CHAPTER TWENTY ONE

GREEN FINANCE: WHAT IS IT?

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Abstract
Green finance, as a distinct category of finance, is concerned with introducing community concerns into decision-making in finance. As Nigeria intends to ensure and enhance green investment, there is a need to provide a better understanding of green finance. This study is explanatory without an attempt to collect data for analysis because the field is in its infancy stage. However, from the literature presented, this study concludes that there is no universally accepted definition of green finance and that green finance presents a veritable platform for further deepening the financial system globally.

Keywords: green finance, circular economy, sustainable development, green financial products, climatic change

Introduction
One of the contemporary issues in finance is green finance or sustainable finance, which is a product of sustainable development goals (SDGs). Sustainable finance deals with financial tools that serve environmental and social goals, while green finance is completely interested and concerned with environmental objectives. Both green finance and sustainable finance are expected to promote job creation and technological innovation and serve as catalysts for business opportunities for the financial industry through the creation of new financial products (such as green bonds or sustainable loans), financial tools, and financial services.

Sustainable development and climate change adaptation cannot be achieved without the necessary financial means being available to the relevant sectors and actors, which could lead to the transformation of the global economy in an environmentally friendly manner. Those clamoring for sustainable finance as against the traditional approach argue that it's not possible to separate the environment from society because society depends on the environment for its existence, and human society has a major impact (both positive and negative) on the environment.

Attempts to identify the relevant sources of finance for advancing sustainable development and facilitating the transition towards a low-carbon and more circular economy across the world have become one of the major challenges for governments and private actors alike. In addition, the transformation needed to save the planet requires substantial investments in infrastructure and innovative technologies.

However, the goal of limiting global warming to well below 2°C, preferably to 1.5°C, compared to pre-industrial levels as set by the 196 Parties at the United Nations (UN) Conference of Parties in Paris on 12 December 2015 and entered into force on 4 November 2016 cannot be achieved by government spending alone, hence, the need for the investing public to become interested in addressing the environmentally-friendly avenues.

Green finance is intended to ensure a better and friendly environmental outcome. Friendly environmental outcomes can only be achieved with adequate funding. Unlike conventional financing, which considers the cost, risk, and return of investment, green finance also tries to investigate the environmental impacts of investment. That is to say, it measures the reduction in natural resource consumption (Cizelj, 2021).

Green finance encompasses all the initiatives taken by private and public agents (e.g., businesses, banks, governments, and international organizations) in developing, promoting, implementing, and supporting projects with sustainable impacts through financial instruments (Cizelj, 2021). In addition, Diwan and Kharas (2022) assert that green financing activities can be disaggregated into three main areas: (i) sustainable infrastructure, notably the transition of energy systems to reduce the use of fossil fuels; (ii) adaptation and resilience, including the use of nature-based solutions; and (iii) agriculture and the transformation of land use, including the need for biodiversity conservation.

Nigeria signed up to the Paris Agreement, and by that, it pledged to reduce its greenhouse gas emissions by 20% by 2030. and the Nigerian Sustainable Finance Principles (NSFP), developed by the Financial Services Regulation Coordinating Committee (FSRCC), focuses on the role of the financial services industry in facilitating economic prosperity while ensuring environmental sustainability and social development. In addition, the Securities and Exchange Commission adopted the FSRCC's NSFP and developed Guidelines on Sustainable Principles for the Nigerian Capital Market (Shobanjo, 2022 in sec.gov.ng, 2022).

The Principles of the NSFP, as listed by sec.gov.ng (2022), include, among others, the following:

1. Collaborate with stakeholders to raise awareness on environmental, social, and governance (ESG) issues, build capacity, manage risks, develop innovative solutions, and promote widespread action across the Nigerian financial system.
2. Promote financing of priority sectors of the economy while ensuring balance with ESG considerations.
3. Respect human rights, promote women's economic empowerment, support job creation, and enhance financial inclusion.
4. Regularly report progress in implementing these principles and require supervised entities to disclose their ESG issues appropriately.
5. ESG considerations are to be embedded into the organization's operations and decision-making processes to avoid, minimize, or offset negative impacts.

