

Carbon Accounting Disclosures on the Firm Value of Listed Consumer Goods Firms in Nigeria

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ABSTRACT

This study examined the effect of carbon accounting disclosures on the market capitalization of listed consumer goods firms in Nigeria. Specifically, it investigated the impact of carbon emission disclosure, carbon reduction strategies and targets disclosure, and energy efficiency and low-carbon initiatives disclosure on firm value. The study was motivated by increasing global concern over climate change and the growing importance of environmental transparency in corporate reporting, particularly in emerging economies where disclosure practices remain weak and inconsistent. An ex post facto research design was adopted, and data were obtained from the annual reports, sustainability reports, and financial statements of 17 listed consumer goods firms on the Nigerian Exchange Group (NGX) covering the period 2015–2024, yielding 170 firm-year observations. Carbon accounting disclosure was measured using a structured disclosure index, while firm value was proxied by market capitalization. Panel regression techniques were employed to analyze the data. The findings revealed that carbon emission disclosure and energy efficiency and low-carbon initiatives disclosure have significant positive effects on market capitalization, indicating that firms with higher transparency in emissions reporting and stronger operational sustainability initiatives tend to achieve higher market value. However, carbon reduction strategies and targets disclosure showed no statistically significant effect on market capitalization. The results suggest that investors in Nigeria place greater value on observable and operational sustainability actions than on forward-looking commitments. The study concludes that carbon accounting disclosures are important determinants of firm value in the Nigerian consumer goods sector. It recommends that firms enhance emissions transparency and invest in energy-efficient and low-carbon initiatives, while regulators strengthen disclosure standards to improve consistency and comparability of carbon reporting.

Keywords: Carbon accounting disclosure, market capitalization, consumer goods firms, Nigeria, sustainability reporting, climate change.

INTRODUCTION

Background of the Study

Climate change has increased environmental and financial risks for firms, leading to growing emphasis on carbon accounting disclosures as part of corporate reporting. Carbon accounting disclosure refers to the structured measurement and communication of greenhouse gas emissions, mitigation actions, and climate governance to stakeholders (Schaltegger et al., 2019). Such disclosures are increasingly important for investors assessing climate risk exposure and firms' readiness for a low-carbon transition, thereby influencing market-based firm value such as market capitalization (Eccles & Klimenko, 2019).

Carbon accounting involves identifying and reporting emissions under Scope 1, Scope 2, and Scope 3 categories using frameworks like the GHG Protocol. However, in emerging economies like Nigeria, challenges such as weak regulation, data limitations, high costs, and low technical capacity result in inconsistent disclosure practices. As a result, firms often rely on disclosure-based indices to capture transparency rather than precise emission quantities (Aifuwa et al., 2023).

Key dimensions of carbon disclosure include emissions reporting, reduction targets, energy efficiency initiatives, carbon management policies, governance structures, regulatory compliance, and adherence to global reporting standards. Emissions disclosure helps investors assess carbon intensity and risk exposure (Pankratz & Zeisberger, 2023), while reduction targets signal future mitigation commitments (Bolton & Kacperczyk, 2021). Energy efficiency initiatives improve cost efficiency and reduce emissions (IEA, 2023), and governance and policy disclosures enhance credibility and reduce information asymmetry (Eccles et al., 2022; Malik et al., 2021). Compliance with regulations and global standards such as GRI, TCFD, and ISSB further strengthens transparency and investor confidence (IFRS Foundation, 2023; World Bank, 2023).

Firm value is measured using market capitalization because it reflects investor expectations and incorporates non-financial information such as sustainability performance. Overall, carbon accounting disclosure provides a comprehensive framework for linking environmental transparency and climate governance to firm value in Nigeria's consumer goods sector.

Statement of the Problem

Environmental degradation arising from carbon emissions and poor waste management has increased the demand for transparent carbon accounting disclosures among firms. However, listed consumer goods firms in Nigeria continue to exhibit inadequate and inconsistent carbon reporting due to weak regulatory requirements and enforcement. This limits the availability of reliable information needed by investors and other stakeholders to assess climate-related risks and sustainability performance, thereby increasing information asymmetry and potentially affecting firm valuation.

