

HOW SUSTAINABLE INVESTMENT SHAPES CORPORATE VALUE IN INDONESIAN ENERGY FIRMS

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Abstract

Growing demands for sustainable transformation have encouraged companies to adopt responsible investment practices within operational activities. However, existing empirical findings concerning the association between sustainable investment and corporate value remain inconsistent in environmentally sensitive industries. The present research examines how sustainability-oriented expenditures influence corporate performance appraisal among Indonesian energy firms by incorporating ESG disclosure and financial performance as mediating variables. A quantitative explanatory design was employed in this analysis by utilizing secondary information obtained from corporate annual publications and sustainability disclosures of petroleum, natural gas, and coal enterprises traded on the Indonesia Stock Exchange throughout the 2020–2024 period. Based on purposive sampling criteria, 65 firm-year observations from 13 companies were included in the analysis. Multiple regression and path analysis were employed to examine direct and indirect relationships between the variables. The findings reveal that sustainable investment positively affects financial performance and corporate value, whereas its influence on ESG disclosure is statistically insignificant. Financial performance also positively contributes to corporate value and mediates the relationship between sustainable investment and corporate value. In contrast, ESG disclosure does not exhibit a significant mediating effect. These results indicate that investors in Indonesia's energy sector remain more responsive to profitability and outcomes than to sustainability practices when assessing corporate value.

Keywords: corporate value, ESG disclosure, financial performance, Indonesian energy firms, sustainable investment.

INTRODUCTION

The global transition toward sustainability has significantly altered how corporations define and pursue long-term business success. In today's business landscape, corporate evaluation is no longer based solely on financial accomplishments,

but also on the ability to integrate environmental responsibility, social commitment, and effective governance into strategic decision-making. Escalating climate-related challenges, environmental deterioration, and increasing stakeholder expectations have further encouraged firms to adopt sustainable business approaches that balance economic objectives with ecological sustainability (Zheng & Feng, 2024). Against this backdrop, sustainable investment has emerged as a strategic corporate initiative that supports sustainable development while strengthening long-term organizational resilience and market competitiveness.

Sustainable investment refers to corporate expenditures directed toward environmentally responsible initiatives, including renewable energy development, energy efficiency programs, pollution mitigation, green technological innovation, and low-carbon operational systems (Ye & Dela, 2023). The growing importance of such investment practices is closely linked to the worldwide transition toward sustainable economic development and the broader commitment to achieving the Sustainable Development Goals (SDGs). In Indonesia, sustainability-related concerns have received increasing attention as the government strengthens environmental policies and promotes the transition toward a low-carbon economy (Maharani et al., 2024). As a result, companies operating in environmentally sensitive sectors are encountering greater pressure from regulators, investors, and the public to demonstrate stronger commitments to sustainable business operations.

Among strategic industries, the oil, gas, and coal sectors represent industries with substantial environmental exposure due to their intensive resource extraction activities, carbon emissions, ecological disruption, and waste generation (Larasati et al., 2024). Although these sectors contribute significantly to Indonesia's economic growth, industrial productivity, and energy security, they simultaneously encounter growing scrutiny regarding environmental sustainability and social legitimacy. The pressure to maintain operational continuity while meeting sustainability expectations has encouraged firms within these industries to increase green investment allocation as part of long-term business strategies.

The increasing importance of sustainability practices is also reflected in the fluctuating market valuation of energy-sector firms engaged in petroleum, natural gas, and coal industries on the Indonesian capital market. Corporate value, commonly measured using Tobin's Q, reflects how investors assess organizational performance, future growth prospects, and long-term business sustainability (Brigham & Ehrhardt, 2013). Market trends among Indonesian energy firms operating in petroleum, natural gas, and coal-related industries during 2020–2024 reveal considerable fluctuations in corporate valuation, including a significant decline during the pandemic period followed by gradual recovery in subsequent years. This condition indicates that companies within environmentally intensive sectors are facing increasing challenges in preserving

investor trust amid rising sustainability expectations and ongoing economic uncertainty (Zheng & Feng, 2024).

The Resource-Based View (RBV) explains that firms can attain sustainable competitive advantage through the effective utilization of strategic resources that are valuable, distinctive, and not easily replicated by competitors (Barney, 1991; Wernerfelt, 1984). Within this framework, sustainable investment can be interpreted as a strategic organizational capability that supports operational efficiency, enhances corporate credibility, and strengthens long-term market competitiveness (Prasetya et al., 2025). Investments directed toward environmentally sustainable technology, energy optimization, and innovative operational practices are increasingly viewed as important strategic instruments for improving corporate performance while reducing exposure to future business and environmental risks.