Owing to the fact that green finance or sustainable finance is a recent development in the finance literature, there is a need to deepen the understanding of the concept, especially in Nigeria. This paper is set to provide the state of play of green finance in Nigeria and its development globally. This study is explanatory in nature as it attempts to provide a robust understanding of green finance with no attempt to collect data for analysis due to the fact that the field is in its infancy stage. The paper is organized thus: section one is the introduction, the section provides a discussion on the emergence of green finance, section three delves into the meaning of green finance as defined by scholars globally, section four looks at green finance products and services, and section five is the conclusions and recommendations.

Emergence of Green Finance

Green finance gained international focus as a result of climate change and sustainability. According to Lee, So, Tang, Lam, and Cheng (2020), world leaders have reached a consensus on climate change through the 2015 Paris Agreement within the United Nations Framework Convention on Climate Change (UNFCCC). The objective of the Paris Agreement is to limit global temperature increase to well below 2oC and towards 1.5oC above pre-industrial levels by adopting advanced technologies to reduce greenhouse gas (GHG) emissions. To achieve the Paris Climate Agreement's goal, the Organisation for Economic Co-operation and Development (OECD) has estimated that around US$ 6.9 trillion a year will be required between 2018 and 2030, equating to a total of US$ 90 trillion of capital (OECD, 2018).

As a result, there is a need for market-based solutions and innovative financing to drive these climate actions. For example, China's domestic green bond market started in late 2015, after the introduction of the People's Bank of China (PBoC) 's Green Bond Endorsed Project Catalogue and the National Development and Reform Commission (NDRC) 's Guidance on Green Bond Issuance, provided the national green definition for labeling. In 2017, green bond issuance reached US$ 37.1 billion, and it became the world's no.1 green bond issuer.

However, 62% (US$ 22.9 billion) of the issued green bonds align with international green bond definitions. In addition, China established the first set of green finance pilot zones in Zhejiang, Jiangxi, Guangdong, Guizhou, and Xinjiang in mid-2017. These pilot zones' key goals are to support the country's environmental protection goals through testing green finance innovations and exploring practical and replicable solutions to support scaling up green finance at the national level (Paulson Institute, 2019).

According to Olha (2017) in documents.worldbank.org (2017), the growth of green finance markets represents an emerging opportunity for both the private sector investment and project developers. Financing the preservation of the world's precious ecosystems will require billions of dollars in additional capital, and private investment capital may be the main source of such funds. This highlights the need for intelligent development finance that goes well beyond filling financial gaps, and that can be used strategically to leverage private resources. The private sector is seeking new opportunities to invest capital in ways that could possibly generate market-rate financial returns and an environmental impact. Already, pioneering investors have put together financial solutions that combine real assets, like tropical forests, with cash flows from operations in fields such as sustainable timber, agriculture, and ecotourism (Olha (2017) in documents.worldbank.org, 2017).

The predominant financial instruments in green finance are debt and equity. Financial instruments have several features, such as level of seniority (junior equity versus preferred stock), the channel through which the flow of finance is arranged and the intermediary actors (types of investors and investment vehicles), terms of the agreement, and origin of funds, among others. In green finance, we often see investments in "junior equity," which normally refers to the common stock in a company. In the event of liquidation, the company would pay out preferred stockholders before holders of junior equity (documents.worldbank.org, 2017).

In addition, Olha (2017), in documents.worldbank.org (2017), asserts that debt financing can come from a lender's loan or from selling bonds to the public. While a loan is a transfer of money from a bank to a company/individual, a bond is a transfer of money from the public/market to a company that issues a bond. Unlike loans provided through bank debt, bonds traded on public debt markets tend to involve more significant amounts of capital.