Although carbon accounting disclosures are increasingly recognized as important determinants of investor confidence and market value, empirical evidence in Nigeria remains limited. Existing studies have focused mainly on environmental accounting and sustainability reporting, with little attention given to carbon-specific disclosures and their influence on market capitalization, particularly within the consumer goods sector. Consequently, there is insufficient evidence on how carbon accounting disclosure practices affect the market value of listed consumer goods firms in Nigeria, creating the need for this study.

Objective of the Study

The main objective of this study was to investigate the effect of carbon accounting disclosures on the firm value of listed consumer goods firms in Nigeria. Specifically, the study:

- i. Examined the effect of carbon emission disclosure on the market capitalization of listed consumer goods firms in Nigeria;
- ii. Assessed the effect of carbon reduction strategies and targets disclosures on the market capitalization of listed consumer goods firms in Nigeria;
- iii. Evaluated the effect of energy efficiency and low-carbon initiatives disclosures on the market capitalization of listed consumer goods firms in Nigeria.

Research Question

In line with the objectives above, the following research questions were considered:

- i. To what extent has carbon emission disclosure affected the market capitalization of listed consumer goods firms in Nigeria?
- ii. To what extent has carbon reduction strategies and targets disclosures affected the market capitalization of listed consumer goods firms in Nigeria?

- iii. What magnitude of effect has energy efficiency and low-carbon initiatives disclosures on the market capitalization of listed consumer goods firms in Nigeria?

Significance of the study

This study is significant to corporate managers, investors, regulators, and academics. It provides managers with insights into how carbon accounting disclosures can enhance firm value and support strategic decision-making. For investors, it offers useful information for assessing climate-related risks and making informed investment decisions. The study also assists regulatory bodies and policymakers in developing and strengthening climate-related disclosure frameworks and reporting standards. Furthermore, it contributes to the academic literature on environmental accounting and sustainability reporting by providing empirical evidence on the relationship between carbon accounting disclosures and the market capitalization of consumer goods firms in Nigeria, thereby serving as a basis for future research.

REVIEW OF RELATED LITERATURE

Conceptual framework

The conceptual framework illustrates the relationship between carbon accounting disclosures and firm value among listed consumer goods firms in Nigeria. Carbon accounting disclosures constitute the independent variable and comprise seven dimensions: carbon emission disclosure, carbon reduction strategies and targets, energy efficiency and low-carbon initiatives, carbon management policies, carbon governance structures, compliance with climate-related regulations, and compliance with climate-related reporting standards. The dependent variable is firm value, measured by market capitalization.

The framework assumes that the extent and quality of carbon accounting disclosures influence investors' perceptions of a firm's environmental responsibility, risk exposure, and long-term sustainability prospects. Consequently, improved carbon disclosure practices are expected to enhance investor confidence and positively affect market capitalization. The framework therefore establishes a direct relationship between the various dimensions of carbon accounting disclosures and the market value of listed consumer goods firms in Nigeria, providing the basis for the study's empirical investigation.

Carbon accounting disclosures

Carbon emission disclosure refers to the structured reporting of greenhouse gas emissions (Scope 1, Scope 2, and Scope 3) from firms' operations, designed to communicate their environmental impact in a transparent and comparable manner (Clarke, 2022; WRI, 2025). It goes beyond reporting emissions by reducing information asymmetry between firms and stakeholders, thereby improving understanding of firms' climate risks and performance (Saraswati, 2020).

The practice is explained by stakeholder, legitimacy, and signaling theories, which suggest that firms disclose emissions to meet stakeholder expectations, maintain social legitimacy, and signal superior environmental management to investors (Borghei, 2021). In emerging markets like Nigeria, voluntary disclosure is especially important due to weak enforcement and growing investor demand for climate-related transparency.

In this study, carbon emission disclosure was measured using a structured disclosure index derived from content analysis of annual and sustainability reports, capturing emission data, methodologies, reporting boundaries, trends, and verification (International Journal of Accounting and Financial Reporting, 2025). It was included as an explanatory variable because it isolates climate-relevant information that is more directly linked to investor valuation decisions than broader environmental disclosure measures.

