

## The Effect of Sustainability Report Disclosure and Environmental Performance on Financial Performance: Empirical Evidence From Energy Sector Companies in Indonesia 2020-2024

Rifka Amalia<sup>1\*</sup>, Putri Widya Sari<sup>2</sup>, Wulan Budi Astuti<sup>3</sup>

<sup>1</sup> Wahid Hasyim University, Semarang. Email: [amaliarifka768@gmail.com](mailto:amaliarifka768@gmail.com)

### ABSTRACT

This study aims to analyze the effect of sustainability reporting and environmental performance disclosure on the financial performance of energy companies listed on the Indonesia Stock Exchange (IDX) for the period 2020–2024. The research approach used is quantitative with panel data regression analysis. The independent variables consist of the quantity and quality of sustainability report disclosures and environmental performance proxied by greenhouse gas (GHG) emissions, while the dependent variable is measured using Return on Assets (ROA). The results of the study indicate that the disclosure of sustainability reports, both in terms of quantity and quality, does not have a significant effect on financial performance. Similarly, environmental performance has no significant effect on company profitability. These findings indicate that sustainability practices in Indonesia's energy sector are not yet fully perceived as a strategic factor influencing corporate financial performance.

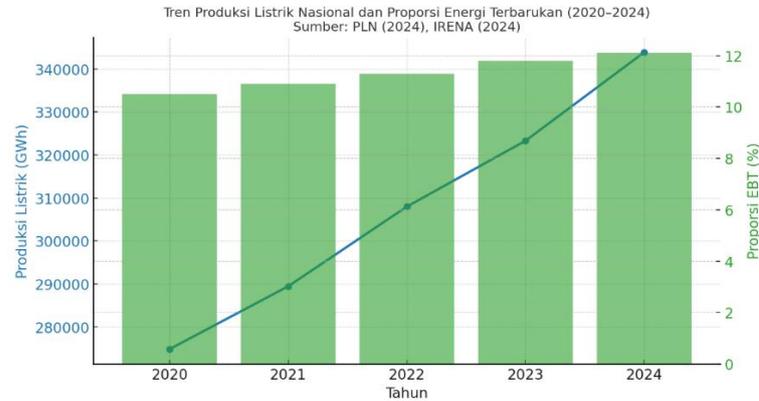
**Keywords:** disclosure of sustainability report<sup>1</sup>, environmental performance<sup>2</sup>, financial performance<sup>3</sup>.

### INTRODUCTION

Financial performance serves as a key indicator that reflects the level of effectiveness and efficiency of a company in managing its economic resources to achieve organizational goals. In the context of Indonesia's energy industry, financial performance is not solely determined by profitability, but also reflects a company's capacity to deal with various external risks, such as energy price volatility, environmental policy pressures, and the ever-changing dynamics of investor behavior. Financial performance describes management's ability to effectively manage, allocate, and utilize the company's assets, capital, and liabilities to create sustainable economic value for shareholders (Anthoni & Cerya, 2022). Financial performance serves as the primary assessment in evaluating a company's condition and effectiveness, reflecting its level of financial health. Therefore, achieving optimal financial performance is a strategic focus for every business entity in maintaining its sustainability and competitiveness (Lesar & Saraswati, 2025).

In line with the importance of financial performance, there is also an awareness that non-financial aspects such as environmental performance also affect the stability and reputation of a company. Environmental performance describes the extent to which a company fulfills its responsibility to preserve the environment and manage the impact of its operations on ecosystems. One of the main factors affecting a company's environmental performance is its level of GHG emissions. GHG emissions include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and other gases that contribute to global warming. The higher the intensity of emissions produced, the worse the company's environmental performance, as it indicates weak mitigation efforts against climate change (KLHK, 2023).

The link between environmental performance and climate change issues is increasingly evident from national empirical data. Based on the National Greenhouse Gas Inventory Report (KLHK, 2023), Indonesia's total GHG emissions in 2023 will reach 1.69 gigatons of CO<sub>2</sub>e, an increase of around 8% compared to 2020. The energy sector is the main contributor, accounting for 38% of total national emissions (ESDM, 2024). This increase is due to the dominance of fossil fuels, such as coal and petroleum, which remain the main sources of electricity generation in Indonesia.