Previous research suggests that sustainable investment may contribute positively to corporate value because investors increasingly favor companies demonstrating stronger environmental commitment and long-term sustainability orientation. Zheng (2026) reported that firms adopting sustainability-focused investment strategies tend to receive more favorable market reactions and greater investor trust. Comparable evidence was also identified in studies conducted by Obagbuwa & Chummun (2024), Putrika & Ardianto (2025), as well as Pardede et al. (2024), which emphasized that sustainability-oriented investment activities can strengthen corporate market valuation. Despite these findings, empirical results remain inconclusive. Larasati et al. (2024) found no significant relationship between green investment and corporate value, whereas Diantini et al. (2023) argued that environmental initiatives may weaken short-term market responses because investors in emerging markets continue to emphasize immediate financial returns rather than long-term sustainability commitment.

The inconsistency of previous empirical findings suggests that the relationship between sustainable investment and corporate value may operate indirectly through intermediary factors capable of converting sustainability initiatives into observable organizational outcomes. One mechanism widely discussed within sustainability and corporate governance literature is Environmental, Social, and Governance (ESG) disclosure. ESG disclosure represents a company's transparency and commitment in communicating environmental practices, social responsibility, and governance standards to stakeholders. Stakeholder Theory emphasizes that corporations are expected to address the interests of broader stakeholder groups rather than concentrating solely on shareholder wealth maximization (Freeman, 1984). Companies demonstrating stronger ESG practices are generally more likely to build organizational legitimacy, strengthen stakeholder confidence, and maintain a more sustainable corporate reputation over time.

Recent studies indicate that ESG disclosure may reinforce the relationship between sustainable investment and corporate value. Zheng & Feng (2024) demonstrated that ESG practices play a mediating role in linking sustainability-oriented investment with corporate valuation, as investors increasingly incorporate sustainability considerations into their investment assessments. Companies capable of converting sustainable investment initiatives into credible ESG performance are often viewed as more adaptable, resilient, and sustainable over the long term. Furthermore, effective ESG implementation may minimize information asymmetry and strengthen investor confidence through improved transparency in sustainability-related reporting (Narula et al., 2023).

Despite its increasing relevance, ESG implementation in emerging economies remains relatively underdeveloped. Investor awareness regarding sustainability disclosure in Indonesia is still evolving, and many market participants continue to emphasize short-term profitability rather than long-term environmental commitment. Consequently, whether ESG disclosure effectively mediates the association between sustainable investment practices and corporate market valuation remains an important empirical issue that requires further investigation.

Financial performance may also serve as an important mechanism through which sustainable investment influences corporate value. Sustainability-oriented investment can enhance operational efficiency, lower energy utilization, reduce environmental-related costs and penalties, and improve organizational productivity, thereby contributing to stronger profitability and financial resilience (Yulianti & Ramli, 2025). From the perspective of the Resource-Based View (RBV), firms capable of converting environmental investment into superior operational performance are more likely to achieve sustainable competitive advantages and maintain stronger long-term business viability.

Several empirical studies suggest that financial performance contributes positively to corporate value because profitability reflects managerial effectiveness in optimizing organizational resources. Research conducted by Keter et al. (2024), Rusnaeni et al. (2022), and Jao et al. (2020) showed that firms with stronger financial performance tend to achieve higher corporate valuation, as investors perceive profitable companies as more capable of delivering sustainable returns over time. Furthermore, Ye & Dela (2023) argued that the economic advantages derived from sustainable investment are more likely to emerge indirectly through improvements in productivity and operational efficiency rather than through immediate market reactions.

Despite the growing body of literature on sustainable investment, several important research gaps remain unresolved. First, prior studies have generally examined ESG disclosure and financial performance independently as mediating variables, thereby limiting a more integrated understanding of the internal and external

mechanisms through which sustainable investment influences corporate value. Second, empirical research addressing sustainable investment and ESG practices is still predominantly focused on developed countries, while evidence from emerging economies such as Indonesia remains relatively scarce. Third, petroleum, natural gas, and coal-related industries possess distinctive characteristics, including substantial environmental exposure, high capital requirements, and increasing sustainability demands, making these sectors particularly relevant for sustainability-oriented research.

Considering these issues, the present study investigates how sustainable investment influences corporate value by incorporating ESG disclosure and financial performance as mediating variables among Indonesian energy firms operating in petroleum, natural gas, and coal-related industries during 2020–2024. More specifically, this research evaluates the direct effect of sustainable investment on corporate value, examines its influence on ESG disclosure and financial performance, and analyzes the mediating roles of ESG disclosure and financial performance in enhancing corporate value. The findings are expected to enrich the sustainability finance literature while offering practical insights for corporate managers, policymakers, and investors regarding the strategic role of sustainability-oriented investment in supporting long-term corporate value creation.