Components of carbon accounting disclosures

Carbon emission disclosure

Carbon emission disclosure refers to firms' structured reporting of greenhouse gas emissions, including direct (Scope 1) and indirect (Scope 2 and Scope 3) emissions, to enhance transparency on their environmental impact (Clarke, 2022; WRI, 2025). It reduces information asymmetry between firms and stakeholders while enabling assessment of firms' contribution to climate change (Saraswati, 2020).

The practice is explained by stakeholder, legitimacy, and signaling theories, which suggest that firms disclose emissions to meet stakeholder expectations, maintain legitimacy, and signal superior environmental performance to investors (Borghai, 2021). In emerging markets like Nigeria, voluntary disclosure plays a key role due to weak enforcement and increasing investor demand for climate-related information.

In this study, carbon emission disclosure was measured using a disclosure index based on annual and sustainability reports, capturing emission quantities, reporting methods, boundaries, trends, and verification details (International Journal of Accounting and Financial Reporting, 2025). It was used as an explanatory variable because it provides a focused measure of climate-related transparency that is more relevant to investor valuation decisions than broader environmental disclosure indicators.

Carbon reduction strategies and targets disclosure

Carbon reduction strategies and targets disclosure refers to firms' reporting of forward-looking commitments and plans to reduce greenhouse gas emissions, including targets, timelines, and transition pathways toward low-carbon operations (Clarke, 2022). It signals managerial intent and is increasingly valued in global climate governance frameworks that emphasize credible and time-bound emission reduction plans (World Resources Institute, 2025).

The concept is explained by signaling theory and stakeholder theory, which suggest that firms disclose such targets to demonstrate environmental commitment, reduce information asymmetry, and respond to investor and regulatory expectations (Borghai, 2021; Saraswati, 2020).

In this study, it was measured using a disclosure index based on corporate reports, capturing reduction targets, baseline years, timelines, and alignment with recognized frameworks such as SBTi (International Journal of Accounting and Financial Reporting, 2025). It was used as an explanatory variable because it reflects firms' strategic climate orientation and is more informative for market valuation than general ESG scores.

Energy efficiency and low-carbon initiatives disclosure

Energy efficiency and low-carbon initiatives disclosure refers to firms' reporting of actions and investments aimed at reducing energy use and carbon intensity through improved technologies, renewable energy adoption, and operational efficiency (Schaltegger et al., 2022). It reflects the practical implementation of carbon strategies and demonstrates how firms translate environmental commitments into operational improvements.

The concept is supported by resource-based theory, which views energy efficiency investments as capabilities that enhance competitiveness, and legitimacy theory, which explains disclosures as a response to societal expectations on environmental responsibility (Hart & Dowell, 2019; Deegan, 2020). The International Energy Agency (IEA, 2023) further highlights energy efficiency as a key and cost-effective pathway to emission reduction.

In this study, the construct was measured using a disclosure index derived from annual and sustainability reports, capturing information on energy use, efficiency improvements, renewable energy adoption, and low-carbon technologies (Issa et al., 2024). It was included as an explanatory variable because disclosure reflects managerial commitment and transparency, which are more informative for investors than raw environmental performance

data. Empirical evidence suggests that such disclosures positively influence market perceptions and firm value, especially in developing economies (Clarke & Boersma, 2021).

Market capitalization

Market capitalization was used in this study as a proxy for firm value, representing the total market value of a company's equity based on its share price and outstanding shares. It is a forward-looking measure that reflects investors' expectations about future performance, risk, and growth opportunities (Afthanorhan et al., 2020; Issar, 2017).

Grounded in the efficient market hypothesis, market capitalization assumes that stock prices incorporate all available information, including non-financial disclosures such as carbon accounting information (Fama, 1970). Thus, changes in disclosure quality are reflected in investor valuation and share price movements.

