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Sustainable Finance in Nigeria: Overview, Enablers, Benefits and Challenges

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ABSTRACT: Sustainable finance is a key tool to link financial decision-making with environmental integrity, social inclusion and long term economic resilience. Its agenda is consequential for Nigeria: the country's challenge is to increase energy access, infrastructure, employment, productive investment, accommodate vulnerability to climate change, curtail pollution, biodiversity loss and the risks of a gradual global shift from high-carbon activity. This conceptual review analyzes sustainable finance in Nigeria using Nigerian policy and market documents, and selected international research and standards. It defines the concept and scope of sustainable finance; outlines key instruments and institutional enablers of sustainable finance; evaluates the environmental, economic, social and financial-stability benefits of sustainable finance; and explores potential barriers to ensuring capital flows into sustainable finance that impact its ability to generate tangible

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development results. The review views Nigeria's sovereign green-bond issuance and its Sustainable Bond Framework as a measure of institutional development but not as an indicator of the current state of the green-bond marketplace or a guarantee of a sustainable financed outcome. The analysis pinpoints recurring difficulties related to long-term capital, the availability of currency and macroeconomic risk, hurdles in project preparation, the lack of reliable sustainability information, skills deficits, scattered coordination and poor monitoring as well as the potential of "green washing. Suggests a context specific approach based on five elements: policy credibility, project pipelines that can be invested, financial intermediation, disclosure and verification, inclusion, and outcome measurement. The main thrust is not only the amount of labelled instruments, but also the additionality, integrity, affordability and distributional equity of sustainable finance and iAl-Amin (2025) independently demonstrated environmental and social outcomes in Nigeria. The article ends with policy priorities and a research agenda to further build a more credible, inclusive and developmentally robust sustainable finance ecosystem.

Keywords: *Sustainable Finance, Green Bonds, Climate Finance and Sustainable Development.*

Introduction

Capital allocation is development not-neutral. The organization of which firms get credit, the development of infrastructure, the pricing of risks and the communities served affect economic opportunity and environmental pressure. Sustainable finance, which has been defined as the integration of environmental, social and governance (ESG) principles into financing, investment, risk management and disclosure (Suleiman et al., 2025), places these options on the table. It is more than simply financing projects and is also related to the resilience of financial institutions, the social aspects of investments, the credibility of corporate governance and the coherence of the flows of finance with longer-term development. (Cunha et al., 2021; Edmans & Kacperczyk, 2022; Schoenmaker, 2017).

This is very critical in Nigeria. The nation has complex requirements for secure electricity, robust transport and water systems, sustainable food production, affordable housing, jobs and more finance. Households and firms, public infrastructure and financial sector assets can also be impacted by climate related hazards such as flooding, heat stress, coastal

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exposure and changes in rainfall. Transition risks are also significant, when either the firms or public revenues rely on carbon-intensive activities, or when the new technologies and market standards alter the economics of existing investments. The Intergovernmental Panel on Climate Change (IPCC, 2022) reiterates the need for scale in adaptation and mitigation financing, and the International Monetary Fund (IMF) highlights that emerging markets have specific challenges related to financing costs and shallower capital markets and disclosure gaps (Goel et al., 2022).

Nigeria has visibly made strides in the development of a sustainable finance market. In 2017 and 2019, the federal government issued sovereign green bonds, and the Debt Management Office (DMO) has put out a public document that includes a Federal Republic of Nigeria Sustainable Bond Framework and a third series green-bond offering (DMO, n.d.-a). The Nigerian Sustainable Banking Principles of the Central Bank of Nigeria [CBN] further gives the institutional framework for incorporating environmental and social aspects into financial sector practice (Central Bank of Nigeria [CBN], 2012). The Climate Change Act 2021 and the Nigeria's National Determined Contribution (NDC) further link climate action to public policy and investment needs (Federal Republic of Nigeria, 2021; Federal Republic of Nigeria, 2021/UNFCCC). While these are important developments, the presence of policies and labelled instruments is not a sign of a deep, accessible and accountable market.

Firstly, this article tackles four questions: (1) what is sustainable finance? (2) what is sustainable finance in the Nigerian context? (3) How to understand sustainable finance within the Nigerian framework? (4) How to understand sustainable finance in the Nigerian context? (2) What policies, market and institutional supports can help it? (3) What benefits from the environment, economics, social and finances may come of this? And (4) what are the structural barriers to the reach and effectiveness of it? The article is conceptual in nature and not empirical. Combines existing evidence, summarizes mechanisms, and suggests an organizing structure for future research and policy. It does not make causal inferences nor provide evidence of actual impact of sustainable finance in Nigeria.

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Literature Review and Conceptual Framework

Conceptual Framework.