RESEARCH METHOD

This study employed a quantitative causal research design to investigate the influence of sustainable investment on corporate value by incorporating ESG disclosure and financial performance as mediating variables. The quantitative approach was considered appropriate because the research sought to identify and explain causal relationships among variables through numerical measurement and statistical testing. The analysis focused on Indonesian energy companies operating in the petroleum, natural gas, and coal industries during the 2020–2024 observation period. These industries were selected because their operational activities are closely associated with environmental issues, carbon emissions, and sustainability concerns, resulting in increasing pressure from governments, investors, regulators, and other stakeholders to adopt environmentally responsible business practices and strengthen sustainability-oriented corporate strategies.

Secondary data used in this study were gathered from annual reports, sustainability reports, and financial statements published on the Indonesian capital market platform and the official websites of each company. These data sources were selected because the research required publicly accessible financial and sustainability-related information associated with corporate activities. The dataset consisted of firm-level observations related to sustainable investment, ESG disclosure, financial performance, and corporate value throughout the 2020–2024 observation period.

The research population comprised Indonesian energy companies operating in petroleum, natural gas, and coal-related industries within the national capital market. Sample determination was carried out using a purposive sampling technique based on several criteria, including continuous operational and reporting availability throughout 2020–2024, accessibility of annual and sustainability reports, and the completeness of disclosed information concerning environmental, financial, and ESG-related indicators. After the selection procedure was completed, 13 companies met the specified requirements and were included in the final research sample.

Sustainable investment served as the independent variable and was proxied by the Corporate Performance Rating Assessment Program (PROPER) established by the Indonesian Ministry of Environment and Forestry to evaluate corporate environmental responsibility and sustainability performance. ESG disclosure acted as the first mediating variable and was measured using sustainability reporting indicators encompassing environmental, social, and governance aspects. Financial performance was treated as the second mediating variable and assessed through Return on Assets (ROA), which represents a company's ability to generate profit from its total assets. Meanwhile, corporate value functioned as the dependent variable and was measured using Tobin's Q, reflecting the market valuation of a company compared with the value of its assets.

The data collected in this study were processed using descriptive statistics, classical assumption tests, multiple regression, and path analysis. Descriptive statistical analysis was performed to identify the characteristics and distribution of the research variables. Meanwhile, classical assumption testing, including normality, multicollinearity, heteroscedasticity, and autocorrelation tests, was conducted to verify the appropriateness of the regression model. Multiple regression analysis was used to examine direct relationships among variables, while path analysis was applied to evaluate indirect and mediating effects. Furthermore, the Sobel test was carried out to determine the significance of the mediating roles of ESG disclosure and financial performance in the relationship between sustainable investment and corporate value. All analyses were conducted using quantitative statistical procedures to ensure the consistency and reliability of the research results.

RESULT AND DISCUSSION

Overview of the Research Location

The study examines Indonesian energy companies operating within the petroleum, natural gas, and coal sectors from 2020 to 2024. These sectors were selected because of their significant environmental exposure, carbon-intensive activities, and increasing sustainability-related pressures, making them appropriate for analyzing the interaction between green investment, ESG disclosure, financial performance, and firm value.

The study population comprised 66 companies, while the research sample was determined through purposive sampling based on data completeness, profitability consistency, and sustainability reporting availability. Companies experiencing financial losses during the observation period and firms without sustainability reports were excluded from the analysis. Based on these criteria, 13 companies fulfilled all research requirements, resulting in 65 company-year data.

Table 1. Research Sample Determination

| No | Criteria | Total |
|--|--|-----------|
| 1 | Oil, Gas, and Coal Companies Listed on IDX (2020–2024) | 66 |
| 2 | Companies Reporting Financial Losses | (41) |
| 3 | Companies Without Sustainability Reports | (12) |
| Final Sample Companies | | 13 |
| Total Observations (13 × 5 Years) | | 65 |

Source: idx.co.id (processed data, 2026)

Description of Data Related to Research Variable

Descriptive Analysis of Research Variable

Descriptive statistics were utilized to describe the characteristics and distribution of the study variables based on 65 firm-year observations from 13 oil, gas, and coal companies listed on the Indonesia Stock Exchange during 2020–2024.

