing risk guarantees and blended finance tools can draw in private capital by reducing lenders' exposure to early-stage project risks [23]. Together, these steps can unlock large-scale investment, lower financing costs, and accelerate clean energy deployment across the country.

b. Financial Innovations: Picture a smart, centralised RE Aggregation Facility that brings together multiple smaller solar and mini-grid developers under one financing umbrella. By pooling demand, buyers benefit from bulk purchasing of equipment and shared logistics, driving down costs and improving delivery timelines. The facility then leverages this purchasing power to negotiate concessionary, naira-based loans with favorable terms (e.g., multi-month moratoriums and reasonable interest rates) matched to project needs. This structure not only streamlines access to credit, but also unlocks scale economies, reduces risk for both lenders and developers, and accelerates renewable expansion across Nigeria.

Green bonds and impact-linked loans in local currency can accelerate Nigeria's low-carbon transition by reducing foreign exchange risk and making sustainable finance more accessible. Green bonds, aligned with the Climate Bonds Standard, have already mobilised over ₦58 billion for renewable energy, afforestation, and resilient infrastructure projects [24]. Impact-linked loans, where repayment terms improve upon achieving environmental or social targets, could further incentivise performance. Issuing these instruments in naira enables broader participation from local investors, strengthens domestic capital markets, and channels funding into projects that advance the nation's climate and sustainable development commitments.

c. Capacity Building: Building capacity is critical for unlocking renewable energy finance in Nigeria. Banks need targeted training to assess renewable energy project risks, including technical performance, policy stability, and cash flow reliability [25]. Equipping lenders with these skills improves credit appraisal and confidence in the sector. On the other side, renewable energy developers require support in crafting strong proposals and bankable business plans that align with financiers' requirements [26]. This dual approach of strengthening both financiers' risk assessment abilities and developers' project preparation creates a shared language, reduces transaction costs, and increases the flow of capital into sustainable energy solutions.

d. User-Centered Models: User-centered renewable energy financing models put people at the heart of design. Mobile loan tools make credit accessible and flexible, while linking repayment to productive uses like agro-processing or small business operations, ensures income generation for borrowers [27]). Partnering with trusted local vendors builds community confidence and ensures reliable after-sale support [28]. Gender-responsive financing schemes, tailored for women-led households and enterprises, address structural barriers to credit and amplify social impact [29]. By aligning finance with user needs, trust, and inclusion, these models boost adoption rates, repayment performance, and long-term sustainability in renewable energy access.

Conclusion

Concessional finance offers a transformative pathway to bridge Nigeria's renewable energy gap, but the urgency cannot be overstated. With climate risks mounting and millions lacking reliable power, timely action is essential. Beyond isolated interventions, a coordinated ecosystem linking banks, developers, regulators, communities, and development partners can unlock scale and efficiency. This means harmonising policies, building technical capacity, and aligning incentives across the value chain. Stakeholder collaboration should move from dialogue to action through well-designed pilot programs that test, refine, and scale innovative financing models. If embraced collectively, concessional finance can catalyse a just energy transition, expand economic opportunities, and secure a more sustainable and inclusive future for all Nigerians.

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