Sustainable finance is the use and distribution of financial resources that takes into consideration the material environmental and social impacts and the quality of governance and economic sustainability of a financial resource. It encompasses financial decisions which lower the risk of sustainability-related risks and decisions that will have measurable positive impacts (Musa et al., 2025). The scope of the definition is intentionally broader than green finance. The general goals of green finance usually relate to environmental goals, such as climate mitigation and adaptation, pollution prevention, biodiversity and resource efficiency (Tanko et al., 2025). Climate finance is more targeted, covering aspects of mitigation and adaptation, social finance is more specific, covering outcomes like health, education, housing, and inclusion, and sustainability-linked finance is more specific, as financing terms are linked to the borrower's performance against specified sustainability indicators (Magaji et al., 2025). ESG integration is a decision-making process, not an investment for generating positive impact (Cunha et al., 2021; OECD, 2020; Schoenmaker, 2017).

It can be helpful to differentiate between the sustainability features of a financing tool and the sustainability results of the activity it is used for. Green bond is a debt instrument dedicated to the financing of projects that are considered eligible for funding under the green bond program. By contrast, a sustainability-linked loan can be issued for any purpose of a company and its framework includes financing conditions linked to pre-established performance criteria. ESG screening excludes activities that have unacceptable negative impacts, ESG integration integrates relevant risks into the valuation process, and impact investing is specifically about receiving measurable social and/or environmental returns in addition to financial ones (Global Impact Investing Network [GIIN], 2023; International Capital Market Association [ICMA], 2021a and 2021b). These techniques do overlap, but they don't replace each other.

This difference is important in Nigeria because otherwise sustainability becomes a label. A financial institution can create an ESG policy without altering credit allocation, pricing, monitoring or client engagement. Likewise, a labelled bond can be used to fund eligible expenditure that does not prove to be additional, well implemented or effective. However,

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for sustainable finance, the chain of integrity is needed, namely clear eligibility criteria, credible selection, transparent use of the proceeds of sustainable finance, monitoring, reporting of outcomes and appropriate assurances.

The second approach involves the use of a Nigeria-centred conceptual approach.

The authors make the case in this review that sustainable-finance results within Nigeria rely on the interplay of six components: (1) policy and regulatory credibility; (2) investable projects and able project sponsors; (3) financial-market depth and suitable instruments; (4) sustainability data, disclosure and assurance; (5) institutional capacity and public understanding; and (6) inclusion and distributional safeguards. These components impact the allocation, amount, tenor and cost of capital. They are linked to project implementation, governance quality, and macroeconomic conditions and monitoring quality. Assessments need to be carried out on the environmental, economic and social additionality, and financial resilience outcomes.

The framework suggests a process, not a linear relationship. Enhanced disclosure can enhance the risk assessment process and investor confidence; a credible pipeline can make instruments more useful; successful projects can show viable business models; and credible impact reporting can draw in additional capital. On the other hand, inadequate data, unclear policies, or project failures can increase the perceived risk and increase the financing costs. Sustainable finance is an ecosystem and not just a product category.

Theoretical Review

A number of theoretical frameworks can provide insights into the formation of sustainable finance and why it could be limited. According to stakeholder theory, companies are not only subject of relationships with investors, employees, and customers, but also with communities, regulators and the natural world; sustainability information can facilitate the generation of that visibility in decision making (Freeman, 1984). The rules, professional norms and imitation are the elements that explain the institutional theory of organizational adoption. Regulatory guidance and peer examples can stimulate uptake in Nigeria, although formal compliance can be symbolic if incentives and enforcement are inadequate.

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From an economic point of view, the externality perspective is more compelling. Pollution control, adaptation and ecosystem protection costs may be underestimated by private investment decisions because the damage may not be entirely captured in the cost of the product. The misalignment can be addressed through public policy, disclosure and risk pricing, and blended finance (Schoenmaker, 2017; United Nations Environment Program [UNEP], 2011). Signaling theory can also account for the fact that sustainability labels could be used to convey quality or to appeal to investors. However, in contexts where claims cannot easily be substantiated, signaling can turn to greenwashing (Delmas & Burbano, 2011; Dempere et al., 2024).

Overview of sustainable finance in Nigeria

Policy and Institutional landscape

Sustainable finance includes banking supervision, public debt management, capital markets and climate policy and development finance in Nigeria. CBN's 2012 Nigerian Sustainable Banking Principles established expectations for banks and related institutions to manage environmental and social risks in their activities and lending. The principles are an early institutional signal as banks are a key link in the financing of business in an economy in which many businesses do not have direct access to capital markets. However, their practical impact relies on implementation: screening of high-risk transactions, engagement of clients, training of staff, reporting and inclusion of material risks in credit decisions.