Table 2. Descriptive Statistics Results

| | N | Minimum | Maximum | Mean | Std. Deviation |
|------------------------|----|---------|---------|--------|----------------|
| Sustainable Investment | 65 | 3.00 | 5.00 | 3.6154 | .74356 |
| ESG Disclosure | 65 | .38 | .92 | .6938 | .15375 |
| Financial Performance | 65 | .01 | .26 | .1257 | .06643 |
| Corporate Value | 65 | .47 | 4.95 | 1.6817 | 1.07210 |
| Valid N (listwise) | 65 | | | | |

Source: Processed data, 2026

The findings reveal that sustainable investment records an average value of 3.6154, indicating a relatively strong commitment by Indonesian energy firms toward environmentally responsible investment practices. ESG disclosure shows a mean score of 0.6938, suggesting that the sampled companies disclosed approximately 69% of ESG-related information. Financial performance, represented by Return on Assets (ROA), has an average value of 0.1257, reflecting a moderate level of profitability throughout the observation period. Meanwhile, corporate value demonstrates a mean value of

1.6817, indicating that the market generally assessed the companies above their book value. The standard deviation results further indicate moderate variation across all research variables, with corporate value exhibiting the highest fluctuation among the sampled firms.

Classical Assumption Testing

Normality Testing

The study applied the One-Sample Kolmogorov–Smirnov (K–S) test to assess the normality of residuals in each regression model. A regression model was regarded as normally distributed if the Asymp. Sig. (2-tailed) value exceeded 0.05.

Table 3. Result of Normality Testing

| Regression Model | Asymp. Sig. (2-tailed) | Result |
|------------------|------------------------|-----------------|
| Model 1 | 0.052 | Meets Normality |
| Model 2 | 0.062 | Meets Normality |
| Model 3 | 0.200 | Meets Normality |

Source: Processed data, 2026

The results demonstrate that all regression models possess significance values above 0.05, indicating that the residuals satisfy the normality assumption and are appropriate for subsequent regression and path analysis.

Multicollinearity Testing

Multicollinearity testing was carried out to examine potential intercorrelations among the independent variables in each regression model. The analysis applied Tolerance and Variance Inflation Factor (VIF) criteria, where a model is considered free from multicollinearity when the Tolerance value exceeds 0.10 and the VIF value remains below 10.

Table 4. Results of Multicollinearity Testing

| Regression Model | Variable | Tolerance | VIF | Result |
|------------------|------------------------|-----------|-------|------------|
| Model 1 | Sustainable Investment | 0.970 | 1.031 | Acceptable |
| | ESG Disclosure | 0.954 | 1.048 | Acceptable |
| | Financial Performance | 0.926 | 1.080 | Acceptable |
| Model 2 | Sustainable Investment | 1.000 | 1.000 | Acceptable |
| Model 3 | Sustainable Investment | 1.000 | 1.000 | Acceptable |

Source: Processed data, 2026

The results reveal that all variables meet the tolerance and VIF criteria, with tolerance values above 0.10 and VIF values below 10. This indicates that the regression

models are free from multicollinearity and suitable for further regression and path analysis procedures.

Heteroscedasticity Testing

Heteroscedasticity testing was carried out through the Glejser test to identify the presence of unequal variance in the regression residuals. A regression model is regarded as free from heteroscedasticity if the significance value exceeds 0.05.

Table 5. Result of Heteroscedasticity Testing

| Regression Model | Variable | Sig. | Result |
|------------------|------------------------|-------|-----------------------|
| Model 1 | Sustainable Investment | 0.148 | No Heteroscedasticity |
| | ESG Disclosure | 0.231 | No Heteroscedasticity |
| | Financial Performance | 0.103 | No Heteroscedasticity |
| Model 2 | Sustainable Investment | 0.744 | No Heteroscedasticity |
| | Sustainable Investment | 0.802 | No Heteroscedasticity |

Source: Processed data, 2026

The results indicate that all variables across the regression models have significance values above 0.05. Therefore, the models are free from heteroscedasticity, confirming that the residual variances are stable and the regression analysis is reliable for further hypothesis testing.

Autocorrelation Testing

Autocorrelation testing was carried out using the Durbin–Watson (DW) method to assess the independence of residuals within the regression models. The models are considered free from autocorrelation when the Durbin–Watson statistic is near 2.

Table 6. Result of Autocorrelation Testing

| Regression Model | Durbin–Watson | Result |
|------------------|---------------|--------------------|
| Model 1 | 1.959 | No Autocorrelation |
| Model 2 | 2.009 | No Autocorrelation |
| Model 3 | 1.771 | No Autocorrelation |

Source: Processed data, 2026

The Durbin–Watson values range from 1.771 to 2.009, indicating that all regression models are free from autocorrelation problems. These findings confirm that the residuals are independently distributed and that the models are suitable for further regression and path analysis procedures.

