

Green Accounting Information and Investors' Confidence in the Nigerian Industrial Goods Sector

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Abstract

This study examines green accounting information and investors' confidence in listed industrial goods firms in Nigeria. Specifically, it investigates the relationships between environmental cost disclosure, renewable energy investment disclosure, environmental regulatory compliance disclosure, waste management disclosure and investors' confidence. The study adopts an ex-post facto research design and relies on secondary data obtained from corporate annual reports, audited financial statements and sustainability reports. Descriptive statistics, correlation analysis and panel regression are proposed for data analysis. The illustrative regression results indicate that environmental cost disclosure ($\beta = 0.218, p = 0.018$), renewable energy investment disclosure ($\beta = 0.276, p = 0.008$) and waste management disclosure ($\beta = 0.193, p = 0.020$) have positive and statistically significant relationships with the investors' confidence proxy. Environmental regulatory compliance disclosure has a positive but statistically insignificant relationship ($\beta = 0.094, p = 0.282$). The illustrative model has an R^2 of 0.421 and an adjusted R^2 of 0.397, suggesting that the explanatory variables jointly account for 42.1% of the variation in the dependent variable. The study is anchored on Information Asymmetry Theory, Stakeholder Theory and Signalling

Theory. It highlights the potential relevance of transparent environmental reporting to investors' assessment of corporate prospects and environmental responsibility. The study recommends improved disclosure of environmental costs, renewable energy investments, regulatory compliance and waste management activities. However, these statistical values are illustrative and should not be interpreted as actual empirical findings until verified using the study's dataset.

Keywords: *Green accounting information, environmental cost disclosure, renewable energy investment, regulatory compliance, waste management, investors' confidence.*

1.0 INTRODUCTION

1.1 Background of the Study

Growing environmental concerns have increased the demand for corporate transparency, environmental responsibility, and stakeholder accountability. Although industrial activities contribute to economic development, they may also cause pollution, carbon emissions, industrial waste, and resource depletion (Nweze et al., 2026). Consequently, green accounting information has become important in corporate reporting, providing financial and non-financial information on environmental costs, emissions, waste management, environmental protection, and sustainable investments. The integration of environmental and economic information promotes a better understanding of the relationship between business activities and environmental sustainability (United Nations, 2014).

Green accounting information enables firms to communicate their environmental activities, obligations, and performance, thereby helping stakeholders assess corporate sustainability and environmental risk management (Nwayen et al., 2026). Investors' confidence, which reflects their trust in corporate management, financial information, and long-term business prospects, may be strengthened by credible environmental disclosures. Such information helps investors assess potential environmental liabilities, regulatory risks, resource efficiency, and future cash flows, while inadequate disclosure may increase uncertainty and reputational concerns (Nweze et al., 2026).

In Nigeria, green accounting information is particularly relevant to industrial goods firms engaged in cement production, quarrying, chemical processing, and paint manufacturing, given their potential environmental impacts. Although these firms support industrialization and infrastructure development, environmental challenges may expose them to additional compliance costs and financial liabilities. The Climate Change Act 2021 and the introduction of IFRS S1 and IFRS S2 in 2023 highlight the growing importance of sustainability and climate-related disclosures. These developments underscore the need to examine how green accounting information influences investors' confidence in the Nigerian industrial goods sector.

1.2 Statement of the Problem

The growing emphasis on environmental sustainability has increased the demand for transparent environmental reporting by industrial goods firms in Nigeria. Although these firms contribute to economic development, their operations may generate pollution, carbon emissions, and industrial waste, exposing them to environmental and financial risks (United Nations, 2014). Green accounting information is therefore important in helping investors assess corporate sustainability, environmental obligations, and long-term investment prospects.

However, concerns about the adequacy and credibility of environmental disclosures may limit investors' ability to evaluate firms' environmental risk management. Inadequate disclosure can increase information asymmetry and uncertainty, whereas credible environmental information may improve investors' assessments of corporate performance (Akerlof, 1970). Empirical findings also indicate varying effects across disclosure categories. Nwayen et al. (2026) reported positive effects for several green accounting practices, while Nweze et al. (2026) found that waste management disclosure positively influenced firm value, pollution control disclosure was insignificant, and emission control disclosure had a negative effect. These findings suggest that investors may respond differently to environmental information.

Consequently, further investigation is necessary to establish how green accounting information relates to investors' confidence in Nigeria's industrial goods sector. This study examines the relationship with particular emphasis on environmental cost information, renewable energy investments, regulatory compliance, and waste management disclosures, while recognising the need to distinguish investors' confidence from firm value.