Debt and equity funds are investment vehicles of choice in environmentally related finance. This is because they aggregate project and cash flow into one common investment vehicle. This vehicle combines several projects that may have a different focus, such as land use, forestry, and agriculture. Whatever their focus, they have the same level of maturity (either early stage development, proven concept, or mature) (Olha (2017) in documents.worldbank.org (2017).

Attracting investments in conservation is challenging because potential investors perceive high financial risks and low returns. Credit enhancements – whereby a company attempts to improve its debt or creditworthiness – can encourage the flow of capital to bankable projects by reducing risk or increasing returns. Impact investors – those interested in environmental and social impact – use a broad range of tools for credit enhancements, some of which are catalytic first-loss capital. As the name implies, this instrument absorbs some risk (as in the case of junior equity or subordinated debt). Less risk encourages other investors to join, thus catalyzing additional resources for conservation. The term catalytic first-loss capital sounds perhaps like a selfless act of philanthropy. Such credit enhancements hold great potential to leverage far greater volumes of capital than public or philanthropy resources alone. In so doing, they lay the groundwork for sustainable investment flows into new markets. And they help improve the terms at which project developers can access capital (Olha (2017) in documents.worldbank.org (2017).

Olha (2017), in documents.worldbank.org (2017), provides that grants, equity, guarantees, and subordinated debt are commonly used as catalytic first-loss capital to leverage private finance. This can be done in the following ways:

i. Equity: By taking the most junior equity position in the overall capital structure, the provider (public sector) takes first losses, although it sometimes also seeks risk-adjusted returns; this includes common equity in structures that incorporate preferred equity classes.
ii. Grants: A grant provided to cover a set amount of first loss.
iii. Guarantee: A guarantee to cover a set amount of first-loss capital. The objective is similar to the grant, but the guarantee has a cost.
iv. Subordinated debt: The most junior debt position in a company with various levels of debt seniority (with no equity in the structure).

Providers of catalytic capital are typically foundations, high net-worth individuals, government and development finance institutions (DFIs). However, any investor with the appropriate motivation and risk appetite can play this role (Olha (2017) in documents.worldbank.org (2017).

Defining Green Finance

To date, there is no precisely acceptable definition of green finance. The definitions that are proposed are divergent. Among the definitions that can be found in the literature include the following:

Green finance or sustainable finance refers to the process of taking environmental, social, and governance (ESG) considerations into account when making investment decisions in the financial sector, leading to more long-term investments in sustainable economic activities and projects (sec.gov.ng, 2022).

According to Höhne, Khosla, Fekete, and Gilbert (2012), green finance includes climate finance but is not limited to it because it is a broad term that can refer to financial investments flowing into sustainable development projects and initiatives, environmental products, and other environmental objectives (such as; industrial pollution control, water sanitation). This definition sees green finance as mitigation and adaptation finance, which is specifically developed to address climate change-related activities. Mitigation financial flows refer to investments in projects and programs that contribute to reducing or avoiding greenhouse gas emissions (GHGs), whereas adaptation financial flows refer to investments that contribute to reducing the vulnerability of goods and persons to the effects of climate change (Höhne Khosla, Fekete, & Gilbert, 2012).

Kazlauskiene and Draksaite (2020) defined green finance as the financing of public and private green investment in the area of environmental goods and services, as well as prevention, minimization, and compensation for damages to the environment and climate.

In the opinion of the Chartered Banker Institute (charteredbanker.com), green finance includes but is not limited to, environmental aspects (pollution, greenhouse gas emissions, biodiversity, water or air quality issues) and climate change-related aspects (energy efficiency, renewable energies, prevention and mitigation of climate change connected severe events) (charteredbanker.com).