**Figure 1.** National Electricity Production Trends and Renewable Energy Proportion (2020–2024)

This increase in emissions necessitates mitigation policies and an energy transition towards cleaner sources. Based on the graph “National Electricity Production Trends and Renewable Energy Proportion (2020–2024)”, it can be seen that national electricity production increased along with the increase in the proportion of new and renewable energy (EBT) from 10.5% to 12.1%.

In response to these conditions, the Indonesian government has strengthened its commitment to reducing carbon emissions through strategic policies. The government, through Presidential Regulation No. 98 of 2021 concerning Carbon Economic Value (NEK), has set a target of reducing emissions by 31.89% independently and 43.2% with international support by 2030 (Bappenas, 2024). To achieve these targets, companies, particularly in the energy sector, are required to improve their environmental performance through emission reduction, clean technology implementation, and environmental data disclosure in sustainability reports.

However, these efforts are not without challenges faced by the energy industry. The energy industry faces significant challenges, such as oil price fluctuations, declining energy consumption, and pressure to switch to more environmentally friendly energy sources. However, a number of companies that consistently implement transparency through the publication of sustainability reports and strengthen their environmental performance have proven to have superior financial performance compared to companies that do not do so. This finding is in line with the results of research by Febrianti and Syamra (2025), which states that the disclosure of sustainability reports has a positive effect on the financial performance of energy companies on the IDX.

This phenomenon is in line with the results of various previous studies that examined the relationship between environmental performance, sustainability reporting disclosure, and financial performance. (Indriastuti & Chariri, 2021) found that carbon and environmental performance had a positive effect on the level of sustainability report disclosure, while (Christiani & Rahmadhani, 2024) stated that environmental performance had no effect on financial performance. Research (Agustina & Respati, 2023) shows that the better the environmental performance, the broader the scope of sustainability reporting carried out by companies. This transparency strengthens investor confidence and stock value stability, demonstrating that sustainability is not only social in nature, but also an economically relevant financial strategy.

However, there are still empirical gaps that have not been explored much, especially in the post-pandemic energy sector. A research gap exists in the limited number of studies highlighting the energy sector as a major contributor to carbon emissions in Indonesia. Most previous studies, including those conducted by Lesar & Saraswati (2025), still focus on the manufacturing sector, whereas the energy sector has different characteristics in terms of environmental risks and sustainable investment needs.

Based on this description, this study aims to address this gap. This study seeks to quantitatively analyze the effect of sustainability reporting and environmental performance disclosure on the financial performance of energy sector companies listed on the Indonesia Stock Exchange (IDX) for the period 2020–2024. The results of this study are expected to provide new empirical evidence that sustainability practices contribute to improved corporate financial performance, both through social legitimacy and operational efficiency.

Theoretically, this study is based on two main foundations, namely stakeholder theory and legitimacy theory. Stakeholder theory explains that the sustainability of a company is greatly influenced by its ability to meet the expectations and interests of stakeholders, such as investors, the government, the community, and customers. Therefore, disclosure of sustainability reports is a strategic communication tool that demonstrates a company's commitment to social and environmental responsibility.

Meanwhile, legitimacy theory assumes that companies seek to obtain and maintain legitimacy from society in order to continue operating with strong social support. Through the disclosure of sustainability information and improved environmental performance, companies strive to align their organizational values with prevailing social values, thereby gaining public trust and strengthening their positive image.

Thus, the integration of these two theories forms the basis for analyzing the relationship between sustainability disclosure, environmental performance, and financial performance. In practical terms, the results of this study are expected to serve as a reference for energy companies in developing reporting strategies that focus on transparency, cost efficiency, and sustainable value creation.

H1a (quantity): The quantity of disclosures in the Sustainability Report has a positive effect on the Company's financial performance.