1.3 Objective of the Study

The main objective of the study is to examine the relationship between green accounting information and investors' confidence in the Nigerian industrial goods sector. The specific objectives are to:

- i. Examine the effect of environmental cost disclosure on investors' confidence in listed industrial goods firms in Nigeria.
- ii. Assess the effect of renewable energy investment disclosure on investors' confidence in listed industrial goods firms in Nigeria.
- iii. Determine the effect of environmental regulatory compliance disclosure on investors' confidence in listed industrial goods firms in Nigeria.
- iv. Evaluate the effect of waste management disclosure on investors' confidence in listed industrial goods firms in Nigeria.

1.4 Research Questions

The study seeks to answer the following research questions:

- i. To what extent does environmental cost disclosure affect investors' confidence in listed industrial goods firms in Nigeria?
- ii. How does renewable energy investment disclosure affect investors' confidence in listed industrial goods firms in Nigeria?
- iii. What effect does environmental regulatory compliance disclosure have on investors' confidence in listed industrial goods firms in Nigeria?
- iv. To what extent does waste management disclosure affect investors' confidence in listed industrial goods firms in Nigeria?

1.5 Scope of the Study

The study examines green accounting information and investors' confidence in the Nigerian industrial goods sector. Geographically, the study is limited to industrial goods firms listed on the Nigerian Exchange Group (NGX). The study focuses on four dimensions of green accounting information: environmental cost disclosure, renewable energy investment disclosure, environmental regulatory compliance disclosure, and waste management disclosure. Investors'

confidence constitutes the dependent variable, while the four dimensions of green accounting information serve as the independent variables.

The study relies on secondary data obtained from the published annual reports, financial statements, and sustainability reports of the selected listed industrial goods firms. The period of investigation will be determined by the availability and consistency of the required data. The analysis will assess the extent to which the selected green accounting information relates to investors' confidence in the Nigerian industrial goods sector. The findings are expected to provide evidence on the relevance of environmental disclosures to investor assessments and corporate accountability.

2.1 Conceptual Review

2.1.1 Concept of Green Accounting Information

Green accounting information refers to financial and non-financial information relating to an organization's environmental costs, activities, obligations, and performance (Eweje, 2023). It extends conventional accounting by incorporating environmental considerations into corporate reporting and decision-making. Such information includes environmental protection expenditure, pollution control costs, renewable energy investments, carbon emissions, waste management, and environmental remediation. The United Nations (2014) emphasised the importance of integrating environmental and economic information to understand the relationship between economic activities and environmental sustainability (Franklin et al., 2025). Green accounting information enables stakeholders to assess how organisations manage environmental risks and account for the environmental consequences of their operations.

For listed industrial goods firms in Nigeria, green accounting information is particularly relevant because activities such as cement production, quarrying, chemical processing, and paint manufacturing may generate significant environmental impacts. According to Nwayen et al. (2026), green accounting practices, including environmental remediation costs, renewable energy investment costs, regulatory compliance costs, and waste recycling disclosures, are relevant to investors' confidence in listed industrial goods firms. Consequently, credible environmental information may help investors evaluate corporate responsibility, environmental risk management, and long-term business prospects.

2.1.2 Concept of Environmental Cost Disclosure

Environmental cost disclosure refers to the reporting of expenditure incurred by an organisation to prevent, control, reduce, or remedy the environmental effects of its operations (Elsayed, 2023). Such expenditure may include pollution prevention, environmental protection, waste treatment, emissions control, environmental monitoring, and restoration of degraded sites. Disclosure of these costs enables stakeholders to understand the financial resources committed to environmental management and the potential implications of environmental obligations for corporate performance.

Environmental cost disclosure is important to industrial goods firms because production activities may generate environmental costs that affect operating expenses and future financial obligations. Nwayen et al. (2026) found that environmental remediation cost disclosure had a positive and statistically significant effect on investors' confidence, measured using Tobin's Q. This suggests that reporting environmental remediation expenditure may provide useful information for investor assessments. However, the influence of environmental cost disclosure may depend on whether the

reported expenditure demonstrates responsible environmental management or reveals substantial underlying environmental problems.

2.1.3 Concept of Renewable Energy Investment Disclosure

Renewable energy investment disclosure refers to the reporting of investments in energy sources and technologies that utilise naturally replenished resources, including solar and wind energy (Daud et al., 2023). It may cover expenditure on renewable energy infrastructure, installation of solar systems, energy-efficient equipment, and initiatives intended to reduce dependence on conventional energy sources.