Hypothesis Testing

R² Analysis

The coefficient of determination (R²) analysis was applied to measure the explanatory capacity of the regression models. Adjusted R Square values indicate how far the independent variables contribute to explaining variations in the dependent variables.

Table 7. R² Analysis Result

| Regression Model | Adjusted R Square | Interpretation |
|---------------------------------|-------------------|----------------------------|
| Model 1 (Corporate Value) | 0.532 | Moderate Explanatory Power |
| Model 2 (ESG Disclosure) | 0.016 | Low Explanatory Power |
| Model 3 (Financial Performance) | 0.414 | Moderate Explanatory Power |

Source: Processed data, 2026

The results indicate that sustainable investment, ESG disclosure, and financial performance explain 53.2% of the variation in firm value. Meanwhile, sustainable investment explains 1.6% of ESG disclosure and 41.4% of financial performance. Overall, the regression models demonstrate moderate explanatory capability, particularly in explaining firm value and financial performance.

Individual Significance Test (t-test)

The t-test analysis was performed to assess the individual effect of each independent variable on the dependent variable at a 5% significance level ($\alpha = 0.05$). A variable was regarded as statistically significant when its significance value was below 0.05.

The results show that sustainable investment positively contributes to corporate value and financial performance, while ESG disclosure does not significantly affect corporate value. In addition, sustainable investment does not exhibit a significant influence on ESG disclosure. These findings suggest that financial performance serves as a more important mechanism than ESG disclosure in explaining how sustainable investment shapes corporate value in Indonesian energy firms.

Table 8. Individual Significance Test (t-test) Result

| Regression Model | Variable | Coefficient | Sig. | Result |
|---------------------------------|------------------------|-------------|-------|-----------------------------|
| Model 1 (Corporate Value) | Sustainable Investment | 0.422 | 0.012 | Significant Positive Effect |
| | ESG Disclosure | -0.245 | 0.769 | Insignificant |
| | Financial Performance | 5.906 | 0.004 | Significant Positive Effect |
| Model 2 (ESG Disclosure) | Sustainable Investment | 0.002 | 0.939 | Insignificant |
| Model 3 (Financial Performance) | Sustainable Investment | 0.315 | 0.008 | Significant Positive Effect |

Source: Processed data, 2026

Analysis of Multiple Regression

Multiple regression analysis was employed to assess the direct influence of sustainable investment on corporate value, ESG disclosure, and financial performance. In addition, the analysis aimed to explain the direction and magnitude of the relationships among the variables within the research framework.

Table 9. Model 1 Multiple Regression Result

| Model | Coefficients ^a | | | | |
|------------------------|-----------------------------|------------|---------------------------|-------|------|
| | Unstandardized Coefficients | | Standardized Coefficients | | Sig. |
| | B | Std. Error | Beta | t | |
| 1 (Constant) | .306 | .834 | | .367 | .715 |
| Sustainable Investment | .422 | .171 | .154 | 2.403 | .012 |
| ESG Disclosure | -.245 | .832 | -.035 | -.295 | .769 |
| Financial Performance | 5.906 | 1.953 | .366 | 3.023 | .004 |

a. Dependent Variable: Corporate Value

Source: Processed data, 2026

According to the regression analysis, the equation for Model 1 can be expressed as follows:

$$Y = 0,306 + 0,422 X1 - 0,245M1 + 5,906M2 + e$$

The regression equation indicates that sustainable investment has a positive coefficient of 0.422, implying that an increase in sustainable investment contributes positively to corporate value. ESG disclosure shows a negative coefficient, although the relationship is statistically insignificant. Meanwhile, financial performance demonstrates the strongest positive coefficient, indicating that profitability plays a substantial role in enhancing corporate value.

Table 10. Model 2 Multiple Regression Result

| Coefficients ^a | | | | | |
|---------------------------|-----------------------------|------------|---------------------------|-------|------|
| Model | Unstandardized Coefficients | | Standardized Coefficients | | Sig. |
| | B | Std. Error | Beta | t | |
| 1 (Constant) | .687 | .096 | | 7.142 | .000 |
| Sustainable Investment | .002 | .026 | .010 | .076 | .939 |

a. Dependent Variable: ESG Disclosure

Source: Processed data, 2026

The following equation represents Regression Model 2:

$$M1 = 0,687 + 0,002X1 + e$$

The results show that sustainable investment has a positive but statistically insignificant effect on ESG disclosure. This finding suggests that increased sustainable investment does not necessarily lead to more extensive ESG reporting practices among Indonesian energy companies.

