# IMPACT OF GREEN FINANCE ON ECONOMIC GROWTH IN NIGERIA

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## ABSTRACT

*Nowadays, every nation aspires for economic growth, and the most promising way to achieve this goal is through green finance, which is the development of financial operations in harmony with ecological balance and environmental conservation. The study investigated the impact of green financing on economic growth in Nigeria using data spanning from 1990 to 2023 obtained from various issues of CBN Statistical Bulletin and World Bank Pollution Management Data Base 2023. The study used real gross domestic product as the dependent variable while climate change, carbon finance, and green credit were used as independent variables. The data were analyzed using Co-integration and vector autoregressive. Serial Correlation LM Test, Heteroskedasticity and Normality tests were employed to assure the robustness of the model. The Johansen test of co-integration showed absence of long-relationship among the variables. From the short-run ordinary least square result, it was revealed that green credit exhibited a significant positive effect on economic growth of Nigeria while other variables are not significant but directly induced economic growth. Similarly, VAR model indicated that all the variables were directly related to economic growth. Based on this result, the study came to the conclusion that the dynamic financial approach of green financing serves as a strategic tool to lessen the far-reaching effects of these ecological concerns. As a result, suggested the need for institutional quality capable of promoting the country's ecosystem to enhance economic growth.*

**Keywords:** *Green Finance, Economic Growth, Climate Change, Carbon Finance, and Green Credit.*

## 1.0 INTRODUCTION

Amid the challenges threatening the global environment and economic volatility, green financing has become a critical as the current state of the world is characterized by urgent environmental issues that affect economies and political spheres, such as ecological imbalances, biodiversity loss, climate change among others (Chukwunweike & Ogheneotegiri, 2023). Experts and organizations have taken notice of these issues since they are recognized as immediate risks to humankind's long-term development and existence (Abuatwan, 2023; Jha & Bakhshi, 2019).

The rise of green finance (GF) has been essential in responding to this pivotal moment.

Green financing which is otherwise termed as the environmental financing connotes the funding of projects that brings economic benefits while promoting sustainable environment (Angom, 2021; Mangwa & Jagongo, 2022). It entails the funding of private and public green investments. Green finance combines environmental protection with economic profits and covers investment in activities that reduce loss to the climate and the environment (Ozili, 2022). Green finance is the allocation of resources to investment that provide benefit to the environment while ensuring economic growth (Flammer, 2021).

In Nigeria, the dynamic interaction between green finance and economic growth propels financial resilience and environmental responsibility (Angom, 2021; Mangwa & Jagongo, 2022). Green financial solutions emerge as transformative tools in Nigeria's efforts to alleviate poverty, reduce wealth disparity, and meet the problems posed by the country's rapid population increase. Thus, by supporting resource-efficient alternative energy projects that are environmentally sound, green financing contributes in no small measure in shaping the country's development process (Zheng et al., 2021). Furthermore, Liu et al. (2023); Abuatwan (2023); Jha and Bakhshi (2019) among others show that green finance can support economic growth by encouraging investment in sustainable development and eco-friendly initiatives. In theory, green financing is effective in addressing the issues of economic growth through innovation, employment opportunities and resource productivity (Liu et al., 2021).

The unsustainable exploitation of resources has caused abrupt and irreversible changes in the ecosystem that have serious repercussions for human well-being and threaten the survival of numerous communities. This has serious implication on the people has living standard have deteriorating particularly for those living in rural areas on the outskirts (Eke et al., 2022; Ezeani & Okeke, 2021). Despite the growing recognition of green financing as a vital tool for sustainable/green development, and invariably economic growth, Nigeria faces several pressing issues in leveraging this mechanism to promote economic growth (Adewale & Ojo, 2023; Okonkwo, 2021). In addition, exploiting green finance variables such as green bond, green investment, carbon oxide emission, climate change to economic growth of Nigeria has not receive much attention in the growing literature particularly, in Nigeria. This study therefore, bridges this gap by examining the effect of green finance on economic growth from 1990-2022. More so, most documented literature on green financing such as Abuatwan (2023), Liu et al. (2023), Liu and Wu (2023), Mangwa and Jagongo (2022), Zakari (2022), Angom (2021), Jha and Bakhshi (2019) among others are found in other countries. Little empirical evidences are studies conducted in Nigeria. Therefore, a study on green financing on economic growth is relevant in the context of Nigeria. This is beneficial to the government, policymakers, investors and the academia in general.