The Climate Change Act 2021 puts in place a legal instrument for national climate governance, based on institutional coordination and planning. The NDC for Nigeria has been formulated under the Paris Agreement and serves as a policy guidance for prioritizing investment (Federal Republic of Nigeria, 2021; UNFCCC, 2021). Climate ambition does not guarantee bankable projects and these frameworks can help to bring public expenditure, development finance and private investment together. It is desired that sectoral plans have costedprogrammes, responsibilities, land and permitting arrangements, credible procurement and monitoring systems.

The public green-bond record of the DMO illustrates Nigeria's efforts to raise domestic finance for environmental initiatives through labelled sovereign debt. The DMO sold a

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₦10.69 billion green bond in 2017, and a ₦15 billion green bond in June 2019, with ₦32.9 billion worth of subscriptions on the 2019 green bond (DMO, 2019). The DMO's green-bond page further contains a Federal Republic of Nigeria Sustainable Bond Framework and a 2025 green-bond offering (Series III) (DMO, n.d.-a). The newer framework has the potential of expanding the use of proceeds beyond the strictly environmental category, depending on its own criteria.

Market infrastructure encompasses the Nigerian Exchange, FMDQ Securities Exchange, banks, pension funds, insurers, and development finance institutions and international climate-finance providers. These actors have different mandates, risk tolerance, investment horizons and regulatory obligations. An alternative approach is to provide domestic currency funding and limit reliance on external flows from investors, and concessional finance and other technical support, including guarantees and project preparation, from multilateral institutions. The roles need to work together rather than over each other in order to be a coherent market.

Instruments and Financing Channels

The primary instruments that are relevant to Nigeria are sovereign and corporate green bonds, sustainability bonds, sustainability linked bonds & loans, green credit lines, concessional loans, guarantees, blended-finance structures, equity funds & impact-investment funds, project finance for climate related projects and results-based funding. Islamic finance instruments can also play a role provided their structures and use of proceeds are aligned with sustainability goals. Public budgets, development bank facilities and international climate funds are still playing a significant role, especially for adaptation, resilience and public goods that don't offer direct commercial cash flows.

Green bonds can align those who invest in long-term fixed income with green spenders who invest in green projects. They are credible when the projects are selected transparently; their proceeds are ring-fenced; the projects are reported regularly about the allocation of proceeds and the impact is reported credibly. The early sovereign issuances offer a practical basis while the 2025 Sustainable Bond Framework is an indication of a broader sustainable-debt approach (DMO, n.d.-a). However, the presence of a framework

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should be assessed in conjunction with continuity of issuance, the expense of verification and the quality of the funded projects and publishing of results.

Bank lending is still the main pillar as many firms, particularly small and medium sized enterprises (SMEs) in Nigeria are dependent on banks as opposed to public securities markets. Lenders can access credit facilities, guidance and partial credit guarantees for energy efficiency, renewable energy, cleaner production, resilient agriculture and water infrastructure to make them more affordable. Sustainability-linked loans could incentivize high-borrowers to perform better, but targets need to be material, measurable, ambitious and independently monitored. The lack of genuine change to the target can give the impression of sustainability (ICMA, 2023; Loan Market Association et al., 2023).

Blended finance can utilize public or philanthropic funds to take on specific risks and then channel in private financing when a project may have a good development value, but may not have the initial ability to satisfy commercial risk-return criteria. It must be used to address a real financing barrier and be clearly disclosed, otherwise it should not be used to finance investments that would have taken place anyway. New labelled products are not necessarily as crucial as guarantees, currency-risk instruments, project-preparation facilities and standardised contracts.

Priority sectors

Sustainable electricity generation and efficient use of energy should be obvious areas for sustainable finance for they provide reliable electricity power to households, firms and public services. Distributed solar, mini-grids, storage, energy-efficient appliances and other industrial energy efficiency measures could have a positive impact if projects are technically feasible and payment terms are credible. The financing design should consider affordability, grid conditions, foreign exchange exposure of imported equipment and customer's financing capacity.

Also, agriculture, land use and food systems are significant. Finance can enable climate smart practices, irrigation efficiency, storage, cold chains, sustainable forestry and restoration. Avoidance of land conflict and exclusion of smallholders and maladaptation are needed for these projects. Mass transit, flood management, water and sanitation, waste management, efficient buildings and resilient public facilities are opportunities within

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urban infrastructure. Social infrastructure (such as healthcare, education, affordable housing and access to essentials) could be funded with a social or sustainability bond with well established eligibility and impact criteria.

A just transition lens is required. Environmental goals must not be considered outside of the scope of sustainable finance, livelihoods, energy access and regional inequality. Abatement investments that are unaffordable for low income households, that impose too high a price on businesses, or that don't provide transition support for workers can make them unpopular in the eyes of the public. On the other hand, good finance can connect cleaner infrastructure and jobs, local supply chains and expanded access to core services.