In addition, according to Chartered Banker Institute, green finance is finance for achieving economic growth while reducing pollution and greenhouse gas emissions, minimizing waste, and improving efficiency in the use of natural resources. Further, green finance policy refers to a series of policy and institutional arrangements to attract private capital investments into green industries such as environmental protection, energy conservation, and clean energy through financial services such as lending, private equity funds, bonds, shares, and insurance (charteredbanker.com).

In this paper, green finance refers to initiatives to encourage investment in projects and programs that contribute to reducing environmental pollution and reducing the vulnerability of goods and persons to the effects of climate change.

Green Finance in Nigeria

Green finance has experienced some developments in Nigeria, including, among others, the following:

i. SEC demonstrated leadership by publishing guidelines to spur the emergence of green bond corporate issues, starting with sovereign green bond issuance and creating a benchmark for market participants and potential future green bond issuances (sec.gov.ng, 2022).
ii. In 2014, NGX launched its Corporate Governance Rating System (CGRS) for listed companies in Nigeria. In 2018 FMDQ Securities Exchange launched the Nigerian Green Bond Market Development Programme in partnership with Climate Bonds Initiative (CBI) and Financial Sector Deepening Africa (FSD Africa) (sec.gov.ng, 2022).
iii. In 2016, NGX conceptualized and developed the Green Bond Product Paper, which was embraced and championed in partnership with the Federal Ministry of Environment, the Federal Ministry of Finance, and the Debt Management Office. This effort led to the issuance of the maiden N10.69Bn 13.48% 5-year FGN Sovereign Green Bond in 2017 to fund projects to develop renewable energy, which was the first to be issued by any nation on the continent (sec.gov.ng, 2022).
iv. Listing of the inaugural sovereign FGN green bond and listing of corporate green bonds including the N15 billion (US$36 million), 15.5% 5-year Fixed Rate Senior Unsecured Green Bond issued by Access Bank of Nigeria Plc, the N8.5 billion (US$21 million), 15.6%

15-year Guaranteed Fixed Rate Senior Green Infrastructure Bond by North South Power Company (NSP), and the Series II N15 billion, 14.5% FGN 7-year sovereign green bond in 2019, which recorded a 220% subscription rate and was oversubscribed by N17.93 billion (US$44 million) (sec.gov.ng, 2022).

v. The Sustainability Disclosure Guidelines of the NGX were approved by the Securities and Exchange Commission (SEC) in Nigeria on 9 November 2018. The guidelines became effective on 19 March 2019 and primarily provide the value proposition for sustainability in the Nigerian context. It also articulates a step-by-step approach to integrating sustainability into organizations and highlights indicators that should be considered when providing annual disclosure to NGX (sec.gov.ng, 2022).

vi. In 2019, the Nigerian Exchange Limited (NGX), formerly known as the Nigerian Stock Exchange, signed a Memorandum of Understanding (MOU) with the Luxembourg Stock Exchange (LuxSE) to cooperate in promoting cross-listing and trading of green bonds in Nigeria and Luxembourg. This partnership yielded its debut transaction with the successful cross-listing of Access Bank's N15 Billion Green Bond on the NSE and LuxSE (sec.gov.ng, 2022).

vii. NGX participated in the Sustainable Stock Exchanges Initiative (SSEI) working group led by Mark Carney, UN Special Envoy for Climate Action and Finance, to develop a Model Guidance on climate reporting for securities Exchanges. The Model Guidance was launched in July 2021 (sec.gov.ng, 2022).

Green Financial Products and Services

Until recently, traditional banks hardly practiced actively engaging or seeking investment projects or opportunities in environmentally friendly sectors. Green financial products and services are recent innovations. Companies differ in their motivation for green financial products, the variation, and innovation leading to their development.

Some of the financial products that are labeled as green that are currently in existence include, among others, the following: green bonds, green equity, green loans, sustainability-linked loans, green mutual funds, solar bonds, green mortgages, sustainability-linked bonds, renewable energy credits, climate risk insurance, and green securitizations.