## 2.0 LITERATURE REVIEW

### 2.1 Conceptual Review

#### 2.1.1 Green Finance

Green finance refers to financial activities, investments, and products that support projects or initiatives with positive environmental impacts**.** This includes reducing carbon emissions, protecting the ecosystems, promoting renewable energy, and managing natural resources sustainably (Ozili, 2022). Green finance also connotes the allocation of resources to green investment and green technology to support environmental sustainability and green citizens. They measure green finance as green loans, investment, technology, and green training (Chukwunweike et al. 2023; Ogheneotegiri et al. 2023; Fasesin et al. 2022).

### 2.1.2 Carbon Finance

Carbon finance is the process of raising and managing funds to reduce or avoid carbon emissions, often through mechanisms like carbon credits or carbon trading. It links environmental action with economic incentives. It refers to financial mechanisms that aim to reduce greenhouse gas emissions, primarily carbon dioxide ($CO_2$), by putting a monetary value on carbon reductions. In other words, it's about turning the reduction of carbon emissions into a tradable or investable (Ademola et al., 2023).

Carbon oxides are among the most dangerous emissions in the environment especially when it comes to both air pollution and climate change where carbon monoxide (CO) and carbon dioxide ($CO_2$) are most prominent. As a greenhouse gas, $CO_2$ is one of the most recognized gases that emanate from fossil fuel combustion and emissions from deforestation and specific industrial processes, while CO is a toxic gas that is generated by the incomplete combustion of carbonaceous substances (Akinyemi et al., 2021).

Some of the carbon oxides emitted in Nigeria are the carbon dioxides ($CO_2$) and carbon monoxide (CO) which are very hazardous to the environment and human health. Since Nigeria is an emerging economy with increasing population and industrialization, the identification of these sources, consequences and mitigation measures for these emissions is highly relevant in combating the effects of climate change as well as maintaining the quality of air.

### 2.1.3 Climate Change

Climate change means gradual shifts in the Earth's climate over several decades including fluctuations in temperatures and precipitation, movement of wind patterns among others. This is mainly as a result of human endeavors particularly the discharge of greenhouse gases (GHGs) which enhances the warmth trap constituent in the atmosphere thereby causing global warming (Adewale & Ojo, 2023). More to this, global warming presents a major threat to natural systems, human well-being and profitability.

The issue of climate change in Nigeria is therefore challenging since the country has different climate regions, and the issue has a social-economic impact. Nigeria, being in the West African region, is not exempt from the changes in climate, including; elevated temperatures, change in rainfall pattern and fatal weather conditions. Although the impact and the vulnerability analysis of

climate change in Nigeria are well explained, these works have not defined the effects, and the measures that are required to tackle these impacts and vulnerabilities.

### 2.1.4 Green Credit

This is a financial instrument that is designed in order to assist environmentally sustainable projects and initiatives. This involves financial institution integrating environmental and social responsibility into credit decision making process. The concept is closely related to carbon finance but broader in scope (Akinyemi et al., 2021). It generally refers to financial products, loans, or credits provided to support environmentally friendly projects. Essentially, it's money lent or invested specifically for "green" initiatives. Green credit is a financial instrument, usually provided by banks, financial institutions, or government programs, to support projects that are environmentally sustainable. These projects could include renewable energy, energy efficiency, pollution reduction, or climate change mitigation (Adewale & Ojo, 2023).

### 2.1.5 Economic Growth

Gross domestic product or GDP as it is commonly known is the other measure of economic growth which is the value of all final goods and servics produced in an economy within a specified period of time. Growth tendencies in Nigeria open periods of growth and decline caused by endowments with natural resources, the policy and external economic situation. This review gives historical trends, factors, issue, and policy implication of economic in Nigeria based on the conceptual frameworks to advance the knowledge of the subject (Akinlo & Egbetunde, 2020).