H1b (quality): The quality of sustainability report disclosures has a positive effect on the Company's financial performance.

H2: Environmental performance has a positive effect on the Company's financial performance.

H3: Disclosure of sustainability reports and environmental performance has a simultaneous positive effect on the Company's financial performance.

## **RESEARCH METHOD**

This study uses a quantitative approach with an associative design, which aims to examine and measure the level of relationship and influence between independent variables and dependent variables. The research population includes all manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the period 2020 to 2025, with a total population of 91 companies. Based on purposive sampling techniques, several criteria were used: (1) Companies engaged in the energy sector listed on the Indonesia Stock Exchange from 2020 to 2024; (2) Energy sectors that have disclosed sustainability information in the form of annual reports as guidelines; (3) Energy sectors that have disclosed

sustainability reports consecutively from 2020 to 2024. Based on these criteria, 16 companies were found to be suitable as research samples, with a total of 80 observation data.

To describe the dependent variable, namely financial performance, most previous studies used profitability as the main measure, with Return on Assets (ROA) as the most commonly used indicator. The use of ROA is considered relevant because this indicator is able to show the level of efficiency of a company in managing all of its assets to generate profits. Thus, ROA provides a comprehensive overview of a company's ability to optimize its resources to achieve optimal financial performance. Operationally, ROA is calculated by comparing net income after tax with the total assets owned by the company (Lesar & Saraswati, 2025).

The independent variable in this study is sustainability report disclosure, which is assessed based on the quality and quantity of items disclosed in sustainability reports as developed by Raar (2002). The use of the Raar (2002) assessment method is considered relevant for measuring the level of sustainability report disclosure in Indonesia. This is due to the diverse nature of sustainability reporting practices in Indonesia, where some companies integrate sustainability information into their annual reports, while others compile it separately in the form of standalone sustainability reports. Raar's approach (2002) is considered capable of adjusting to these variations, thereby providing a more comprehensive assessment of the quality of corporate sustainability disclosure (Naukoko & Saraswati, 2023).

The assessment of the quantity of sustainability report disclosures was conducted by measuring the extent to which companies presented information using a rating scale of 1 to 5 (see Table 1). This means that if the disclosure is only briefly explained in one sentence, it is given a score of 1. If it is explained in a complete paragraph, it is given a score of 2, and so on, in accordance with the criteria for assessing the quantity of disclosure listed in Table 1.

Subsequently, the quality of the sustainability report disclosure items was assessed by assigning scores of 1, 3, 5, and 7. This means that if disclosure is only in monetary units (money), then a score of 1 is given. If the disclosure is in numerical form (weight, size, volume), but does not include monetary units, it is given a score of 3, and so on in accordance with the criteria for assessing the quantity of disclosure listed in Table 1.

**Table 1.** Definitions of quantity and quality of disclosure

<b>QUANTITY DISCLOSURE SCORE</b>	<b>QUALITY DISCLOSURE SCORE</b>	<b>DEFINITION OF QUALITY</b>
1 = The disclosure consists of only one sentence or less.	1 = Monetary	Disclosure in monetary units (money) only.
2 = Disclosure in the form of a single paragraph (several sentences).	3 = Non - Monetary	Disclosure in numerical form (weight, size, volume), but not including monetary units.
3 = Disclosure equivalent to half an A4 page.	5 = Monetary and Non-Monetary	Disclosure in monetary units and figures.
4 = Disclosure equivalent to one full A4 page.	7 = Qualitatively, monetarily, and non-monetarily	Disclosure in the form of a mixture of descriptive paragraphs, figures, and monetary units.
5 = Disclosure of more than one A4 page.		

Furthermore, to anticipate other factors that may influence the research results, control variables were used as instruments to test the influence of variables outside the independent variables on the dependent variables. The use of control variables aims to ensure that research results are not biased due to the influence of external factors that are not directly studied (Lesar & Saraswati, 2025). In this study, the control variables used include company size, which is proxied by the natural logarithm of total assets; leverage, which is measured by the debt to equity ratio (DER); and company growth, which is represented by annual sales growth.