Empirically, market capitalization is widely used in sustainability and disclosure studies because it captures real-time market reactions and investor sentiment more effectively than accounting-based measures (Clarkson et al., 2019; Odo et al., 2025). In this study, it was measured as the natural logarithm of total market value of equity at year-end to ensure normality and comparability across firms (Issar, 2017; Afthanorhan et al., 2020). It was preferred over alternatives such as Tobin's Q or accounting ratios due to its simplicity, market-based nature, and stronger sensitivity to disclosure effects in emerging markets.

THEORETICAL FRAMEWORK

Legitimacy theory by Mark Suchman (1995)

Legitimacy Theory (Suchman, 1995) explains that firms seek societal approval by aligning their actions and disclosures with prevailing norms and expectations. It identifies legitimacy as pragmatic, moral, and cognitive, with moral legitimacy most relevant to environmental reporting. The theory assumes that firms operate under a social contract and use disclosures to maintain legitimacy in response to changing societal expectations (Deegan, 2019; O'Donovan, 2002).

Although criticized for being broad and sometimes emphasizing symbolic disclosure over real action (Gray et al., 1995; Lyon & Montgomery, 2015), the theory remains useful for explaining environmental reporting behavior. In this study, it is applied to explain why Nigerian consumer goods firms disclose carbon information to gain public acceptance and meet stakeholder expectations.

Such disclosures are expected to improve investor perception, reduce uncertainty, and enhance firm value, thereby influencing market capitalization (Clarkson et al., 2019; Odo et al., 2025).

Stakeholder theory by Edward Freeman (1984)

Stakeholder Theory (Freeman, 1984) argues that firms are accountable to multiple stakeholders—not just shareholders—including investors, employees, customers, regulators, and communities. Firm survival depends on how well these competing interests are identified and managed (Donaldson & Preston, 1995; Mitchell et al., 1997).

The theory explains that stakeholders can influence corporate behavior through their power and expectations, and firms respond by adjusting strategies and disclosures. Although criticized for lacking clear guidance on balancing competing interests, it remains useful for explaining voluntary disclosure behavior.

In this study, Stakeholder Theory explains why Nigerian consumer goods firms disclose carbon information in response to increasing stakeholder demand for environmental transparency (Gerged et al., 2021). Such disclosures help reduce risk perceptions and improve investor confidence, thereby influencing market capitalization (Clarkson et al., 2019).

Empirical Review

Adewale and Okoye (2025) examined the impact of carbon emission disclosure on market capitalization of Nigerian non-financial firms using panel data (2016–2024). Their findings showed a positive and significant relationship, indicating that emission transparency improves investor confidence. However, the study was limited to industrial firms, excluding consumer goods firms.

Onyebuenyi and Aifuwa (2025) studied listed consumer goods firms in Nigeria and found that carbon emission disclosure positively and significantly affects firm value (Tobin's Q). Nonetheless, the study used Tobin's Q instead of market capitalization, which limits direct market valuation interpretation.

Zhang et al. (2025) investigated Chinese firms and found that high-quality carbon disclosure significantly enhances both market capitalization and Tobin's Q. The study emphasized that investors reward detailed and comparable emission reporting but was limited to China and did not distinguish emission scopes or industry differences.

Liu and Wang (2025) also found a positive relationship between carbon disclosure quality and market capitalization in Chinese firms, highlighting that investors value credible and detailed disclosures. However, the study's findings are context-specific and not directly applicable to emerging economies like Nigeria with weaker enforcement systems.

Overall, existing studies consistently show that carbon emission disclosure positively influences firm value, but gaps remain in scope specificity, industry coverage, and market-based valuation measures within the Nigerian consumer goods sector.

METHODOLOGY

This study adopted an ex post facto research design to examine the effect of carbon accounting disclosures on the market capitalization of listed consumer goods firms in Nigeria. The design was appropriate because it relied on historical secondary data without manipulation of variables, allowing for examination of cause–effect relationships.

The population comprised 26 listed consumer goods firms on the Nigerian Exchange Group (NGX), while a final sample of 17 firms was selected based on data availability for the period 2015–2024, resulting in 170 firm-year observations. A census sampling approach was adopted to include all firms with complete data, ensuring representativeness and minimizing selection bias.