5. The role of the financial industry in the transition to sustainable finance.6. Enablers of sustainable finance in Nigeria.

Credible and coordinated policy

The first enabler is a predictable policy environment. Investors should be aware of what kinds of activities are eligible, how projects are chosen, who is responsible, and how the rules will be applied. Nigeria has the opportunity to consolidate what is already in place in the climate and banking/financial sector by outlining these responsibilities more clearly at the CBN, Securities and Exchange Commission, DMO, fiscal authorities, sector regulators, and subnational levels. Coordination is particularly relevant in situations of inter-jurisdictional projects or multi-jurisdictional permits.

A national taxonomy of sustainable finance or an aligned taxonomy of sustainable finance eligibility criteria may help to clarify the picture and increase comparability. It should be reflective of international practice and take cognisance of Nigeria's development priorities, transition realities and data capacity. Taxonomies must not be static lists; they must be subject to transparent taxonomies management, scientific review, consultation and periodic revision. Transitional activities should be evaluated in terms of credible pathways and safeguards as opposed to just being deemed sustainable because they are less harmful than a current activity.

International standards provide useful reference points. The ICMA Green Bond Principles provided process guidance on use of proceeds, project evaluation, management of proceeds

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and reporting which is voluntary (ICMA, 2021a). The IFRS S1 and IFRS S2 make sustainability-related and climate-related financial disclosures a global minimum standard and will be effective for annual reporting periods from 1 January 2024, subject to adoption and transition arrangements (IFRS Foundation, 2023a, 2023b). The strategy for Nigeria needs to be proportionate, gradual and interoperable with international norms, and support smaller actors.

The accounting and finance management of the financial sector is a key subject that requires attention.

There are possibilities for banks and other financial institutions to integrate sustainability into their credit appraisal, collateral assessment, sector limits, client engagement and stress testing and monitoring of the portfolio (Chinedu et al., 2021). Climate risks have physical risks that can impact assets and cash flow, and transition risks that can impact costs, demand, regulation and asset value. These risks can potentially impact the likelihood of default, recovery rates, insurance coverage, and portfolio concentration (Ibrahim et al., 2025). The Network for Greening the Financial System (NGFS, 2020) recommends that supervisors and financial institutions develop analytical capacity, consider climate risks in monitoring and explore scenario analysis.

For Nigeria, it is better to adopt a proportionate approach than to mechanically adopt methods tried in data-rich advanced countries. Institutions may start by performing sectoral exposure mapping, then follow up with location-specific physical-risk screening and materiality assessment and qualitative scenario analysis, and then advance to further modelling refinement as data evolve. Supervisory guidance should maintain practices that are at least at a minimum but not so burdensome that it takes away credit from smaller firms. The negative measures can be complemented by positive measures and technical assistance and engagement with clients to facilitate improvements rather than exclude them.

Project preparation and risk-sharing

One significant challenge is policy priorities and investable projects. Feasibility studies, environmental and social assessment, engineering design, a viable revenue model, a

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procurement plan and land rights and operating arrangements are some of the requirements that many projects must meet before they can attract funding (Magaji, 2004). The preparation facilities for projects can finance this preparatory work and develop a pipeline that meets the requirements of the investors. Public authorities can enhance bankability by engaging in transparent procurement, by being able to guarantee off take, by having predictable tariffs if applicable, and by allocating construction, demand, currency and regulatory risks.

There are risk-sharing instruments that can correct certain market failures. Partial credit provides lenders with less risk in early stage technologies and/or smaller borrowers; viability-gap funding can be used to finance projects that have social value but limited revenue; and concessional loans can be used for longer tenors than commercial loans. For projects that receive naira revenue and borrow in foreign currency, it is essential to hedge currency. Such interventions are to be structured to prevent potential hidden public risks, to implement clear eligibility requirements, to make public clear fiscal exposure and to assess whether private funds were indeed mobilised and the overall effectiveness of the intervention.

Disclosure, verification and data infrastructure

The key to pricing sustainability risks and assessing impact is reliable information. There is a need for greater consistency in the data available for firms and public agencies for emissions, energy, water, land, labour, health and safety, community impacts and governance. In financed projects, there should be a separation between amount allocated and outputs and outcomes reported. Some examples of capital investment inputs, installed capacity and connections outputs and reliable electricity access and verified emissions reductions are outcomes. Baselines and methods should be made clear to avoid overstatement.

The recommendations and sector-specific frameworks of the Task Force on Climate-related Financial Disclosures (TCFD) and the Global Reporting Initiative (GRI) standards as well as IFRS Standard S1 and S2 are complementary (TCFD, 2017; IFRS Foundation, 2023a, 2023b; GRI, 2021). While convergence is beneficial, Nigeria should think about reporting costs and the capacity of SMEs and subnational entities to comply. A staged approach

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might include templates, training and digital reporting tools for large listed companies, financial institutions and large public issuers.

