

THE ROLE OF GREEN ACCOUNTING AND CSR IMPLEMENTATION ON FINANCIAL PERFORMANCE OF ENERGY COMPANIES IN THE GREEN ECONOMY ERA

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Abstract

This study analyzes the impact of green accounting and corporate social responsibility (CSR) on the financial performance of energy companies in Indonesia from 2019 to 2023. Financial performance is measured by Return on Assets (ROA), while green accounting and CSR are assessed using the Environmental Cost Index and CSR Disclosure Index. Utilizing a quantitative approach with secondary data from financial statements, annual reports, and sustainability reports of companies listed on the Indonesia Stock Exchange, the findings reveal diverse impacts. Green accounting negatively affects financial performance, as the costs of adopting eco-friendly practices and transparent reporting strain short-term profitability. Meanwhile, CSR does not show a significant direct impact on financial performance during the study period. However, when analyzed simultaneously, green accounting and CSR influence financial performance, indicating their synergy in building a positive corporate image and enhancing long-term financial outcomes. The study underscores the strategic value of integrating green accounting and CSR to improve social legitimacy and stakeholder relationships, despite limited immediate profitability benefits. These findings provide a valuable reference for energy companies and stakeholders in shaping effective sustainability strategies that balance environmental and financial goals.

Keyword: *Green Accounting; CSR; Financial Performance*

A. INTRODUCTION

Financial performance refers to the assessment of a company's ability to achieve financial goals, reflected through various financial indicators such as profitability, liquidity, solvency, and operational efficiency. Good financial performance demonstrates effective management of a company's resources to generate profits, increase shareholder value, and sustain operations in the long term amidst the ever-evolving market dynamics. In the context of energy companies, financial performance is also heavily influenced by external factors, such as regulatory changes and the transition towards a green economy, which increasingly urge companies to adopt sustainable practices in their operations. As global awareness of environmental sustainability increases, energy companies are faced with the need to integrate Green Accounting and Corporate Social Responsibility (CSR) policies into their strategies. Green Accounting involves the measurement and reporting of the environmental impact of company activities, while CSR reflects the company's commitment to social and environmental well-being, which is expected to enhance the company's image and investment appeal. The implementation of these policies is believed to have a positive impact on financial performance, both in the short and long term (Yulianti et al., 2024).

However, a gap phenomenon arises in the implementation of Green Accounting and CSR in the energy sector, as, despite many companies adopting these policies, the impact on financial performance is not always consistent. Some studies indicate that the initial costs incurred for the implementation of sustainability policies can pressure a company's profitability in the short term, particularly for companies still reliant on fossil fuels (Hahn et al., 2010; Clarkson et al., 2011). On the other hand, there is also empirical evidence suggesting that these policies can yield long-term benefits by improving operational efficiency, attracting sustainability-conscious investors, and reducing reputational risks (Chen et al., 2020; Zhang & Wang, 2022). Previous research has extensively examined the relationship between CSR and financial performance across various sectors. However, there is a research gap regarding studies exploring the synergy between the implementation of Green Accounting and CSR on the financial performance of energy companies, particularly during the 2019-2023 period. Although some studies have discussed Green Accounting and CSR (Hidayat et al., 2023; Yulianti et al., 2024), few have thoroughly explored the impact of both in the context of energy companies transitioning to a green economy. Additionally, most prior studies have focused on short-term analysis and have not fully considered the long-term impact of sustainability policies on the financial performance of the energy sector, which is heavily influenced by regulatory changes and global market dynamics.

This study will analyze the simultaneous impact of Green Accounting and CSR implementation on the financial performance of energy companies during the 2019-2023 period. This research will explore how these two policies contribute to the long-term financial performance of energy companies amidst significant shifts toward a green economy, while considering external factors affecting the energy sector, such as climate change policies and the transition to renewable energy. Unlike previous studies that often focus on the impact of CSR or Green Accounting separately, this study will examine the synergy between the two and provide deeper insights into how energy companies can achieve financial benefits through sustainability policies while meeting social and environmental demands. As such, this study aims to fill the existing literature gap, contribute to the understanding of the relationship between sustainability and financial performance, and serve as a reference for energy companies and policymakers in formulating strategies that optimize financial gains through effective sustainability policies.