**RESULTS AND DISCUSSION**

In this study, to determine the best model to be used in regression, the Chow test and Hausman test were conducted. Through both tests, it was found that the fixed effect model was the best model that could be used to estimate the regression model of the effect of sustainability report disclosure and environmental performance on corporate financial performance.

Table 2. Descriptive Analysis Results

	KINERJA_KEUANGAN	KUANTITAS	KUALITAS	KINERJA_LINGKUNGAN
Mean	9.616000	11.61250	9.187500	-15.71650
Median	5.145000	12.00000	9.000000	-16.40500
Maximum	61.76000	14.00000	17.00000	-3.580000
Minimum	-25.64000	10.00000	3.000000	-27.63000

The results of the descriptive analysis show that financial performance has an average value of 9.616 with a range between -25.64 and 61.76, indicating considerable variation between companies. The quantity variable has an average of 11.612 with a maximum value of 14 and a minimum of 10, indicating a relatively uniform level of disclosure. Disclosure quality had an average of 9.187 with a range of 3 to 17, indicating moderate variation. Meanwhile, environmental performance showed an average score of -15.716 with a range of -27.63 to -3.58, indicating that most companies still have low environmental performance. In general, these results indicate that the quantity and quality of disclosures are relatively stable, while financial and environmental performance varies more widely among the sample companies.

Table 3. Panel Data Regression Analysis Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KUANTITAS	6.041187	0.824210	7.329670	0.0000
KUALITAS	0.079757	0.325676	0.244897	0.8072
KINERJA_LINGKUNGAN	0.002332	0.253841	0.009186	0.9927
C	-61.16014	10.16345	-6.017655	0.0000
Prob(F-statistic)				0.000000
R-squared				0.349439

Based on the results of panel data regression analysis in Table 3, it can be explained that the Quantity variable has a coefficient value of 6.041187 with a probability value (p-value) of 0.0000, which is less than the significance level of 0.05. This indicates that quantity has a positive and significant effect on

a company's financial performance. In other words, the more disclosures a company makes in its sustainability report, the better its financial performance will be.

These results can be explained through the perspective of stakeholder theory and legitimacy, whereby companies seek to meet the information needs of stakeholders by increasing the intensity of disclosure. A high level of disclosure indicates management's seriousness in providing transparency on its economic, social, and environmental activities. This transparency then strengthens public and investor confidence in the company, which ultimately increases the company's value and financial performance. Thus, disclosure of sustainability reports is not merely a fulfillment of obligations, but also part of the company's communication strategy in maintaining its reputation and good relations with stakeholders.

Meanwhile, the Quality variable has a coefficient of 0.079757 with a probability value of 0.8072, which is greater than 0.05. This means that disclosure quality does not have a significant effect on financial performance. These results indicate that even though a company has disclosed high-quality information, this does not necessarily have a direct impact on improved financial performance. This situation can occur because investors pay more attention to quantitative aspects that are easy to measure and compare between companies, while qualitative aspects are often subjective and difficult to evaluate financially. In addition, another possibility is that the quality of disclosure has not been fully responded to by the market because there are no clear standards for assessing the quality of sustainability report disclosure.

The Environmental Performance variable shows a coefficient of 0.002332 with a probability value of 0.9927, which is also greater than 0.05. This indicates that Environmental Performance does not have a significant effect on the company's Financial Performance. One possible explanation is that the environmental activities carried out by companies are still considered a cost center, rather than a long-term investment capable of generating financial returns. In addition, the market may not yet fully appreciate or provide incentives to companies with good environmental performance, especially in developing countries such as Indonesia, where awareness of environmental issues is still relatively low among investors.

Overall, the Prob(F-statistic) value of 0.000000 indicates that the regression model used is simultaneously significant, meaning that the independent variables together are able to explain the variation in Financial Performance. An R-squared value of 0.349439 indicates that approximately 34.94% of the variation in Financial Performance can be explained by the variables of Quantity, Quality, and Environmental Performance, while the remainder is influenced by other factors outside the research model.