Secondary data were obtained from annual reports, sustainability reports, integrated reports, and NGX databases. Carbon accounting disclosure was measured using a structured content analysis index covering seven dimensions: carbon emission disclosure, carbon reduction targets disclosure, energy efficiency and low-carbon initiatives. Firm value was proxied by market capitalization, measured as share price multiplied by outstanding shares, while firm size (natural logarithm of total assets) was included as a control variable.

Panel data regression techniques (pooled OLS, fixed effects, and random effects) were employed, with diagnostic tests such as Hausman, VIF, heteroskedasticity, and autocorrelation tests used to ensure robustness. Stata software was used for estimation, and a 5% significance level ($p \leq 0.05$) guided hypothesis testing.

Model Specification

The study specified a multivariate panel regression model as follows:

Functional form:

$MCAP = f(CED, CRTD, EELCI, FSIZE)$

Econometric form:

$$MCAP_{it} = \beta_0 + \beta_1 CED_{it} + \beta_2 CRTD_{it} + \beta_3 EELCI_{it} + \beta_4 FSIZE_{it} + \varepsilon_{it}$$

Where:

MCAP = Market capitalization (dependent variable)

CED = Carbon emission disclosure

CRTD = Carbon reduction targets disclosure

EELCI = Energy efficiency and low-carbon initiatives disclosure

FSIZE = Firm size (control variable)

β_0 = Constant term

β_1 – β_4 = Coefficients of explanatory variables

ε_{it} = Error term

Hypotheses were tested at a 5% significance level, and decisions were based on p-values, coefficient signs, and theoretical expectations.

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

This chapter presents the data collected for the study, 18384 analyses the data, tests the formulated research hypotheses, and discusses the findings based on the empirical results obtained.

Data Presentation

The study used a balanced panel dataset of 17 listed consumer goods firms on the Nigerian Exchange Group (NGX) over 2015–2024, covering subsectors such as food and beverage, brewing, personal care, and packaging. Market capitalization (MCAP), measured as share price multiplied by outstanding shares, served as the dependent variable. The independent variables comprised seven carbon accounting disclosure dimensions: CED, CRTD and EELCI, while firm size (FSIZE), measured as the natural logarithm of total assets, was included as a control variable. These variables were used to assess the effect of carbon accounting disclosures on firm value in Nigeria's consumer goods sector.

Data Analysis

Descriptive Statistics

Descriptive statistics were conducted to understand the behaviour of the data using various statistics including mean, standard deviation, minimum, and maximum values. The result of the descriptive statistics analysis is presented in Table 4.1 below

Table 4.1 Descriptive Statistics of the Variables

	MKT_CAP	CED	CRTD	EELCI	TA
Mean	7.386118	0.368627	0.061765	0.584314	7.376088
Median	7.445508	0.250000	0.000000	0.750000	7.521278

Maximum	10.87862	1.000000	1.000000	1.000000	9.051642
Minimum	4.859499	0.000000	0.000000	0.000000	4.758056
Std. Dev.	1.098825	0.297457	0.230240	0.327915	0.975404
Skewness	0.078749	0.763172	3.734399	-0.964782	-0.857866
Kurtosis	2.642756	2.736867	15.27599	2.383578	3.278897
Jarque-Bera	1.619561	25.48901	2193.881	43.59641	32.10368
Probability	0.444956	0.000003	0.000000	0.000000	0.000000
Sum	1883.460	94.00000	15.75000	149.0000	1880.903
Sum Sq. Dev.	306.6839	22.47402	13.46471	27.31225	241.6589
Observations	255	255	255	255	255

Source: Researcher's Computation, 2026 (E-views Output)

The descriptive statistics for 255 firm-year observations (2015–2024) show mixed levels of carbon accounting disclosure among Nigerian consumer goods firms.

Market capitalization is fairly normally distributed, with moderate variation across firms, indicating relatively stable market valuation within the sector.

Carbon emissions disclosure is low on average (about 37%), with wide variation and a skewed distribution, showing that most firms disclose little while a few disclose more. Carbon reduction targets disclosure is extremely weak, with most firms not providing any targets at all.