External review can enhance confidence but confidence is no substitute for good governance. Eligibility, management of benefits, material performance indicators and the veracity of claims for impacts should be tested independently. Regulators and exchanges can make issuer-specific information available and make it easier to set up a common repository of sustainable financing transactions and results. This would help to enhance learning within the market and facilitate research of commitments and delivery.

Domestic savings/Investor demand & Financial literacy

DIIs, such as pension funds, insurers and asset managers, can contribute funds for longer-term investments if their mandates and fiduciary duties provide for it; their risk systems and investment opportunities are aligned with it; and their other investment activities are supportive of it. There must be credible data and investable instruments, and there must be predictable demand and transparent pricing for the issuers. The goal of the policy is not to force investment in weak projects, but to help the sound sustainable ones be more easily identified, evaluated, and financed.

Financial literacy and inclusion are important as well. The notion of sustainable finance may be confusing to differentiate from the standard definition of finance, or to marketing or philanthropy (Mukhtar et al., 2025). Training of bank staff, accountants, auditors, public officials, investors and owners of SMEs will enhance project design and assessment. Climate risk, Sustainability reporting, Project finance and impact measurement are key areas where the university and professional curricula can create a pipeline of specialists. The provided African document also highlights awareness and knowledge as key limitations (Ozili et al., forthcoming).

Inclusion and engagement of stakeholders

The people and businesses that will be the most vulnerable and least resilient to environmental shifts must be central to sustainable finance. High transaction cost, and limited collateral (Ismail et al., 2025) are issues that can affect SMEs, farmers, informal enterprises, women-owned enterprises, low income households, and climate vulnerable

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communities. Some barriers can be mitigated through aggregation models, local intermediaries, guarantee schemes, pay-as-you-go arrangements and community financing models. Consultation should happen prior to project design closing and there should be clear grievance processes and social safeguards will be reported to the public.

Scrutineering by civil society, professional bodies, research institutions and local communities can help to hold them accountable for claims by challenging them, by pointing out side-effects, and by providing local knowledge. They are not only interested in approving projects, but also in challenging the distribution of benefits is appropriate and that adverse impacts are being addressed. High participation can lead to less conflict over implementation and more long-term value of investments.

Advantages and/or disadvantages

Environmental and climate benefits

Sustainable finance can play a role in emissions reduction, climate adaptation, pollution prevention, ecosystem restoration and more efficient resource use when capital is directed towards credible projects. Investments in renewable energy and energy-efficiency can lead to lower emissions compared to high carbon options; energy-efficient resilient drainage, water systems and infrastructure can mitigate exposure to climate hazards; and sustainable financing of land-use can enhance soil, water and forest outcomes. The impact depends on the counterfactual: When evaluating the impact of a project, one should compare with what would happen without the financing rather than just with the various activities that have been linked with a “labelled” instrument.

The difference between mitigation and adaptation should be considered. Emissions avoided or reduced is a possible measurement of mitigation outcomes, with clear baselines and accounting boundaries. Adaptation outcomes will be more context-specific, potentially resulting in fewer service interruptions, less expected losses, and greater water security or resilience of vulnerable groups. Project evaluation must go beyond just financial measures, and resilience indicators need to be clearly defined, as they can be hard to monetise (IPCC, 2022; OECD, 2020).

The economic and financial advantages of the project.5.2 Economic and financial benefits

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Sustainable finance can expand investments horizons, foster innovation and boost resource efficiency. The capital costs of investing in efficient equipment and resilient supply chains, and even in cleaner energy, can both be significant and costly, but may result in reduced operating expenses over time. A more liquid sustainable debt market may provide a more diversified source of funds and could extend maturities for appropriate projects. It could also facilitate the successful targeting of climate-oriented investors. A sustainability label does not, however, necessarily reduce borrowing costs, as the price of a bond is determined by the creditworthiness of the issuer, the currency, the liquidity, the credibility and the market conditions (Goel et al., 2022).

Better evaluation of physical and transition risks can add to portfolio resilience and lower the risk of mispricing physical and transition risks for financial institutions. That is not an equation for all sustainable assets are safer or more profitable. Some technologies are at an early stage of development; some projects have uncertain revenue streams; and sustainability targets are poorly designed. Rather than claiming that ESG qualities are sufficient to ensure strong performance, it seems that embedding material sustainability risks can help complete financial analysis.

Social inclusion and human capital development

Social and sustainability finance could direct money to affordable housing, healthcare, education, water, sanitation and job creation generating infrastructure. Social co-benefits for green investments can also be health benefits, such as improved air quality, or lower energy bills or increased access to reliable electricity for households. These benefits are not guaranteed: large-scale infrastructure can displace communities; they can be concentrated, or impose charges on infrastructure usage that exclude poorer households. The process of distributional analysis should thus be incorporated into project selection and evaluation.