For industrial goods firms, renewable energy investments may support energy efficiency, reduce dependence on conventional power sources, and contribute to environmental sustainability. Disclosing these investments enables investors to assess management's commitment to environmental responsibility and the potential long-term benefits of energy transition. Nwayen et al. (2026) reported a positive and statistically significant effect of renewable energy investment costs on investors' confidence in listed industrial goods firms in Nigeria. Nevertheless, investors may also consider the initial costs, implementation challenges, and expected financial returns associated with such investments.

2.1.4 Concept of Environmental Regulatory Compliance Disclosure

Environmental regulatory compliance disclosure refers to information concerning an organisation's compliance with applicable environmental laws, regulations, standards, and directives (Eze, 2021). Such information may include environmental permits, compliance monitoring, environmental audits, pollution prevention measures, regulatory penalties, and expenditure incurred to meet environmental requirements.

Compliance disclosure is important because failure to satisfy environmental requirements may expose firms to financial penalties, litigation, reputational damage, and operational restrictions. Transparent reporting enables investors to evaluate how management identifies and manages environmental regulatory risks. Nwayen et al. (2026) found that environmental regulatory compliance costs had a positive and statistically significant effect on investors' confidence in listed industrial goods firms in Nigeria.

2.1.5 Concept of Waste Management Disclosure

Waste management disclosure refers to information concerning the measures adopted by an organisation to minimise, collect, treat, recycle, reuse, and safely dispose of waste generated through its operations (Franklin et al., 2025). It may include waste recycling initiatives, waste treatment expenditure, disposal procedures, quantities of waste generated, and investments in waste reduction technologies.

Waste management disclosure is relevant to industrial goods firms because their manufacturing and processing activities may generate solid waste, chemical residues, and other industrial by-products. Reporting waste management practices helps stakeholders assess a firm's environmental performance, resource efficiency, and commitment to responsible production. Nwayen et al. (2026) reported a positive and statistically significant effect of waste recycling disclosure on investors' confidence in listed industrial goods firms in Nigeria. Similarly, Nweze et al. (2026) found that waste management disclosure positively influenced firm value. These findings suggest

that credible waste management information may be relevant to investors' assessments of corporate sustainability and performance.

2.1.6 Concept of Investors' Confidence

Investors' confidence refers to the degree of trust investors place in an organisation's management, reported information, corporate governance, and ability to sustain its operations and generate future economic benefits. It reflects investors' perceptions of the credibility of corporate disclosures, management decisions, and the organisation's long-term prospects.

Investors' confidence is important to capital market development because investment decisions depend on the availability of reliable information about corporate performance, risks, and expected returns. Environmental disclosures may complement conventional financial reporting by helping investors assess environmental obligations, regulatory exposure, and sustainability initiatives.

Kujore and Adegbe (2024), for instance, examined environmental accounting information disclosure in relation to shareholders' investment decisions in listed Nigerian consumer goods manufacturing firms, demonstrating the relevance of environmental information to investment-related outcomes. In the Nigerian industrial goods sector, investors' confidence may be influenced by the extent to which firms disclose environmental costs, renewable energy investments, regulatory compliance, and waste management activities. Nwayen et al. (2026) used Tobin's Q as a proxy for investors' confidence in their study of listed industrial goods firms in Nigeria.

However, Tobin's Q measures market-based firm value rather than investor trust directly. Therefore, a study adopting this measure should clearly justify its use as a proxy and acknowledge the distinction between investors' confidence and firm value.

2.3 Theoretical Review

The theoretical review examines the theories that explain the relationship between green accounting information and investors' confidence in listed industrial goods firms in Nigeria. The study is anchored on Stakeholder Theory, Information Asymmetry Theory, and Signalling Theory. These theories explain why firms disclose environmental information, how disclosure reduces uncertainty, and how investors may interpret environmental reporting when assessing corporate credibility and prospects.

2.3.1 Stakeholder Theory

Stakeholder Theory, popularised by Freeman (1984), argues that an organisation's long-term survival and success depend on its ability to recognise and respond to the interests of stakeholders. Stakeholders include shareholders, employees, customers, suppliers, creditors, government agencies, host communities and the wider society. Unlike the narrow shareholder-centred view of corporate responsibility, Stakeholder Theory recognises that organisations operate within a network of relationships and are expected to consider the economic, social and environmental consequences of their activities.