Energy efficiency and low-carbon initiatives, carbon management policies, carbon governance structures, and regulatory compliance disclosures all show moderate to relatively high average levels, suggesting that firms are more willing to disclose operational and governance-related environmental information—likely due to cost-saving benefits and legitimacy pressures. However, these variables still show uneven quality across firms.

In contrast, compliance with international reporting standards is very low, indicating weak adoption of global frameworks like GRI, TCFD, and ISSB, with only a few firms complying significantly.

Firm size is fairly evenly distributed but slightly skewed toward larger firms, justifying its inclusion as a control variable.

Overall, the results reveal a clear pattern: Nigerian consumer goods firms tend to disclose more on policies, governance, and compliance, but significantly underreport forward-looking and standardized carbon information.

Correlation and Covariance Analysis

Table 4.2.2: Covariance and Correlation Analysis of Carbon Accounting Disclosures and Market Capitalization (2015–2024)

Covariance	MKT_CAP	CED	CRTD	EELCI	TA
MKT_CAP	1.2066				
CED	0.0822	0.0885			

CRTD	0.0187	0.0105	0.0530		
EELCI	0.0589	0.0298	0.0098	0.1075	
TA	0.8923	0.0567	0.0198	0.0654	0.9514
Correlation	MKT_CAP	CED	CRTD	EELCI	TA
MKT_CAP	1.0000				
CED	0.2512	1.0000			
CRTD	0.0732	0.1521	1.0000		
EELCI	0.1634	0.3056	0.1302	1.0000	
TA	0.8345	0.1956	0.0889	0.2045	1.0000

Source: Researcher's computation (2026) using E-views 10.0

The covariance and correlation analyses examined relationships between market capitalization, carbon accounting disclosure dimensions, and firm size for Nigerian consumer goods firms.

Overall, the covariance results show that all carbon disclosure variables are positively associated with market capitalization, with the strongest link between market capitalization and firm size, confirming that larger firms tend to have higher market value. Among disclosure dimensions, carbon emissions disclosure shows the strongest co-movement with market capitalization, while carbon reduction targets and reporting standards disclosures show the weakest. The results also indicate that carbon disclosure practices tend to occur together, meaning firms that adopt one form of disclosure are likely to adopt others as well.

The correlation analysis confirms these patterns in standardized form. Market capitalization is strongly correlated with firm size, reinforcing its importance as a control variable. It also shows a moderate positive relationship with carbon emissions disclosure, suggesting that greater transparency in emissions reporting is associated with higher firm value. Energy efficiency disclosures also show a positive relationship with market capitalization, while carbon reduction targets disclosure shows a weak but positive relationship, likely due to its low adoption among firms.

In summary, the results indicate that carbon accounting disclosures are generally positively related to market capitalization, with stronger effects observed for emissions and operational efficiency disclosures, while forward-looking target disclosures remain weakly linked due to limited usage in the Nigerian context.

DISCUSSION OF FINDINGS

The discussion of findings from the random effects regression (selected via the Hausman test) shows mixed effects of carbon accounting disclosure dimensions on market capitalization, supported by prior studies and grounded in signaling, legitimacy, and resource-based theories.

Carbon emissions disclosure (CED) has a positive and highly significant effect on market capitalization, indicating that greater transparency in emissions reporting enhances firm value. This aligns with prior Nigerian and international studies (Adewale & Okoye, 2025; Onyebuenyi & Aifuwa, 2025; Zhang et al., 2025; Liu & Wang, 2025) and is explained by signaling and legitimacy theories (Spence, 1973; Suchman, 1995), which suggest that emissions disclosure reduces information asymmetry and strengthens investor confidence.

In contrast, carbon reduction targets disclosure (CRTD) shows a positive but statistically insignificant effect on market capitalization. This suggests that forward-looking climate commitments are not yet strongly valued in Nigeria, likely due to low disclosure levels and concerns about credibility or “greenwashing.” This finding is consistent with Adeyemi and Olawale (2025) and Odo et al. (2025), and reflects weak institutional enforcement and limited investor sensitivity to long-term climate commitments in emerging markets.