These findings are in line with the results of a study conducted by Lesar and Saraswati (2025), which also found that sustainability reporting has a positive effect on corporate financial performance. The study explains that the more extensive and transparent the disclosure of sustainability information is, the greater the investor confidence in the company, thereby increasing the company's value and profitability. These results reinforce empirical evidence that sustainability reporting not only serves as a tool for corporate communication with stakeholders, but also forms part of a business strategy that contributes to improved financial performance. Thus, this study supports the view that sustainability practices have real economic value, especially when implemented consistently and measurably by companies.

## **CONCLUSION**

The results of the study indicate that the quantity of sustainability report disclosures has a positive and significant effect on company financial performance. This indicates that the more sustainability information companies disclose, the greater the trust and appreciation of stakeholders, which ultimately leads to improved financial performance. Conversely, the variables of disclosure quality and environmental performance did not have a significant effect on financial performance, indicating that the depth or quality of disclosure and environmental activities are not yet fully considered as major factors influencing investor decisions in the Indonesian capital market. This finding indicates that market participants still pay more attention to the quantity and transparency of explicit information than to the substance or quality of the report's content.

Based on these results, companies are advised to continue increasing the quantity of sustainability reports disclosed, accompanied by efforts to improve the quality of information so that it is not only informative in terms of quantity, but also meaningful in terms of content. Regulators and capital market authorities are expected to strengthen sustainability reporting standards so that companies are more encouraged to present reports that are transparent, measurable, and relevant to investors. For future researchers, it is recommended to develop research by adding other variables such as corporate governance, reputation, or more specific ESG factors, so as to provide a more comprehensive picture of the influence of sustainability factors on future financial performance.

## **REFERENCES**

- L. Agustina and D. K. Respati, "The effect of environmental performance on sustainability reporting: A case of Indonesia," 2023. Available: [https://doi.org/10.21511/ee.14\(1\).2023.04](https://doi.org/10.21511/ee.14(1).2023.04)
- D. F. Anthoni and E. Cerya, "The influence of environmental accounting, environmental performance, and CSR on the financial performance of manufacturing companies listed on the Indonesia Stock Exchange from 2019–2022," pp. 1134–1145, 2022.
- A. Christiani and S. Rahmadhani, "Pengaruh kinerja lingkungan, biaya lingkungan terhadap kinerja keuangan dan CSR sebagai variabel mediasi," vol. 5, no. 3, pp. 444–451, 2024. Available: <https://doi.org/10.47065/jbe.v5i3.6078>
- Badan Perencanaan Pembangunan Nasional (Bappenas), "Laporan Pencapaian dan Proyeksi Penurunan Emisi GRK Indonesia 2024". Jakarta: Bappenas, 2024.
- Kementerian Lingkungan Hidup dan Kehutanan (KLHK), "Inventarisasi Gas Rumah Kaca dan Monitoring, Pelaporan, serta Verifikasi (MPV) Tahun 2023 ". Jakarta: KLHK, 2023.
- Kementerian Lingkungan Hidup dan Kehutanan (KLHK), "Laporan Inventarisasi Gas Rumah Kaca Nasional 2023". Jakarta: KLHK, 2023.
- Kementerian Energi dan Sumber Daya Mineral (ESDM), "Statistik Energi Indonesia 2024". Jakarta: ESDM, 2024.
- M. Indriastuti and A. Chariri, "The effect of the carbon and environmental performance on sustainability report," 2021.
- N. E. Lesar and E. Saraswati, "Pengaruh pengungkapan laporan keberlanjutan terhadap kinerja keuangan perusahaan," vol. 6, no. 1, pp. 66–76, 2025.
- P. A. Naukoko and E. Saraswati, "Tata kelola perusahaan dan kualitas pengungkapan CSR," vol. 4, no. 3, pp. 476–486, 2023.
- Pemerintah Republik Indonesia, "Peraturan Presiden Republik Indonesia Nomor 98 Tahun 2021 tentang Nilai Ekonomi Karbon". Jakarta: Sekretariat Negara, 2021.