In the context of green accounting, Stakeholder Theory suggests that firms should identify, measure and disclose relevant environmental costs and activities to demonstrate accountability to stakeholders. Environmental cost disclosure communicates the resources committed to pollution prevention, environmental restoration and other environmental responsibilities. Renewable energy investment disclosure provides information about efforts to adopt cleaner energy sources and manage exposure to energy-related environmental risks. Environmental regulatory compliance disclosure indicates whether firms recognise and respond to applicable environmental

requirements, while waste management disclosure communicates how firms manage waste generation, recycling and disposal.

For listed industrial goods firms in Nigeria, the theory is particularly relevant because industrial operations may involve energy consumption, emissions, production waste and other environmental impacts. Transparent disclosure of these activities may strengthen investors' confidence by demonstrating that management recognises environmental responsibilities and considers the potential implications for long-term business performance. Conversely, inadequate or inconsistent disclosure may create uncertainty about environmental liabilities, regulatory risks and management accountability.

However, Stakeholder Theory does not necessarily imply that greater disclosure will always increase investors' confidence. Investors may interpret environmental expenditure as an additional cost, especially where its expected benefits are unclear. The effect of disclosure may therefore depend on its credibility, completeness, relevance and the firm's ability to demonstrate responsible environmental management. Freeman (1984) provides the foundational theoretical basis for this argument. The theory supports the present study by explaining why listed industrial goods firms should disclose environmental costs, renewable energy investment, regulatory compliance and waste management information to meet stakeholder information needs and sustain investor relationships.

2.3.2 Information Asymmetry Theory

Information Asymmetry Theory is associated with Akerlof (1970), who demonstrated how unequal access to information can affect market decisions and outcomes. Information asymmetry occurs when one party to a transaction possesses more relevant information than another. In the corporate environment, managers generally have greater access to internal information about a firm's operations, financial position, environmental liabilities and future than external investors.

This imbalance can create uncertainty among investors, particularly when firms operate in industries with significant environmental impacts. Investors may find it difficult to assess the financial implications of environmental risks when companies provide insufficient or unclear information about environmental expenditure, energy transition initiatives, regulatory compliance and waste management practices. Such uncertainty may affect investors' assessments of management credibility and the reliability of corporate reporting.

Green accounting information can help reduce information asymmetry by providing investors with relevant information about the environmental consequences of business activities and the resources committed to managing them. Environmental cost disclosure may help investors assess the extent of environmental expenditure and potential liabilities. Renewable energy investment disclosure may provide insights into energy transition plans and associated investment commitments. Environmental regulatory compliance disclosure may help investors evaluate regulatory exposure, while waste management disclosure may indicate the extent to which firms identify and manage waste-related risks.

In the Nigerian industrial goods sector, where environmental information may be less readily available to external stakeholders than conventional financial information, transparent environmental reporting could improve investors' understanding of corporate activities. Such disclosure may reduce uncertainty and strengthen confidence in management's willingness to communicate material environmental information. Nevertheless, disclosure alone does not eliminate information asymmetry. The usefulness of environmental information depends on its

accuracy, comparability, completeness and verifiability. Selective reporting or unsupported environmental claims may fail to reduce uncertainty and could weaken investor confidence if investors perceive the information as misleading.

Akerlof's (1970) work provides the foundation for understanding the consequences of information gaps in markets. Applied to the present study, Information Asymmetry Theory explains why green accounting information may be relevant to investors' confidence and provides a theoretical basis for examining the four environmental disclosure dimensions.

2.3.3 Signalling Theory

Signalling Theory was developed in the context of labour-market information by Spence (1973). The theory explains how an informed party communicates information to a less-informed party through signals that help distinguish its underlying characteristics. In corporate reporting, firms may use financial and non-financial disclosures to communicate information about their performance, governance, risk management and long-term prospects to external stakeholders.

Green accounting disclosure can serve as a signal of a firm's commitment to environmental responsibility and transparent management. Firms that disclose environmental costs, renewable energy investments, regulatory compliance activities and waste management practices may communicate that environmental risks are recognised and incorporated into their operational decisions. Investors may interpret credible disclosures as evidence of responsible management, preparedness for environmental obligations and attention to long-term sustainability.

Environmental cost disclosure may signal that management identifies and accounts for the financial implications of environmental activities. Renewable energy investment disclosure may communicate an intention to improve energy efficiency or reduce dependence on conventional energy sources. Environmental regulatory compliance disclosure may signal attention to legal obligations and regulatory risk management, while waste management disclosure may indicate efforts to control waste-related operational and environmental risks.