Green bond

According to KMPG (2020), green bonds are an investment vehicle of choice for the private and public sectors to finance to finance projects with environmental benefits. In particular, low-carbon transport, clean power and energy, and efficient buildings have made this financing available (kmpg.com).

Green equity

According to KMPG (2020), a green equity fund is a structured investment vehicle that selects investments based on a commitment to a green investment strategy. This structure enables different investors to pool their capital with qualified investment managers to pursue an agreed investment strategy (kmpg.com).

Green securitization

The bundling of green loans into securities can unlock additional capital to finance the transition to a decarbonized and climate-resilient economy. Securitization enables the aggregation of multiple small-scale loans and helps to attract a different investor base. Importantly, securitizing existing loans also gives banks and other primary lenders an opportunity to refinance existing loan portfolios and recycle capital to create fresh portfolios of green loans. Different structures, such as collateralized loan obligations and asset-backed securities transactions, can be utilized (kmpg.com)

Green loans

Green loans are loans aimed at advancing environmental sustainability and are similar in nature to green bonds. Separate green loan principles have now been developed. Therefore, we are likely to see some or all of these products being increasingly utilized to attract investment capital for the fight against climate change (kmpg.com).

Sustainability-linked bonds

These are used by companies in carbon-intensive sectors such as oil and gas or heavy industry, where green bonds may not be accessible due to specific criteria (kmpg.com).

Climate insurance
Insurance represents a very important but much underutilized approach in helping to structure climate-related financial solutions and, which can be included in a wider financing approach to help make it bankable. This includes sovereign risk insurance and technology insurance products (kmpg.com).

Green car leasing – Energy efficiency – Green mortgages. — Other solutions: – Public/private partnerships. These have been used extensively to support infrastructure projects and represent a viable financing tool for climate finance, particularly given the necessity of involving both the public and private sectors in climate mitigation.

Drivers of Financial Products and Services
According to UNEP (2007), three factors lead to the demand and growth of green financial products and services: environmental knowledge and media coverage, environmental awareness and public opinion, and environmental regulation and legislation.

The information age has enabled an unprecedented awareness of the severity, sources, and implications of various environmental challenges, such as air quality, water scarcity, and soil erosion. As history shows, widespread media coverage of environmental challenges can lead consumer behavior to change, sometimes rapidly, toward far-reaching environmental action (Innes, 2006). However, in response to the advocacy, consumers and other stakeholders are beginning to shift towards climate-friendly actions and behavior and are heightening demand for the implementation of climate regulations, even though the rate of this societal transformation differs among regions of the world.

The relatively high degree of environmental awareness and government support is reflected in the ever-growing consumer demand for "eco-friendly" products and services. According to a 2006 CFS study, 54% of UK citizens would opt for an environmentally friendly product if there was no difference in cost for an alternative, and 82% would choose to purchase an environmentally friendly product to make a personal contribution to the fight against global warming. (CFS, 2006).

Legislative and regulatory actions, particularly with regard to the price/market certainty they provide environmental markets and constraints they induce on unsustainable practices and operations, can significantly stimulate demand for "green" products and services among all types of stakeholders. In Europe, proactive governmental policy, such as the European CO2 Emissions Trading Scheme, German feed-in-tariffs for renewable energy, and Dutch Green Funds, has helped trigger both demand for and development of "greener" consumer options (UNEP, 2007).

Conclusions

From the foregoing discussion, the following conclusions can be deduced;

i. There is an absence of a universal definition of green or sustainable finance;
ii. Green finance presents a veritable platform for further deepening the financial system globally;
iii. Green finance is a valuable tool for the transformation of the global economy in an environment-friendly manner;
iv. There is no single measure for measuring the progress of green finance;
v. Green finance has experienced appreciable progress in Nigeria; for example, in 2017, NGX issued the maiden FGN Sovereign Green Bond valued at N10.69Bn 13.48% 5-year to fund projects to develop renewable energy, which was the first to be issued by any nation on the continent.

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