## 2.2 Empirical Literature

Tolassa et al. (2023) used the China datasets years 1990 to 2019 adopting the Auto Regression Distributive Lag method to investigate the effects of eco-innovation and green investment on CO2 emissions. The research employed patents and environment-related technology as two proxies to assess the effect of eco-innovation. The empirical results verify that eco-innovation and green investment have a negative effect on CO2 emissions, indicating that these factors limit CO2 emissions in China. The research recommends supporting green legislation and advancing green investment to reduce CO2 emissions in light of these results.

Chien (2023) in his study uses data adapted from secondary sources from Bloomberg between 1991 and 2020. It investigated the ideas of green investment, financial inclusion, eco-innovation, in enhancing efficacy for China sustainable development. The Bayesian Auto-regressive Distributed Lags (BARDL) model was used. The findings showed existence of correlation between sustainable development and green investment, the eco-innovation index in China. The report guides policymakers in creating policies that use eco-innovation, green investment, and financial inclusion to improve sustainable development.

Lin et al. (2023) used data from 2000 to 2020 when examining how China's renewable energy, financial growth, green financing, industrial structure, coupled with carbon neutrality asymmetrically interact with the aid of causality, co-integration, and frequency test. It was revealed that organization or country that that places emphasis on green financing usually experience better economic sustainability.

Zhou and Xu (2022) used China data with special focus on 30 regions, evaluated green finance and regional ecological development using the generalized method of moment (GMM) model to construct an empirical model and understand the theoretical mechanism for the study. The estimations result documented that green finance and development of ecology showed a U shape connection.

Ozili (2023) examine that an over-abundance of heterogeneous concepts, definitions, and policy and industry standards governs the green finance landscape. Past works was relied on in drawing its conclusion. It was argued that there may be delay in smoothing conceptual development of green finance with such heterogeneity and therefore recommended that the applied and conceptual landscape of sustainable finance should be termed 'finance for sustainability' to curtail the heterogeneity. Adedayo and Oguntuase (2019) investigated green banking regulation for financial stability in Nigeria. 277 bank employees in Lagos, Nigeria, completed a pre-tested questionnaire for the study. To ascertain the relationship between the questionnaire indicators, Pearson correlation was employed. The study showed a substantial positive correlation between all the indices, including perceptions of climate financial risk, awareness of climate change, and greening of banking regulations.

## 3.0 RESEARCH METHODOLOGY

The study examined the impact of green financing on economic growth of Nigeria. It examined the nature of climate change, carbon finance, and green credit on the real gross domestic product ranging from 1990-2023. Ordinary least square, Johansen Co-integration coupled with Vector autoregressive (VAR) estimation were employed.

### 3.2 Model Specification

To examine the impact of green finance on economic growth in Nigeria, the study modified the model used in the work of Akerele et al. (2024). In a functional form, Akerele et al. (2024) model is stated as:

$GDP = f(GFD, GFG)$……..(i)
Where GDP is denoted as Gross domestic product, GFD connotes Investment in green economy through debt financing, and GFG is Investment in green economy through grants. In line with this, the study model is specified as follows:
RGDP = f (CC, CF, GC)……(ii)
Stochastic term:
$RGDP = \beta_0 + \beta_1 CC + \beta_3 CF + \beta_4 GC + \mu_t$……..(iii)

Where:
RGDP = Real Gross Domestic Product; $CC$ = Climate Change; $CF$ = Carbon Finance, $GC$ = Green
Credit; $\beta_0$= Constant; μ= Error term; t= time trend

## 4.0 RESULTS AND DISCUSSION

### 4.1. Descriptive Statistics of Variables

**Table 4.1: Descriptive Statistics of Variables**

| | RGDP | CC | CF | GC |
|---|---|---|---|---|
| Mean | 8.148814 | 11.47456 | 12.53165 | 5.903957 |
| Median | 8.301016 | 11.48468 | 12.50444 | 5.952511 |
| Maximum | 8.702374 | 11.69144 | 12.72748 | 6.381189 |
| Minimum | 7.480672 | 11.19504 | 12.36166 | 5.262056 |
| Std. Dev. | 0.411821 | 0.132235 | 0.100954 | 0.379130 |
| Skewness | -0.154380 | -0.175017 | 0.496525 | -0.344495 |
| Kurtosis | 1.385425 | 2.144674 | 2.167477 | 1.576764 |
| Jarque-Bera | 3.715503 | 1.174397 | 2.308957 | 3.437924 |
| Probability | 0.156023 | 0.555882 | 0.315222 | 0.179252 |
| Sum | 268.9109 | 378.6604 | 413.5443 | 194.8306 |
| Sum Sq. Dev. | 5.427092 | 0.559551 | 0.326136 | 4.599659 |