Table 11. Model 3 Multiple Regression Result

| Coefficients ^a | | | | | |
|---------------------------|-----------------------------|------------|---------------------------|-------|------|
| Model | Unstandardized Coefficients | | Standardized Coefficients | | Sig. |
| | B | Std. Error | Beta | t | |
| 1 (Constant) | .070 | .041 | | 1.720 | .090 |
| Sustainable Investment | .315 | .111 | .271 | 2.831 | .008 |

a. Dependent Variable: Financial Performance

Source: Processed data, 2026

The regression equation for Model 3 is formulated as follows:

$$M2 = 0,070 + 0,315X1 + e$$

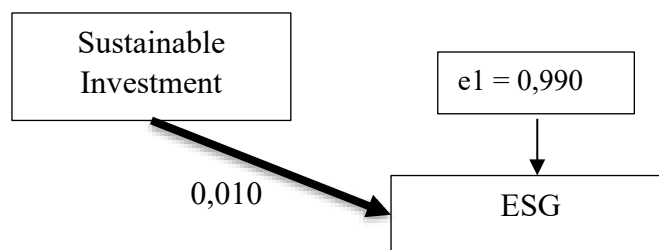
The findings indicate that sustainable investment positively and significantly influences financial performance. This result implies that companies allocating greater resources toward environmentally sustainable investment tend to achieve stronger profitability and operational efficiency.

Overall, the regression analysis demonstrates that sustainable investment contributes directly to corporate value and financial performance, while its effect on ESG disclosure remains insignificant. Financial performance emerges as the strongest explanatory factor affecting corporate value, indicating that investors in the Indonesian oil, gas, and coal sectors continue to prioritize profitability and financial stability when assessing corporate market valuation.

Path Analysis

Path analysis was utilized to assess both direct and indirect associations among sustainable investment, ESG disclosure, financial performance, and corporate value. Furthermore, the analysis was intended to examine whether ESG disclosure and financial performance function as mediating variables in the relationship between sustainable investment and corporate value.

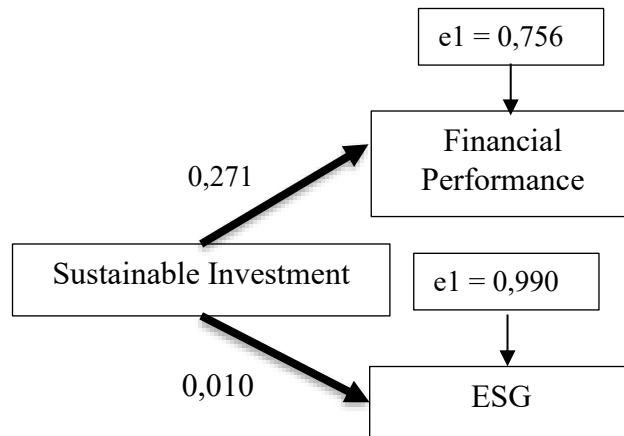
Figure 1. Path Coefficient Model 1



Source: Processed data, 2026

The first model demonstrates that sustainable investment exerts a weak positive effect on ESG disclosure, as reflected by a path coefficient of 0.010 and a residual error coefficient of 0.990. These results suggest that environmentally oriented investment practices do not substantially encourage broader ESG disclosure among the sampled Indonesian energy companies.