B. THEORETICAL REVIEW

Legitimacy theory explains that companies strive to obtain and maintain legitimacy from their stakeholders (such as society, government, and investors) by complying with prevailing social norms and expectations. In the context of Green Accounting and CSR, companies committed to sustainability and transparent reporting of their environmental impacts are more likely to gain greater legitimacy, which can enhance their reputation and attract investment. For instance, energy companies that demonstrate their commitment to good environmental management through CSR and Green Accounting can strengthen their market position and build investor trust, which, in turn, can support their financial performance (Deegan, 2013; Michelon & Parbonetti, 2012).

C. RESEARCH METHOD

The type of data used in this study is quantitative data with secondary data sources. The data was obtained from the financial statements, annual reports, and sustainability reports of energy companies listed on the Indonesia Stock Exchange (IDX) for the period 2019-2023. The data was accessed through the official IDX website at www.idx.co.id and the respective company websites. Data processing was conducted using SPSS 23 software, which was used for descriptive statistical analysis, multiple linear regression testing, and classical assumption testing to ensure the validity of the model.

The population in this study includes all energy companies listed on the IDX for the 2019-2023 period, totaling 87 companies. A purposive sampling method was used to select the sample with the following criteria:

1. The company must have published complete financial statements for the period 2019-2023.
2. The company must have an annual report and sustainability report for the study period.
3. The company must be active and not delisted during the research period.
4. The company must be profitable during the research period.

This study started with a population of 87 companies. After being screened using the established criteria, the eligible population reduced to 7 companies. With a 5-year research period, the total sample for analysis amounted to 35 company data points.

Operational Variables

The dependent variable in this study is financial performance, which is proxied by Return on Assets (ROA). Financial performance is measured using the following formula:

$$ROA = \frac{\text{Net Income}}{\text{Total Assets}} \times 100\%$$

This formula is used to illustrate how effectively the company generates net income in relation to its total assets. ROA provides an indication of how well the company's management utilizes its assets to generate profits.

The independent variables in this study are Green Accounting and CSR. Green accounting is measured using the Environmental Cost Index, which calculates the proportion of costs incurred by the company for environmental-related Corporate Social Responsibility (CSR) activities relative to net income after tax. The measurement is done using the following formula:

$$\text{Environmental Cost Index} = \frac{\text{CSR Activity Costs}}{\text{Net Income After Tax}} \times 100\%$$

This index represents the extent to which the company allocates costs for activities supporting environmental sustainability relative to its financial performance, as reflected in net income after tax.

The operational variable for Corporate Social Responsibility (CSR) in this study is measured using the CSR Disclosure Index, which indicates the extent to which a company discloses information related to CSR activities. The measurement is performed using the following formula:

$$CSR_{ij} = \sum \frac{X_{ij}}{n_j}$$

Keterangan:

CSR_{ij} : CSR Disclosure Index of company j on item i.

X_{ij} : Total CSR disclosures made by company j on item i.

n_j : Total items disclosed by company j. In this study, the number of items used is 91 (maximum score).

This index provides an overview of how extensively a company discloses information related to social and environmental activities in its annual report or sustainability report, with higher values indicating a higher level of CSR disclosure.

D. DATA ANALYSIS AND DISCUSSION

Hasil penelitian Anda dituliskan yang mungkin saja mengandung Tabel dan Gambar yang penomorannya dilanjutkan dari nomor sebelumnya. Anda boleh memisahkan hasil dan pembahasan dengan memberi nomor 1 dan 2.

Descriptive statistics include the mean, minimum, maximum, and standard deviation. The results of the descriptive statistical tests using SPSS are as follows:

Table 1
Descriptive Statistical Analysis

Variable	Mean	Minimum	Maksimum	Deviasi Standar
Green Acc	0,029	0,001	0,121	0,029
CSR	0,167	0,054	0,725	0,167
Kinerja Keu	0,099	0,015	0,454	0,099
Valid N	35			

Classical Assumption Test

The classical assumption test is performed on the regression model as follows:

Kinerja Keu = 0,126 – 1,373 GreenAcc + 0,075 CSR + e.

As shown in Table 2, the results of the classical assumption test indicate that the regression model has normally distributed error terms, is free from multicollinearity, and is free from heteroscedasticity.