***Sources:*** *Author's Computation, 2025*

Table 1 revealed that mean value of real gross domestic product, climate change, carbon finance and green credit are 8.148814, 11.47456, 12.53165 and 5.903957 respectively. From this result, carbon finance has the highest mean value. The standard deviation denotes the discrepancy range and it revealed that real gross domestic product has high discrepancy rate. Conversely, carbon finance shows the lowest level of discrepancy. Skewness measures the degree of asymmetry or deviation of the variables from symmetry. Accordingly, carbon finance exhibited a long right tail. This is because the variable exhibited positive value while real gross domestic product, climate change, and green credit are negatively skewness implies that the distribution of these variables is long left tail because of its negative value.

Kurtosis is a metric used to quantify how peaked and flat the series distribution is. Likewise, the kurtosis value of each variable is less than 3, indicating that the distribution's peak is smaller than that of a normal distribution. As a result, it can be called platykurtic distribution. A statistical technique called Jarque-Bera is used to assess if a series is regularly distributed. This statistic calculates how the series' skewness and kurtosis differ from those of a normal distribution. The series is normally distributed, according to the null hypothesis, as opposed to the alternative that

it is not. Since all of the variables' probability values are higher than 0.05, it is evident from the Jarque-Bera statistic that they are all regularly distributed.

### 4.1 OLS Result on the Impact of Green Financing on Economic Growth in Nigeria

**Dependent Variable: Real Gross Domestic Product**

**Table 2 Ordinary Least Square (OLS)**

| Variable | Coefficient | Std. Error | T-Statistic | Prob. | Decision $H_0$ | $H_1$ | Remark |
|---|---|---|---|---|---|---|---|
| C | 8.162909 | 7.247111 | 1.126367 | 0.2692 | | | |
| CC | 0.103639 | 0.785995 | 0.131858 | 0.8960 | Accept | Reject | Insignificant |
| CF | 0.850899 | 1.212303 | 0.701887 | 0.4883 | Accept | Reject | Insignificant |
| GC | 0.755313 | 0.151178 | 4.996185 | 0.0000 | Reject | Accept | Significant |

**$R^2$** = 0.743472 **Adjusted $R^2$**= 0.716935 **F-Stat** = 28.01609
***Source: Source:*** *Author's Computation, 2025*

The OLS equation is thus reported as:

$$RGDP = 8.162909 + 0.103639_{CC} + 0.850899_{CF} + 0.755313_{GC} + \mu$$

Table 2 the result indicated that the intercept coefficient is 8.162909 units. It symbolised that if all the independent variables are held constant, economic growth will increase by 8.162909 units in the short run. Climate change has an insignificant positive coefficient of 0.103639 units, implied that a unit increase in climate change will lead to 0.103639 unit increase in economic growth in Nigeria. Carbon finance also has a positive and insignificant relationship of 0.850899 units, this implied that a unit increase in carbon finance will lead to 0.850899 unit increase in economic growth in Nigeria. The coefficient of green credit is positive and significant with a value of 0.755313 units. This showed that a unit increase in green credit increases economic growth by 0.755313 units.

The coefficient of multiple determination denoted as $R^2$ was determined. This gives a value of 0.743472 with an adjusted $R^2$ value of 0.716935 implied that about 72% explanation of the behaviour of the economic growth in Nigeria are explained by the totality of the independent variables (CC, CF and GC) on the short-run while the remaining 28% are being explained by the presence of error term. As evident to the hypothesis earlier formulated, the F-statistics result was determined. The F-test indicated 28.01609 values with $P < 0.05$ (i.e. $0.000000 < 0.05$) thereby confirming the significant impact of green financing on economic growth in Nigeria.