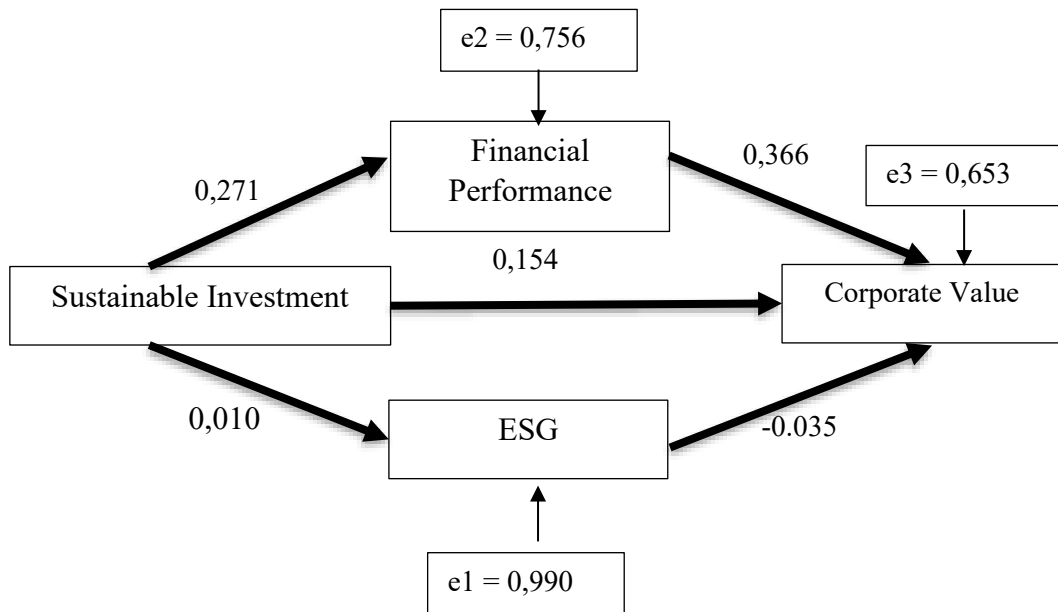
Figure 2. Path Coefficient Model 2



Source: Processed data, 2026

The second model reveals that sustainable investment has a positive effect on financial performance, as reflected by a path coefficient of 0.271 and a residual error value of 0.756. These results suggest that environmentally responsible investment practices support improvements in profitability and operational efficiency.

Figure 3. Path Coefficient Model 3



Source: Processed data, 2026

The third model shows that sustainable investment directly influences corporate value with a coefficient of 0.154. ESG disclosure exhibits a negative coefficient of -0.035 toward corporate value, indicating an insignificant mediating role. In contrast, financial

performance demonstrates a positive coefficient of 0.366, suggesting that profitability significantly strengthens firm value.

Overall, the path analysis confirms that financial performance serves as a stronger mediating variable than ESG disclosure in the relationship between sustainable investment and corporate value. These findings indicate that investors within the Indonesian oil, gas, and coal sectors remain more responsive to financial outcomes than sustainability disclosure when assessing corporate market value.

Sobel Test

The Sobel test was applied to assess the mediating functions of ESG disclosure and financial performance in explaining how sustainable investment shapes corporate value. The first Sobel test produced a z-value of -0.074, which remained below the critical value of 1.96. These findings confirm that ESG disclosure does not significantly mediate the influence of sustainable investment on corporate value. This result implies that sustainability reporting practices are not yet a dominant factor considered by investors in evaluating the market value of Indonesian energy companies.

Figure 4. Sobel Test of ESG Disclosure Mediation

$$z = \frac{ab}{S_{ab}}$$

$$z = \frac{ab}{\sqrt{(b^2 s_a^2) + (a^2 s_b^2)}}$$

$$z = \frac{(0,002)(-0,245)}{\sqrt{((-0,245)^2(0,026)^2) + ((0,002)^2(0,832)^2)}}$$

$$z = \frac{-0,00049}{\sqrt{(0,06 \times 0,00068) + (0,000004 \times 0,692)}}$$

$$z = \frac{-0,00049}{\sqrt{0,0000408 + 0,000002768}}$$

$$z = \frac{-0,00049}{\sqrt{0,000043568}}$$

$$z = \frac{-0,00049}{0,0066}$$

$$z \approx -0,074$$

Source: Processed data, 2026

Figure 5. Sobel Test of Financial Performance Mediation

$$\begin{aligned}
z &= \frac{ab}{S_{ab}} \\
z &= \frac{ab}{\sqrt{(b^2s_a^2) + (a^2s_b^2)}} \\
z &= \frac{(0,315)(5,906)}{\sqrt{((5,906)^2(0,111)^2) + ((0,315)^2(1,953)^2)}} \\
z &= \frac{1,86}{\sqrt{((34,88) \times (0,0123)) + ((0,099) \times (3,814))}} \\
z &= \frac{1,86}{\sqrt{(0,43) + (0,38)}} \\
z &= \frac{1,86}{\sqrt{0,81}} \\
z &= \frac{1,86}{0,9} \\
z &\approx 2,067
\end{aligned}$$

Source: Processed data, 2026

The second Sobel test resulted in a z-value of 2.067, exceeding the critical threshold of 1.96. These findings demonstrate that financial performance significantly mediates the influence of sustainable investment on corporate value. This suggests that sustainable investment enhances corporate value by improving profitability and operational efficiency within Indonesian energy companies.

Overall, the Sobel test findings reveal that financial performance plays a stronger mediating role than ESG disclosure in the relationship between sustainable investment and corporate value within Indonesian energy companies.