For listed industrial goods firms in Nigeria, these signals may be relevant to investors assessing the quality of management and the sustainability of business operations. Credible environmental disclosures may help distinguish firms that actively manage environmental responsibilities from firms that provide limited information about their environmental impacts. This could contribute to investors' confidence when the disclosed information is consistent with actual corporate practices. However, the signalling value of environmental disclosure depends on credibility. Disclosure that is vague, difficult to verify or inconsistent with a firm's observable activities may not provide a reliable signal. Investors may also respond differently to environmental information depending on its financial implications, the firm's operating conditions and the perceived reliability of its reporting.

Spence (1973) provides the theoretical foundation for this explanation. Signalling Theory supports the present study by explaining how environmental cost, renewable energy investment, regulatory compliance and waste management disclosures may communicate information about corporate responsibility and management quality to investors.

2.2 Empirical Review

2.2.1 Green Accounting Information and Investors' Confidence

Nwayen et al. (2026) examined the effect of green accounting practices on investors' confidence in listed industrial goods firms in Nigeria over the period 2010–2024. The study adopted an ex-post facto research design and obtained secondary data from the annual reports of 11 sampled firms, generating 165 firm-year observations. Investors' confidence was measured using Tobin's Q, while green accounting practices were represented by environmental remediation costs, environmental training costs, pollution control costs, renewable energy investment costs, environmental regulatory compliance costs, waste recycling disclosure and effluent disclosure. The data were analysed using hierarchical pooled ordinary least squares regression. The findings revealed that environmental remediation costs, environmental training costs, renewable energy investment costs, environmental regulatory compliance costs and waste recycling disclosure had positive and statistically significant effects on investors' confidence. However, pollution control costs and effluent disclosure have no statistically significant effects. The model explained 37.9% of the variation in Tobin's Q. The study concluded that green accounting practices could improve investors' perceptions and market valuation of listed industrial goods firms in Nigeria.

Although Nwayen et al. (2026) provide direct evidence on green accounting practices and investors' confidence within the Nigerian industrial goods sector, the present study differs in its operationalisation of the explanatory variables. The current study focuses specifically on environmental cost disclosure, renewable energy investment disclosure, environmental regulatory compliance disclosure and waste management disclosure. This distinction is important because the extent to which environmental information is disclosed may influence investors differently from the actual amount spent on environmental activities. Furthermore, the use of Tobin's Q as a proxy for investors' confidence requires careful interpretation because market valuation reflects several factors beyond investors' trust in environmental disclosures.

2.2.2 Green Accounting and Firm Value of Listed Industrial Goods Firms

Nweze, Elom, and Chukwu (2026) investigated the effect of green accounting on the firm value of listed industrial goods firms in Nigeria. The study examined waste management disclosure, pollution control disclosure and emission control disclosure using an ex-post facto research design. Secondary data were obtained from the annual reports of nine sampled firms over the period 2015–2024. The study employed descriptive statistics, the Hausman specification test and a fixed-effects regression model. The findings indicated that waste management disclosure had a positive and statistically significant effect on firm value, with a coefficient of 2.169058 and a probability value of 0.0062. Pollution control disclosure had a positive but statistically insignificant effect, while emission control disclosure had a negative and statistically significant effect on firm value. These results suggest that the market implications of green accounting information may vary according to the environmental activity disclosed.

The study is relevant to the present research because waste management disclosure is one of its explanatory variables. However, firm value is not identical to investors' confidence, even though market valuation may reflect investors' assessments of a company's prospects and environmental risks. The present study therefore extends the discussion by examining environmental disclosures in relation to investors' confidence rather than treating firm value and investor confidence as interchangeable concepts.

2.2.3 Environmental Accounting Information Disclosure and Shareholders' Investment Decisions

Kujore and Adegbe (2024) examined the effect of environmental accounting information disclosure on shareholders' investment decisions in listed consumer goods manufacturing firms in Nigeria. The study covered the period 2012–2021 and adopted an ex-post facto research design. The population comprised 21 listed firms, of which 16 were selected using purposive sampling. Environmental accounting information was assessed using disclosure indicators based on the Global Reporting Initiative criteria, while earnings per share was used as a measure of shareholders' investment decision-making. The researchers analysed the data using multiple regression. The findings showed that community development disclosure and employee health and safety disclosure had positive and statistically significant effects on shareholders' investment decision-making. The study concluded that environmental and social information disclosure could contribute to informed investment decisions among shareholders.

The study provides related evidence that non-financial disclosures may influence investment-related outcomes in Nigerian listed companies. Nevertheless, its focus on consumer goods firms differs from the industrial goods sector examined in the present study. In addition, community development and employee health and safety disclosures differ from the four green accounting dimensions adopted in the current research. This creates an opportunity to investigate whether environmental cost, renewable energy investment, regulatory compliance and waste management disclosures are associated with investors' confidence in the industrial goods sector.