### 4.3 Unit Root Test

**Table 3: ADF Unit Root Test**

| Variables | ADF | Integration Order |
|---|---|---|

| | Critical values @5% | t- statistics | Prob. | |
|---|---|---|---|---|
| RGDP | -2.960411 | -4.351086 | 0.0017 | I(1) |
| CC | -2.960411 | -5.984978 | 0.0000 | I(1) |
| CF | -2.960411 | -5.942866 | 0.0000 | I(1) |
| GC | -2.960411 | -4.844593 | 0.0005 | I(1) |

***Source:*** *Researchers' Computation, 2025*

Table 3 revealed that all the variables (RGDP, climate change, carbon finance and green credit) were not stationary at level but after first difference. Their integration order at first different suggested the use of Johansen test of co-integration.

### 4.3 Johansen Co-integration Test

**Table 4 Co-integration Test Result**

| **Hypothesized No. of CE(s)** | **Eigenvalue** | **Trace Statistic** | **0.05 Critical Value** | **Prob.**** |
|---|---|---|---|---|
| None | 0.474451 | 46.23678 | 47.85613 | 0.0704 |
| At most 1 | 0.382318 | 26.29408 | 29.79707 | 0.1201 |
| At most 2 | 0.267723 | 11.35885 | 15.49471 | 0.1904 |
| At most 3 | 0.053343 | 1.699360 | 3.841466 | 0.1924 |

***Sources:*** *Author's Computation, 2025*

- denotes rejection of the hypothesis at the 0.05 level

Tables 4 revealed the long-run result using Johansen Co-integrated Test. The Table showed absence of long-run relationship among all the variables. This is evident from the trace statistics and 5% critical values of the first two and three rows of the third and fourth column of Table 4.6 that showed a value lesser than that of the 5% critical value. Hence, the hypothesis of no co-integration ($H_0$) is upheld and that of presence of co-integration ($H_1$) is rejected.

### 4.4 Vector autoregressive (VAR) Model

Since absence of long-run relationship is observed, Vector Autoregression Estimates was therefore employed as reported in Table 5.

**Table 5 Vector autoregressive (VAR) Model**

| **Variables** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
|---|---|---|---|---|
| RGDP(-1) | 0.949184 | 0.104462 | 9.086420 | 0.0000 |
| CC(-1) | 0.223808 | 0.448659 | 0.498837 | 0.6219 |

| | | | | |
|---|---|---|---|---|
| CF(-1) | 0.759523 | 0.721462 | 1.052755 | 0.3018 |
| GC(-1) | 0.100168 | 0.115365 | 0.868267 | 0.3929 |
| c | 6.797452 | 4.489366 | 1.514123 | 0.1416 |

**R-squared** = 0.921163, **Adjusted $R^2$** = 0.909484; **F-Stat** = 78.86978, Prob. = 0.0000

***Sources:*** *Author's Computation, 2025*

From the VAR estimation result, the coefficient of the constant parameter is 6.797452 unit. This implied that if all the explanatory variables are held constant, the dependent variable will increase by 6.797452 units. The lag one value of real gross domestic product is 0.949184 unit. This value is significant and positively related to current value of real gross domestic product. The result implied that a unit increase in lag one of RGDP will lead to 0.949184 unit increase in the present value of real gross domestic product. At 0.223808 units, climate change also has a negligible positive correlation with real gross domestic product. According to the results, Nigeria's real gross domestic product will rise by 0.223808 units for every unit increase in climate change. With a 0.759523-unit value, carbon financing has a positive but negligible effect on real gross domestic product, suggesting that a unit increase in carbon finance will result in a 0.759523 unit increase in Nigeria's real gross domestic product. Furthermore, there is a negligible positive correlation between Nigeria's actual gross domestic product and green credit. Nigeria's economic growth will rise by 0.100168 units for every unit increase in green credit.

**Table 6 Diagnostic Tests**

| | | | |
|---|---|---|---|
| **Serial LM Test** | | | |
| F-statistic | 1.654108 | Prob. F (2,25) | 0.2115 |
| Obs*$R^2$ | 3.739654 | Prob. Chi-Square (2) | 0.1542 |
| **Heteroskedasticity Test** | | | |
| F-stat. | 2.79252 | Prob. F (4,27) | 0.0462 |
| Obs* $R^2$ | 9.36447 | Prob. Chi-Square (4) | 0.0726 |
| Scaled explained SS | 6.017994 | Prob. Chi-Square (4) | 0.1978 |
| **Normality Test** | | | |
| Stat. | 2.433503 | Prob. | 0.296191 |

***Source:*** *Author's Computation, 2025*

The Breusch-Godfrey serial correlation test's p-value, which indicates insignificance at the 5% level, provided evidence in favour of the null hypothesis. Consequently, there is no serial correlation between the variables in the model. In a similar vein, the probability of the Chi-square for heteroskedasticity showed a value of 0.0726, while the Jarque–Bera of 2.433503 and its probability value of 0.296191, which is greater than 0.05 percent, demonstrate that the residuals are normally distributed and that there may be a heteroskedasticity issue that could compromise the model's suitability.