A just transition strategy can assist in balancing climate and development priorities. In Nigeria, that translates to understanding the impact of investment on energy access, jobs, the local economy, cost of living and the development of the region. It also involves recognizing that each community is at different risk and may have different opportunities. The social aspect is not a ‘plus' on top of environmental finance, it is a key component in answering the question of political and economic sustainability of a transition.

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Governance, transparency and market development (5.4)

Sustainable finance frameworks can improve governance, and impose conditions on the use of funds, such as the requirement to state the purposes of the funding; explain how the funds will be chosen; report on the proceeds of the funds; and disclose results. This can enhance the internal controls and also investor scrutiny. But implementation and independent oversight are the keys to governance gains. Ambiguous language, lack of reporting or lack of consequences for incorrect statements will likely have little effect on behavior.

Learning effects may also occur during market development. Initial transactions provide experience to issuers, regulators, investors, and verifiers and could potentially decrease transaction costs and increase documentation as time goes on. However, repetition does not equal improvement. The question to ask is whether there are later transactions that report better, involve more participants, have more credibility of impact, and have more efficient financing structures.

Challenges

Capital costs are a major issue, and macroeconomics is unstable.

There will be significant start-up costs for some sustainable projects, and these projects may pay off over the long term. Projects may be difficult to finance due to high interest rates, inflation, and due to the volatility of exchange rates and uncertainty of the future revenue. If equipment is imported but the revenues are naira, then currency depreciation can drastically contribute to the cost. Such restrictions are far more severe for infrastructure and adaptation investments that have public good benefits but do not generate direct revenues. The experience in other countries suggests that emerging markets tend to have larger spreads on financing and shallower sustainable debt markets than advanced markets (Goel et al., 2022).

More labelled debt isn't an adequate answer. The sustainable finance agenda needs to be connected to macroeconomic stability, credible public finance, predictable regulations, project preparation and appropriate risk-sharing. Foreign-currency borrowing should be carefully matched with foreign-currency revenue or supplemented with reasonably sound

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currency hedging arrangements. Otherwise climate projects could create fiscal or financial fragility in the financing.

Highly volatile or uncertain energy prices

While the issuances were proof of capability, the sovereign bonds in Nigeria have not created a wide, liquid market across the public agencies, corporates and the municipalities. It can be costly for smaller issuers to develop frameworks and to have them reviewed and reported on by external parties. Limited supply of appropriate assets for institutional investors, and uncertainty that demand will warrant a labelled transaction for issuers. This can lead to a vicious cycle of low pipeline capacity deterring investors and low investor participation weakening the pipeline.

The preparation of the project is, therefore, a major market infrastructure problem. But if projects are not technically and financially sound, there's no way to utilize the capital that is there. Public authorities and development partners can help in executing feasibility studies and standardised documentation, but they also need to tackle the procurement, permitting, land rights, payment security and operations. Any project that is incorrectly implemented and still considered sustainable can create investor and public distrust.

Data gaps, standards and measurement challenges

Comparability is complicated due to different definitions, reporting limits, baselines and indicators used by organisations. The ESG ratings might differ due to different dimensions of the issues, data sources, and concepts measured by providers of the ratings (Berg et al., 2022). Environmental and social information may be more limited in emerging markets. This renders it difficult to make an apples-to-apples comparison among issuers, price risk, outcomes and to differentiate between material performance and general promises of intent.

The need for Nigeria is the need to have reporting that is sufficiently standardised to be comparable, but is also proportionate to institutions capacity. It should also not be confused with disclosure and performance. A firm can report more extensively, but have no positive impact on the environment and/or social issues. Evaluation should be based on both policy

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and process indicators, measurable project outcomes, external assurance (where material), and disclosure of negative as well as positive outcome.

Greenwashing and inadequate accountability

Greenwashing refers to any deceptive or misleading environmental or sustainability statements or attributes used to make a product, organization or investment seem green or sustainable when it is not. It may occur through ambiguous terms (Delmas&Burbano, 2011; Dempere et al., 2024), selective disclosure, weak targets, irrelevant claims and/or failure to report adverse impacts. The challenge is especially pressing in sustainable finance, where it is hard to see the end results of projects.

Just an expansion of reporting won't solve the issue. It needs definitions to be clear, disclosure rules to be enforced, and penalties to be proportionate for false claims, independent review, and easy access to information on proceeds and impacts. Issuers must declare the functions of a product and what it does not deliver. There are differences between procedural compliance and actual performance that should be separated by regulators. Civil society and researchers can provide independent monitoring and scrutiny, exchanges and professional bodies can encourage good practice.