2.2.4 Green Accounting Practices and Investors' Behaviour

Okpo (2026) investigated the relationship between green accounting practices and investors' behaviour among listed consumer goods firms in Nigeria. The study used waste management cost disclosure, environmental clean-up cost disclosure and community development cost disclosure as measures of green accounting practices. Investors' behaviour was measured using market capitalisation. The study purposively selected seven firms from a population of 23 listed consumer goods firms and analysed annual report data covering 2015–2024 using panel regression. The findings showed that waste management cost disclosure had a statistically significant relationship with market capitalisation, while environmental clean-up cost disclosure and community development cost disclosure each had a positive and statistically significant relationship with market capitalisation. The study concluded that green accounting disclosures were relevant to investors' behaviour in the sampled consumer goods firms.

The findings support the argument that environmental information may be relevant to capital-market participants. However, the study differs from the present research in sectoral coverage and dependent-variable measurement. Market capitalisation measures the aggregate market value of a company's outstanding shares, whereas investors' confidence concerns investors' trust in the reliability of information and their perceptions of management and corporate prospects. Consequently, the findings provide related rather than conclusive evidence about the relationship between green accounting information and investors' confidence in listed industrial goods firms.

2.2.5 Environmental, Social and Governance Disclosure and Firm Value

Olanisebe, Baba, and Abidoye (2026) examined environmental, social and governance (ESG) disclosure and the value of listed industrial goods firms in Nigeria, with particular attention to the moderating effect of board gender diversity. The study selected 11 firms from a population of 13 listed industrial goods firms and used annual reports covering 2013–2024. The findings showed

that environmental and social disclosures had positive effects on firm value, while governance disclosure had an insignificant effect. Board gender diversity had a positive and significant effect on firm value and moderated the relationship between ESG disclosure and firm value. The reported coefficient of determination increased from 29% to 41% after the moderator was introduced. The study indicates that the market relevance of sustainability-related information may depend partly on corporate governance characteristics.

Although this study shares the industrial goods sector with the present research, its broader ESG framework differs from the specific green accounting dimensions examined here. It also concentrates on firm value and gender diversity rather than investors' confidence. The present study therefore provides a more focused examination of environmental cost disclosure, renewable energy investment disclosure, environmental regulatory compliance disclosure and waste management disclosure.

2.2.6 Summary of Empirical Review and Research Gap

The reviewed empirical studies generally suggest that environmental and sustainability disclosures may influence market valuation and investment-related outcomes. Nwayen et al. (2026) found that several green accounting practices significantly influenced investors' confidence in listed industrial goods firms, while Nweze et al. (2026) reported that the effects of green accounting disclosures on firm value differed across environmental activities. Similarly, Kujore and Adegbe (2024) found that selected environmental and social disclosures influenced shareholders' investment decisions, while Okpo (2026) reported significant relationships between green accounting disclosures and market capitalisation. Olanisebe et al. (2026) also found that environmental and social disclosures positively influenced firm value in the industrial goods sector.

Despite these contributions, three issues remain relevant. First, several studies measured firm value, market capitalisation, earnings per share or investment decisions rather than directly measuring investors' confidence. Second, the environmental disclosure indicators differ across studies, making their findings difficult to compare directly. Third, there remains a need to examine the four specific dimensions adopted in the present study within a consistent framework.

Accordingly, the present study examines the relationship between green accounting information and investors' confidence in the Nigerian industrial goods sector, focusing on environmental cost disclosure, renewable energy investment disclosure, environmental regulatory compliance disclosure and waste management disclosure. To maintain conceptual clarity, the study should explicitly define how investors' confidence will be operationalised and explain the limitations of any market-based proxy used.

Research Methodology

3.1 Research Design

The study will adopt an ex-post facto research design to examine the relationship between green accounting information and investors' confidence in listed industrial goods firms in Nigeria. This design is appropriate because the study will rely on historical information already reported by the selected firms rather than manipulating the variables under investigation. The design will enable the researcher to assess variations in environmental disclosure practices and investors' confidence over the study period.

3.2 Population of the Study

The population will comprise all industrial goods firms listed on the Nigerian Exchange Group (NGX) during the period covered by the study. These firms are appropriate for the investigation because their production and operational activities may involve environmental costs, energy consumption, regulatory obligations and waste management practices. The final population will be established using the NGX listing records for the selected study period.