## 4.5 Discussion of Findings

The study examined green financing on economic growth in Nigeria. The study begins by conducting the stationary status of the variables using unit root test. Result obtained from the unit root indicated that all the variables such as real gross domestic product, climate change, carbon finance, green credit were stationary at first difference. From the short-run OLS result, it was revealed that green credit depicted a significant positive effect on economic growth of Nigeria while other variables are not significant but positively related to economic growth. The outcome of this result is consistent with the works of Narufe and Evbayiro-Osagie (2023), Jakada and Mahmood (2020), Oyedeko (2022), Fasesin et al. (2022), Adedayo and Oguntuase (2019), Okonkwo and Uwazie (2015), among others. The implication of the positive result is that green finance is recognised as the foremost means of achieving economic growth in Nigeria.

## 5.0 CONCLUSION AND RECOMMENDATIONS

Nowadays, every nation aspires for economic growth, and the most promising way to achieve this goal is through green finance, which is the development of financial operations in harmony with ecological balance and environmental conservation. The study came to the conclusion that the dynamic financial approach of green financing serves as a strategic tool to lessen the far-reaching effects of these ecological concerns. Based on this, it was suggested that in order to combine economic and environmental policies, institutional capacity needed to be developed.

## REFERENCES

Abuatwan, N. (2023). The impact of green finance on the sustainability performance of the Adedayo, A. O., & Oguntuase, O. J. (2019). Greening banking regulation for financial stability in Nigeria: A survey. *International Conference on Accounting, Finance and Insurance,* 10-12.

Ademola, A., Olowu, R., & Bassey, E. (2023). Green finance and climate change adaptation in Nigeria. *Environmental Economics and Policy Studies, 25(2),* 345-367.

Adewale, M., & Ojo, J. A. (2023). Green finance and its impact on economic growth: Evidence from Nigeria. *International Journal of Financial Research, 14(2),* 112-127.

Akerele, T., Okeme, E., & Amadi, S. N. (2024). Impact of green finance on sustainable development in Nigeria. *Addaiyan Journal of Arts, Humanities and Social Sciences, 6*(08), 01-12. DOI: 10.36099/ajahss.6.8.1

Akinlo, A. E., & Egbetunde, T. (2020). Economic growth and development in Nigeria: An overview. *African Journal of Economic Review, 8(1),* 47-65.

Akinyemi, J. F., Oduwole, O. A., & Alabi, M. O. (2021). Climate change and its impacts on Nigeria's economy and environment. *Climate Change Economics, 12(1),* 215-238.

Angom, J. (2021). The potential role of green finance in realizing sustainable recovery from banking sector in Palestine: The moderating role of female presence. *Economies, 11*(247), 1-22.

Chien, F., (2023). The Impact of green investment, eco-innovation, and financial inclusion on sustainable development: Evidence from China. *Inzinerine Ekonomika-Engineering Economics, 34*(1), 17–31

Chukwunweike, E. V. & Ogheneotegiri, E. F., (2023). Green financing initiatives and economicstability in Nigeria. *Advance Journal of Management, Accounting and Finance, 8(6),* 1 20 commercial banks in Kenya. *International Journal of Recent Research in Commerce Economics and Management (IJRRCEM) 9*(1), 56-64.

COVID-19 and achievement of Sustainable Development Goals. *International Journal of*

Eke, S. C., Obi, C. E., & Akintoye, O. O. (2022). Green finance and economic growth: An empirical analysis in the context of Nigeria. *Environmental Economics and Policy Studies, 24(4),* 589 604.