Skills, awareness and institutional coordination.

In order to achieve sustainable finance, a combination of skills in finance, climate science, engineering, law, accounting, social safeguards and impact measurement are needed. Regulators, banks, public agencies, SMEs and verification providers can be impacted by skills shortages. The lack of public knowledge can also mean a lack of products or a lack of scrutiny of claims. Training is best when it is related to actual transactions and decisions, and not just awareness campaigns.

Fragmentation can lead to overlapping mandates and expectations. The duty to look after sustainable finance can be spread throughout finance, environment, energy, industry, banking supervision and securities regulation. If there is no clear coordination mechanism, information might not be shared, priorities may be different and accountability may be spread out. A national coordinating platform should establish a role, a timeframe and reporting requirements, while maintaining the institutional status quo of those responsible.

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Short-termism or competing development priorities

Financial institutions and investors might prefer investments with a shorter time frame of return, particularly if funding costs are high or the liabilities are short-term. Sustainable infrastructure and Resilience investments can deliver benefits in the longer-term and adaptation benefits can be thought of as avoided losses. This results in a gap between the length of time the money is borrowed for and the length of time projects take to realize the benefits of the loan. Risks need to be shared transparently, and long-term investors, public guarantees and blended finance can help.

Nigeria also has the real dilemma of development trade-offs. There has to be a rapid transition with regard to energy access, employment, fiscal reliance on hydrocarbons and the necessity for industrialisation. Addressing these concerns as an excuse to stall on sustainability can create future risks that are "set in stone" and taking no steps can jeopardize political support and affordability. A more defensible approach is to invest in viable transition schemes, to evaluate distributional impacts, and not to paint each project as either (all green) or (all unsustainable).

Unequal access and risk of exclusion

Large companies and public issuers are more likely to have the resources available to cover the costs of certification, legal guidance, reporting and assurance, which are typically fixed costs.Large companies and public issuers have greater resources available to cover the costs of the fixed costs of certification, legal advice, reporting and assurance, compared to SMEs and community organisations. A focus on bigger borrowers for sustainable finance could exacerbate inequalities at the aggregate level, while enhancing other measures. The absence of formal records or access to financial intermediaries or lack of conventional collateral in rural areas and in informal enterprises can also leave them out of the picture.

Products and processes need to be adapted to different borrowers for inclusion. Smaller transactions may be consolidated; guarantees may be directed at potential but untapped borrowers; and intermediaries may be available to offer technical assistance. Social safeguards must be tailored to local needs, and incorporate meaningful engagement, complaints processes and tracking of who benefits.

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The review indicates that Nigeria's primary concern is not only related to the lack of sustainable finance instruments. It is the need for instruments to be connected to a working policy, project development, financial intermediation, disclosure, risk management and accountability system. Sovereign green bonds illustrate that labelled debt can be issued domestically, but the next step remains if that approach is going to be extended across sectors and types of issuer and maintain integrity. Important to note, the Sustainable Bond Framework 2025 is an institutional development to be studied, but its significance can only really be judged by the quality and success of the transactions and results that follow.

There are three conceptual differences to consider when evaluating. First, capital is not a disbursement: capital that has been announced may not be used to cover projects. Second, disbursements are not outcomes: funds invested could result in a different environment or social change. Third, outcomes are not necessarily extra: some investments might have been made even if the sustainability label and/or public funding had not been available. A credible evaluation system, should then, follow the route from commitment to allocation and implementation to outputs, outcomes and additionality.

The following six dimensions of a practical Nigerian framework could be included on a dashboard: (1) market development issuance, lending, investor diversity, maturity and currency; (2) integrity eligibility, external review, reporting timeliness and assurance; (3) environmental performance, emissions, energy, water, land, pollution and resilience indicators; (4) social performance, affordability, jobs, access, safety, and distribution of benefits; (5) financial additionality, whether financing changed the scale, timing, price or feasibility of investment; and (6) institutional learning, skills, data quality and regulatory implementation. Indicators should be sector specific and should not suggest false precision of data if this is not the case.

The framework also provides the clarity of the role to be played by the state. Government is a rule-maker, investor, issuer, project sponsor and provider of public goods. It may be used to set standards and develop projects, but it needs to be transparent in reporting its own actions and take care of fiscal risks. Financial institutions and climate/social policy are not mutually exclusive; there is no substitute for finance and policy; there is no substitute for regulation and bankable projects. Sustainable finance relies on the division of labour, where public policy provides direction and protection, private finance allocates capital,

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development institutions tackle specific market failures and civil society and researchers hold development institutions to account on their performance.