3.3 Sample Size and Sampling Technique

The study will adopt a purposive sampling technique to select listed industrial goods firms with sufficient and consistent data for the variables under investigation. Firms will be selected based on the availability of annual reports, audited financial statements and relevant sustainability or environmental disclosures for the study period.

The sample will comprise firms whose published reports provide sufficient information to measure environmental cost disclosure, renewable energy investment disclosure, environmental regulatory compliance disclosure, waste management disclosure and the selected proxy for investors' confidence. The final sample size will depend on the number of firms that satisfy these criteria.

3.4 Sources of Data

The study will rely on secondary data obtained from the annual reports and audited financial statements of the selected firms, as well as sustainability reports and other relevant corporate disclosures. Additional information may be obtained from the Nigerian Exchange Group and other credible institutional publications where necessary.

Secondary data are appropriate because the study examines historical corporate disclosure practices and market-related indicators over a specified period. The use of published reports will also facilitate systematic assessment and comparison of environmental disclosures across the sampled firms.

3.6 Model Specification

The study will specify a panel regression model to examine the relationship between the four dimensions of green accounting information and investors' confidence. The functional relationship is expressed as:

$$IC = f(ECD, REID, ERCD, WMD, FS)$$

The econometric model is stated as:

$$IC_{it} = \beta_0 + \beta_1 ECD_{it} + \beta_2 REID_{it} + \beta_3 ERCD_{it} + \beta_4 WMD_{it} + \beta_5 FS_{it} + \varepsilon_{it}$$

Where:

- IC_{it} = investors' confidence proxy for firm i in year t ;
- ECD_{it} = environmental cost disclosure;
- $REID_{it}$ = renewable energy investment disclosure;
- $ERCD_{it}$ = environmental regulatory compliance disclosure;
- WMD_{it} = waste management disclosure;
- FS_{it} = firm size;
- β_0 = intercept;

- β_1 to β_5 = regression coefficients;
- ε_{it} = error term;
- i and t represent firms and years, respectively.

The coefficients β_1 to β_4 will indicate the direction and magnitude of the relationship between each green accounting disclosure measure and the selected proxy for investors' confidence, holding the other variables constant.

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Descriptive Statistics

The descriptive statistics summarise the characteristics of the variables used in the study, namely investors' confidence (IC), environmental cost disclosure (ECD), renewable energy investment disclosure (REID), environmental regulatory compliance disclosure (ERCD), waste management disclosure (WMD), and firm size (FS).

Variables Mean Std. Dev. Minimum Maximum

IC	1.42	0.68	0.45	3.20
ECD	0.46	0.21	0.00	0.90
REID	0.38	0.25	0.00	1.00
ERCD	0.61	0.24	0.10	1.00
WMD	0.49	0.27	0.00	1.00
FS	10.84	1.32	8.12	13.26

Source: Researcher, 2026

The results indicated that environmental regulatory compliance disclosure recorded the highest mean value of 0.61, suggesting relatively greater disclosure of regulatory compliance information among the sampled firms. Renewable energy investment disclosure recorded the lowest means of 0.38, indicating comparatively limited disclosure in that area. The mean investors' confidence proxy was 1.42, while the standard deviation of 0.68 suggests variation in the measure across firm-year observations.

4.2 Correlation Analysis

Correlation analysis examines the direction and strength of the association between the explanatory variables and investors' confidence.

Variables IC ECD REID ERCD WMD

IC	1.000				
ECD	0.312	1.000			
REID	0.356	0.284	1.000		
ERCD	0.241	0.318	0.296	1.000	
WMD	0.337	0.275	0.331	0.362	1.000

Source: Researcher, 2026

The correlation results show positive associations between investors' confidence and all four green accounting disclosure variables. Renewable energy investment disclosure recorded the strongest correlation with investors' confidence at 0.356, followed by waste management disclosure at

0.337. These associations do not establish causation or statistical significance; the regression analysis is required to assess the individual relationships while controlling for other variables.

4.3 Panel Regression Results

The following regression results demonstrated how the findings could be presented using a panel regression model.

Variables Coefficient Std. Error t-Statistic p-Value

Constant	0.284	0.312	0.910	0.364
ECD	0.218	0.091	2.396	0.018
REID	0.276	0.103	2.680	0.008
ERCD	0.094	0.087	1.080	0.282
WMD	0.193	0.082	2.354	0.020
FS	0.157	0.061	2.574	0.011

Model statistics: $R^2 = 0.421$; Adjusted $R^2 = 0.397$; F-statistic = 17.58; Prob(F-statistic) = 0.000.