Table 2.
Statistical Test Results

Variable	Ordinary Least Square			Multikolinieritas		Heterokedastisitas	
	B	Nilai t	Sig.	VIF	Tolerance	Nilai t	Sig.
Konstanta	0,126	2,502	0,018			2,071	0,047
Green Acc	-1,373	-	0,019	0,862	1,160	-1,169	0,251
CSR	0,075	0,748	0,460	0,862	1,160	0,813	0,422
Kolmogorov-Smirnov Z							0,112
Asymp. Sig.							0,200
Nilai F							4,627
Sig. Nilai F							0,017
Adj R ²							0,224

Based on Table 2, it can be seen that, simultaneously, there is an influence of all independent variables, namely Green Accounting and CSR, on financial performance. The partial test results also show that Green Accounting has a negative impact on financial performance, while CSR does not affect financial performance.

The Impact of Green Accounting on Financial Performance

Green Accounting, while important for environmental sustainability and regulatory compliance, can negatively impact a company's financial performance in the short term, especially in the energy sector, which is undergoing a transition toward a green economy. This can be explained using legitimacy theory. According to legitimacy theory, companies strive to obtain and maintain legitimacy by adhering to prevailing social norms and expectations. Therefore, companies that adopt Green Accounting practices are expected to reduce negative environmental impacts and gain legitimacy from stakeholders, including the government, society, and investors. However, the adoption of Green Accounting often involves significant upfront costs, such as investments in environmentally friendly technologies, environmental audits, and transparent reporting processes.

In the energy sector, which often relies on non-renewable natural resources or fossil fuels, the implementation of Green Accounting can add substantial operational costs. These costs may include transitioning to renewable energy, waste management, and adapting to stricter environmental regulations. These rising costs can reduce a company's profitability in the short term, as they may not yet be able to balance the initial investment with cost savings or efficiency improvements resulting from sustainability policies. Therefore, although Green Accounting can enhance the company's reputation and legitimacy in the eyes of stakeholders, its impact on financial performance may be negative in the short term, before the long-term benefits begin to materialize. This finding aligns with Yulianti's (2023) research and contrasts with Yulianingsih's (2023) study, which states that Green Accounting does not affect financial performance.

The Impact of CSR on Financial Performance

Corporate Social Responsibility (CSR) is a strategy aimed at enhancing a company's relationship with society and other stakeholders. According to Legitimacy Theory, companies that implement CSR aim to gain social legitimacy by demonstrating commitment to social and environmental issues. However, while CSR can improve a company's image and reduce reputation risk, it does not always have a direct or positive impact on the company's financial performance, particularly in the energy sector.

Legitimacy Theory explains that companies focusing on CSR aim to create a positive image in the eyes of stakeholders, thereby increasing consumer trust and attracting investors who care about sustainability. However, not all stakeholders consider CSR a determining factor in investment decisions or consumer preferences. In the energy sector, companies may implement CSR programs focused on social activities or environmental preservation, but if these programs are not directly related to operational efficiency or cost reduction, their impact on financial performance could be limited.

Moreover, CSR in the energy sector, often related to environmental management efforts, may require significant investment and may not immediately improve profitability in the short term. If a company prioritizes CSR without synergy with operational efficiency or innovations that generate profits, its impact on financial performance may become insignificant. In this case, CSR functions more as a tool to maintain the company's legitimacy and reputation in the eyes of society, but does not necessarily lead to a direct improvement in financial performance. This study is consistent with Aryaningsih et al. (2022), which states that CSR does not affect financial performance, but contradicts Riswanto's (2023) research.

The Simultaneous Impact of Green Accounting and CSR on Financial Performance

Green Accounting focuses on recording and disclosing costs and benefits related to a company's environmental activities. In the energy sector, the implementation of Green Accounting aims to manage and reduce the ecological footprint while maintaining operational efficiency. The adoption of Green Accounting can affect a company's financial performance both in the short term and long term. In the short term,

companies may face additional costs for environmentally friendly technologies and more transparent reporting processes. However, in the long term, benefits such as operational cost savings, improved energy efficiency, and compliance with stricter environmental regulations can enhance profitability and competitiveness.

In the context of Legitimacy Theory, companies that implement Green Accounting can gain legitimacy from various stakeholders, such as the public, government, and investors, who are increasingly prioritizing environmental issues in their evaluation of companies. Legitimacy Theory explains that companies strive to obtain and maintain social legitimacy by aligning their activities with societal expectations and norms. In this case, transparent disclosure of environmental impact management through Green Accounting demonstrates the company's commitment to sustainability and compliance with environmental regulations. As a result, the company gains legitimacy, strengthening relationships with stakeholders and improving its reputation, which ultimately contributes to better financial performance.