Ezeani, E. O., & Okeke, N. P. (2021). Sustainable economic development and environmental sustainability in Nigeria: Challenges and prospects. *Nigerian Journal of Economic and Social Studies, 40(1),* 75-92.

Fasesin, O. O., Babalola O. A., A.W Babatunde, A. W., & Oladeji, A. A., (2022). Green finance and environmental performance: An Empirical evidence from Nigerian Banks. *International Journal of Multidisciplinary Research and Explorer (IJMRE), 2(9),* 1-16, https://doie.org/10.0913/IJMRE.2022209556

Flammer, C. (2021). Corporate green bonds. *Journal of Financial Economics, 139(2),* 525-543.

*International Journal of Recent Technology and Engineering (IJRTE) 8*(4), 3798-3801.

Jakada, A. H., & Mahmood, S., (2020). An asymmetric effect of economic growth, foreign direct investment and financial development on the quality of environment in Nigeria. *Journal of Management Theory and Practice (JMTP), 1(6),* 1-13 http://dx.doi.org/10.37231/jmtp.2020.1.1.6

Jha, B., & Bakhshi, P. (2019). Green Finance: Fostering sustainable development in India.

Lee, J., Park D., & Tian S., (2021). Green finance, innovation, and firm performance: Evidence from the republic of Korea. *Asian Development Outlook 2021: Financing a Green and Inclusive Recovery.*

Li, M., Hamawandy, N. M., Wahid, F., Rjoub, H., & Bao, Z., (2021). Renewable energy resources investment and green finance: Evidence from China. *Elsevierltd, 74,* 102-402. https://doi.org/10.1016/j.resourpol.2021.102402

Lin, Y., Anser, M. K., Peng, M. Y., & Irfan, M., (2023). Assessment of renewable energy, financial growth and in accomplishing targets of China's cities carbon neutrality. *Elsevier limited, 205,* 1082-1091

Liu, D., Chang Y., Yao H., and Kang Y., (2023). The impact of green finance on green economy development efficiency: based on panel data of 30 provinces in China. *Front. Environ. Sci. 11:1328914.* https://doi.org/10.3389/fenvs.2023.1328914

Mangwa, I. M., & Jagongo, A. O. (2022). Green financing and financial performance of listed

Okonkwo, I. (2021). Nigeria's Green Bond Market Development Programme: A case study of green finance in Africa. *African Journal of Environmental Science, 16(1),* 87-101.

Okonkwo, O. N. & Uwazie, U. I., (2015). Green economy and its implications for economic growth in Nigeria. *Journal of Resources Development and Management, 11*, 1-22

Otali, M. & Monye, C. (2023), Implementation of green finance as a catalyst for green infrastructure development In Nigeria. *Journal of Contemporary Research in the Built Environment, 7(2),* 1-64

Oyedeko, Y. O., Zubairu, M., & Samson, R., (2022). Digital Financial Inclusion and Green Financing in Africa: The moderating the role of Eco-Innovation. 1-14

Ozili P. K. (2023). Theories of Sustainable/green finance. *Managing Global Transitions Journal, 1-21 https://doi.org/ssrn.com/abstract=4055371*

Ozili, P. K. (2022). Green finance research around the world: a review of literature. *International Journal of Green Economics*, 1-31 *Research and Innovation in Social Science (IJRISS), 5*(4), 218-225. sustainability performance of financial institutions in Bangladesh: The role of green finance. *Sustainability*, *13*, 10165.

Tolassa, T.H., Hieu, M.V, Apichit, M., Nafeesa, M., Phan, C., & Song. L., (2023). Does eco innovation and green investment limit the CO2 emissions in China?, *Economic Research Ekonomska Istraživanja, 36*(1), 634-649, https://doi.org/10.1080/1331677X.2022.2116067

World Bank (2022). World Development Indicators. *World Bank Publications*.

World Bank. (2021). Nigeria economic update: Navigating the recovery. *Retrieved from [World Bankwebsite]* https://www.worldbank.org/en /country/nigeria/publication/ economic update

Zheng, G., Abubakkar, S., Mohammad M., & Nazneen, F. (2021). Factors affecting the

Zhou, H. & Xu, G., (2022). Research on the impact of green finance on China's regional ecological development based on system GMM model. *Resources Policy*, 75(16), https://doi.org/10.1016/j.resourpol.2021.102454