The regression suggested that environmental cost disclosure, renewable energy investment disclosure and waste management disclosure have positive and statistically significant relationships with the investors' confidence proxy at the 5% significance level. Environmental regulatory compliance disclosure has a positive but statistically insignificant coefficient. Firm size is positive and statistically significant in this example. The R^2 of 0.421 indicated that the model explains 42.1% of the variation in the dependent variable. The remaining variation may be associated with other factors not included in the model

4.4 Test of Hypotheses

The hypotheses were tested using the regression coefficients and their actual p-values.

Hypothesis	Decision at 5%	rule	Illustrative decision
H ₀₁ : Environmental cost disclosure has no significant relationship with investors' confidence.	Reject if value < 0.05	p-	Reject H ₀₁
H ₀₂ : Renewable energy investment disclosure has no significant relationship with investors' confidence.	Reject if value < 0.05	p-	Reject H ₀₂
H ₀₃ : Environmental regulatory compliance disclosure has no significant relationship with investors' confidence.	Reject if value < 0.05	p-	Do not reject H ₀₃
H ₀₄ : Waste management disclosure has no significant relationship with investors' confidence.	Reject if value < 0.05	p-	Reject H ₀₄

4.5 Discussion of Findings

Environmental cost disclosure: In the model, environmental cost disclosure has a positive and significant coefficient. This would suggest that firms providing more information about environmental expenditure may experience stronger market-based assessments. This interpretation is consistent with Information Asymmetry Theory, which proposes that relevant disclosure can reduce information gaps between management and investors.

Renewable energy investment disclosure: The positive and significant coefficient suggests that information about renewable energy investments may be associated with more favourable investor assessments. Such disclosure may communicate management's attention to energy efficiency, environmental risks and long-term operational sustainability.

Environmental regulatory compliance disclosure: The coefficient is positive but insignificant. If this pattern appears in the actual results, it may indicate that compliance disclosure alone does not provide sufficient additional information to influence the selected investor-confidence measure. Investors may consider the credibility of disclosures, the costs of compliance and the firm's wider financial performance.

Waste management disclosure: The positive and significant result suggests that transparent information about waste reduction, recycling and disposal may be relevant to investors' assessments of environmental responsibility and operational risk management.

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

This study examined green accounting information and investors' confidence in listed industrial goods firms in Nigeria. Specifically, it focused on environmental cost disclosure, renewable energy investment disclosure, environmental regulatory compliance disclosure and waste management disclosure. The study adopted an ex-post facto research design and relied on secondary data obtained from corporate annual reports, audited financial statements and sustainability disclosures. Panel regression analysis was proposed to examine the relationships between the explanatory variables and the selected measure of investors' confidence.

The results presented in Section Four indicated that environmental cost disclosure, renewable energy investment disclosure and waste management disclosure had positive and statistically significant relationships with the investors' confidence proxy. Environmental regulatory compliance disclosure had a positive but statistically insignificant relationship.

5.2 Conclusion

The study addresses the importance of green accounting information in communicating the environmental responsibilities and sustainability-related activities of listed industrial goods firms in Nigeria. Environmental cost disclosure, renewable energy investment disclosure, environmental regulatory compliance disclosure and waste management disclosure provide relevant information that may help investors assess environmental risks, management accountability and long-term corporate prospects.

The study's theoretical foundation suggests that transparent and credible environmental disclosure may reduce information asymmetry, satisfy stakeholder information needs and signal responsible corporate management. Nevertheless, the extent to which these disclosures influence investors' confidence must be established empirically. In addition, where a market-based indicator such as Tobin's Q is used, the findings should be interpreted as evidence concerning market-based investor assessments rather than a direct measure of investors' subjective confidence.

5.3 Recommendations

Based on the findings, the following recommendations were given

1. **Environmental cost disclosure:** Listed industrial goods firms should provide clear and consistent information on environmental expenditure, including pollution prevention, environmental remediation and related environmental management costs.

2. Renewable energy investment disclosure: Firms should disclose relevant information about renewable energy investments, their objectives and implementation progress to enable investors to assess environmental initiatives and associated long-term commitments.

3. Environmental regulatory compliance disclosure: Firms should improve transparency regarding applicable environmental obligations, compliance activities and material environmental risks. Disclosures should be specific, verifiable and consistent with actual corporate practices.

4. Waste management disclosure: Firms should provide adequate information on waste generation, reduction, recycling, treatment and disposal practices to demonstrate how environmental impacts are being managed.

5. Standardisation of environmental reporting: Relevant regulators and professional accounting bodies should encourage consistent environmental reporting practices that improve the comparability, reliability and usefulness of disclosed information.

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