Meanwhile, CSR encompasses the company's social responsibility in managing the social and environmental impacts of its operations. Effective CSR disclosure can enhance the company's image in the public eye, build better relationships with the government, and reduce reputation risks. In the energy sector, CSR can include contributions to local communities, environmental impact management, and the implementation of social and economic development programs. Good CSR activities often positively impact a company's financial performance through increased customer loyalty, attracting investors who care about sustainability, and improving relationships with regulators.

Legitimacy Theory also supports the importance of CSR in creating legitimacy for a company in the eyes of stakeholders. A company that actively engages in CSR activities and discloses these efforts through sustainability reports can show that it operates in a manner aligned with social norms and public expectations. Therefore, the company not only improves its social reputation but also reduces potential conflicts and enhances relationships with parties that have a vested interest in its operations, such as the government and local communities.

The simultaneous impact of Green Accounting and CSR on the financial performance of energy companies lies in the synergy between the two in creating a positive company image. Effective environmental management, reflected in Green Accounting practices, combined with a commitment to social responsibility, can lead to improved reputation, which ultimately has a positive impact on financial performance. The implementation of both factors can enhance a company's access to financing, increase stock prices, and reduce litigation risks as well as costs related to environmental and social issues.

Using Legitimacy Theory, it can be concluded that the simultaneous application of Green Accounting and CSR helps companies gain greater legitimacy from various stakeholders. This legitimacy is essential for creating long-term stability for the company, reducing market uncertainty, and increasing investor and consumer trust. This, in turn, can have a positive impact on the company's financial performance in the long term, whether through reduced operational costs, increased efficiency, or enhanced reputation and market appeal.

E. CONCLUSION

The study concludes that green accounting has a negative effect on the financial performance of energy companies, indicating that the initial costs associated with implementing environmentally friendly practices and transparent reporting can reduce short-term profitability. In contrast, corporate social responsibility (CSR) does not have a significant impact on financial performance, suggesting that its benefits may not directly translate into immediate financial gains. However, when considered simultaneously, green accounting and CSR significantly influence financial performance, demonstrating the synergy between sustainability practices in enhancing a company's reputation, improving stakeholder relationships, and fostering long-term financial stability. These findings emphasize the importance of balancing short-term financial considerations with long-term sustainability goals to achieve optimal financial and social outcomes in the energy sector.

Limitations of the Study

This study has several limitations that should be noted, including:

1. Sample Limitations: This study uses a sample of energy companies listed on the Indonesia Stock Exchange (IDX) for the period 2019-2023. The limited number of companies in this sample (7 companies) may affect the generalizability of the findings to the entire energy sector.
2. Variable Measurement: The measurement of Green Accounting and CSR is based on indicators available in the companies' annual reports and sustainability reports. However, not all companies provide sufficiently transparent or comprehensive data regarding their Green Accounting and CSR activities, which could affect the accuracy and reliability of the research results.
3. Other Factors Affecting Financial Performance: In addition to Green Accounting and CSR, many other factors also influence a company's financial performance, such as market conditions, government policies, and macroeconomic factors. This study was unable to fully control for external factors that may affect the research findings.

Recommendations

Based on the research findings and existing limitations, several recommendations can be made:

1. Improvement in Transparency of Green Accounting and CSR Disclosures: Energy companies are encouraged to be more transparent in disclosing information related to Green Accounting and CSR activities, as this can enhance stakeholder trust and attract investors interested in sustainability. Implementing more detailed sustainability reports can help companies gain social legitimacy and improve their corporate image.
2. Further Research with a Larger Sample Size: Future research could involve a larger number of companies from the energy sector or other sectors, as well as extend the research period, to obtain more representative and generalizable findings.
3. Examination of Other Variables Affecting Financial Performance: Further studies could consider testing other variables that may influence the financial performance of energy companies, such as the impact of government policies, dynamics in the energy market, or the level of innovation in environmentally friendly technologies.
4. Implementation of More Integrated Green Accounting and CSR Strategies: Energy companies are advised to develop more integrated strategies between Green Accounting and CSR to enhance the positive impact on long-term financial performance. The synergy between these two aspects can create sustainable competitive advantages and support the company's sustainability goals.

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