Energy efficiency and low-carbon initiatives disclosure (EELCI) has a positive and significant effect on market capitalization. This indicates that firms disclosing operational efficiency and low-carbon investments enjoy higher valuation. The result is consistent with Adegboye et al. (2025) and Okafor et al. (2025), and is explained by resource-based theory and signaling theory, which emphasize cost savings, operational efficiency, and competitive advantage.

Overall, the findings suggest that Nigerian investors reward tangible and transparent environmental actions (such as emissions reporting and energy efficiency initiatives), while forward-looking commitments (such as reduction targets) have not yet gained strong market recognition due to weak institutional and disclosure frameworks (Spence, 1973; Suchman, 1995; Hart & Dowell, 2011).

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

The study investigated the effect of carbon accounting disclosures on the market capitalization of listed consumer goods firms in Nigeria, focusing on several dimensions including emissions disclosure, reduction targets, energy efficiency initiatives, carbon management policies, governance structures, and compliance with climate-related regulations and reporting standards.

Using a random effects regression model (confirmed appropriate by the Hausman test), the results show mixed effects of carbon disclosure practices on firm value. Carbon emissions disclosure has a positive and statistically significant impact on market capitalization, indicating that greater transparency in reporting greenhouse gas emissions enhances firm value. Similarly, energy efficiency and low-carbon initiative disclosures also have a positive and significant effect, suggesting that investments in sustainable and low-carbon operations are valued by the market.

In contrast, carbon reduction target disclosures show a positive but statistically insignificant relationship with market capitalization, implying that while such disclosures may be viewed positively, they do not have a reliable measurable impact on firm value in the sampled firms.

Overall, the findings suggest that market participants reward firms for actual transparency and demonstrated sustainability actions more than for stated targets alone.

Conclusion

The study found that carbon accounting disclosures significantly influence the market capitalization of listed consumer goods firms in Nigeria. Out of seven disclosure dimensions examined, four carbon emissions disclosure, energy efficiency and low-carbon initiatives disclosure with climate-related regulations disclosure had significant positive effects on market value.

These results indicate that investors value transparency on emissions, tangible sustainability actions, strong climate governance, and regulatory compliance, as they signal lower risk and better long-term performance. In contrast, carbon reduction targets, carbon management policies, and compliance with reporting standards showed no significant effects, likely due to limited adoption and early-stage implementation in Nigeria.

Overall, the findings suggest that market valuation is driven more by concrete environmental actions and governance quality than by policy statements or reporting frameworks.

Recommendations

Based on the findings, several recommendations are made to firms and key stakeholders in Nigeria's capital market and regulatory environment.

Listed consumer goods firms in Nigeria should prioritize transparent carbon emissions disclosure (Scope 1, 2, and where possible Scope 3), as it enhances investor confidence and market value. The FRC, NGX, and SEC should strengthen and standardize mandatory emissions reporting requirements aligned with global frameworks such as the GHG Protocol, while investors should incorporate emissions data into valuation decisions.

Although carbon reduction targets were not significant, this is due to low adoption rather than lack of relevance. Firms should set clear, measurable, and science-based targets and report progress regularly, while regulators adopt a "comply or explain" approach to improve compliance over time.

Energy efficiency and low-carbon initiatives should also be expanded, as they positively affect firm value. Firms should invest in energy-saving technologies and disclose measurable outcomes such as cost savings and emission reductions, supported by standardized reporting frameworks, incentives, and capacity building from regulators and industry bodies.

Suggestions for Further Studies

Based on the limitations and findings of this study, the following suggestions for further studies are offered.

Future studies should explore the moderating role of firm-specific factors such as firm size, firm age, profitability, leverage, and industry subsector (food and beverage, brewing, personal care, packaging) on the relationship between carbon accounting disclosures and market capitalization. Since the present study found that different disclosure dimensions have varying magnitudes of effect, it is possible that the effects of carbon emissions disclosure, energy efficiency initiatives, and governance structures are conditional on these contextual factors. Researchers could employ interaction terms or subgroup analyses to investigate these contingent relationships across different firm categories and sectors within the consumer goods industry.

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