Conclusion

Sustainable finance presents a lens through which Nigeria can integrate financial practice with climate resilience, environmental quality and social inclusion and long-term economic development. The country has laid down significant groundwork such as sustainable-banking guidance, climate legislation, national climate commitments and sovereign green-bond experience. It has more recently developed an approach to sustainable bonds which would offer an opportunity to expand the scope of eligible financing objectives. The progress made is encouraging but should not be interpreted as proof that the sustainable-finance ecosystem is already well established.

Credible policy, bankable projects, suitable financial instruments, reliable data and verification, institutional capacity and inclusion are the six interdependent enablers identified in the review. The benefits are lower emissions, increased resilience, resource efficiency, additional investment, more jobs, better access to social facilities, and better risk management. All these benefits are subject to the condition. The connection between finance and development may be weakened by high financing costs, currency risk, limited market depth, poor project preparation, variable data, skills deficiencies, greenwashing and unequal access.

The core message of the policy implication is that sustainable finance can only be evaluated based on what it is financing, who is benefiting, which risks are being mitigated and on the evidence of the claims. It should be the intent of Nigeria to create a credible market where sustainability considerations play in the decision making process, project outcomes are monitored, risks are fairly shared among the market stakeholders and capital flow to viable project investments where it may have otherwise been undelivered, insufficiently provided or priced out. That's the journey of sustainable finance intent to long-term public purpose.

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Recommendations

First, create sustainable finance architecture in an integrated and context-sensitive way. It should be published by relevant authorities a clear division of responsibilities, common terminology, and the phase disclosure expectations, and there should be a mechanism for updating the eligibility criteria. International standards should be benchmarked and then adjusted with transparency to the Nigerian context and capacity.

Secondly, create a national pipeline of investable projects. Public agencies should identify priority projects, provide adequate funding for early preparation, have consistent process for documenting feasibility and safeguards, and provide project status information. Projects with a clear development value, credible operating plans and transparent risk allocation should be given priority.

Thirdly, improve the quality of instruments with labels. Issuers should reveal why they have chosen certain categories, how they have selected those categories, how they plan to manage the proceeds, the progress in allocating the funds, expected results and actual results. External reviews are to be proportionate but independent. Sustainability-linked instruments need to be based on material indicators, on ambitious targets, and should have clear consequences for not meeting targets.

Fourth, raise domestic long-term capital, without compromising on prudential discipline. There is a need for a credible pipeline and similar data for pension funds, insurers, banks and asset managers. Risk solutions and currency-risk solutions, along with guarantees, should target known barriers and be transparent about the public risks they elicit. Don't use sustainable labels as a substitute for credit analysis.

Fifthly, ensure that inclusion is a stated design criterion. Finance needs to be delivered to SMEs, farmers and local governments and communities not yet served, via aggregation, targeted guarantees, technical assistance and suitable repayment mechanisms. The key issues of the project that need to be considered are its affordability, livelihoods, gender and distribution (among regions), along with consultation and grievance.

Sixth, invest in people and data. Practical training is a need for regulators, financial institutions, issuers, auditors, engineers and public officials. The creation of a public

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database of sustainable-finance transactions, allocation reports and impact indicators would enhance transparency, mitigate duplication and facilitate independent research.

Seventh, commission stringent evaluation. Future research should focus on how the proceeds of sovereign green bonds are used and the impact of those proceeds; the connection between the bank sustainability practices and credit allocation; and the impact of sustainable finance on resilience and inclusion at the project and community level. Evidence would be enhanced by using mixed methods research or, when possible, quasi-experimental designs, and by providing transparent project-level datasets.

Research agenda

There is need for a change in the narrative in the Nigerian literature as the advocacy ought to be geared towards testable questions. An interesting research avenue might involve whether integration of ESG impacts on lending decision, loan pricing, maturity and loan default outcomes, and controlling for borrower risk and macroeconomic factors. A second could examine if the proceeds from the green bonds are over and above normal public spending, and if the projects funded by the green bonds achieve the performance claims. A third could evaluate the impact of sustainability disclosure on investor engagement and investor pricing and financing cost in Nigeria's capital market.

Research is also needed on distribution. Can sustainable finance programmes be extended to SMEs and rural communities, or do they tend to be skewed towards bigger businesses and urban areas? What is the borrowing burden on sustainable products like reporting and verification? What kinds of guarantees or "concessional" supports are the most effective at attracting private money? What is the appropriate measure of adaptation benefits in cases where avoided losses and resilience are more important than current revenues?

An analysis of constraints across Nigeria, Ghana, Kenya and South Africa would be able to identify country specific constraints as opposed to those common to the continent as a whole. Theories of sustainable finance should also be put to the test in countries where the financial markets are not particularly deep and where the informal sector accounts for a significant share of their economic activity, where the need for financial investment in climate-related development and in pressing social spending is urgent. When it comes to

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causal claims, clear definitions, transparent procedures, available data and careful conclusions will be required to avoid overstating the evidence.

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