Discussion

The results of this study offer important insights into how sustainable investment shapes corporate value through ESG disclosure and financial performance among Indonesian energy companies. The findings reveal that sustainable investment positively contributes to corporate value and financial performance, while ESG disclosure does not significantly influence corporate value or mediate the relationship between sustainable investment and corporate value. These results indicate that investors within environmentally intensive industries in emerging markets continue to place greater emphasis on financial performance than on sustainability disclosure practices when evaluating corporate value.

The positive effect of sustainable investment on corporate value confirms that environmentally oriented investment can function as a strategic corporate asset capable of strengthening market valuation. This finding supports the Resource-Based View (RBV) theory, which argues that firms may achieve sustainable competitive

advantage through the effective utilization of valuable and difficult-to-imitate organizational resources (Barney, 1991; Wernerfelt, 1984). In this context, sustainable investment represents a strategic capability that enables companies to improve operational sustainability, reduce environmental risk exposure, and strengthen long-term business resilience. Investors increasingly perceive companies implementing environmental investment as more adaptive to future regulatory pressures and sustainability challenges, thereby improving market confidence and corporate value.

This finding is in line with previous studies by Zheng (2026), Obagbuwa & Chummun (2024), and Putrika & Ardianto (2025), which revealed that sustainable investment positively contributes to corporate market valuation. Companies implementing sustainable investment strategies are generally viewed as possessing stronger long-term growth potential and better risk management capabilities. In carbon-intensive industries such as petroleum, gas, and coal, sustainable investment may contribute to lowering reputational risk while enhancing legitimacy in the eyes of stakeholders. Consequently, market participants may interpret sustainable investment as a positive signal regarding future business continuity and corporate sustainability.

However, the study also reveals that ESG disclosure does not exert a significant influence on corporate value. This result suggests that sustainability disclosure practices alone are insufficient to increase market valuation within the Indonesian capital market context. Although ESG disclosure has gained substantial global attention, investor responses toward sustainability reporting in emerging economies may still differ from those in developed markets. Many investors within developing countries continue to prioritize profitability, financial stability, and short-term returns when evaluating corporate performance (Narula et al., 2023). As a result, ESG disclosure may not yet function as a primary determinant of investment decision-making among Indonesian investors.

The insignificant effect of ESG disclosure may also reflect variations in sustainability reporting quality among sampled firms. In many emerging economies, ESG disclosure practices remain relatively voluntary and inconsistent, causing sustainability reports to differ substantially in comprehensiveness, transparency, and credibility. Investors may therefore perceive ESG disclosure merely as a compliance-oriented activity rather than a genuine indicator of sustainable organizational outcomes. This result supports the view of Diantini et al. (2023), who argued that sustainability disclosure in emerging markets often lacks sufficient informational relevance to substantially influence investor perceptions.

This study also reveals that financial performance has a significant positive effect on corporate value. The finding indicates that profitability continues to be a major determinant shaping market valuation within Indonesian energy industries, especially in oil, gas, and coal sectors. Firms exhibiting stronger financial performance are commonly viewed as having greater ability to generate consistent returns, sustain

operational expansion, and respond effectively to business uncertainty. As a result, financial performance provides a favorable signal to investors concerning future corporate prospects. This result supports the argument of Widnyana et al. (2021), who suggested that companies with stronger financial performance are generally perceived by investors as having better long-term viability and more promising future growth opportunities.

These findings are consistent with signaling theory, which explains that investors place considerable emphasis on financial indicators in evaluating organizational quality and future business prospects. Profitability indicators such as Return on Assets (ROA) reflect management capability in utilizing company resources efficiently to generate returns (Brigham & Ehrhardt, 2013). The positive effect of financial performance on corporate value observed in this study also aligns with the findings of Rusnaeni et al. (2022), Jao et al. (2020), and Keter et al. (2024), who found that firms with higher profitability generally obtain stronger market valuation because investors perceive them as more sustainable and less risky.

The positive effect of sustainable investment on financial performance strengthens the view that sustainability-oriented investment provides economic benefits in addition to environmental advantages. Sustainable investment practices can improve operational efficiency through reduced energy consumption, waste management, resource optimization, and technological advancement. Firms implementing environmentally responsible operational practices are also more likely to minimize environmental compliance costs and regulatory risks, which may ultimately strengthen profitability. This finding supports the argument of Ye & Dela (2023), who stated that sustainable investment contributes positively to financial performance by improving operational sustainability and efficiency.

More importantly, the Sobel test results indicate that financial performance significantly mediates the relationship between sustainable investment and corporate value. This finding suggests that the economic advantages generated by sustainable investment contribute to higher market valuation mainly through increased profitability. In other words, investors may not directly reward sustainability initiatives unless such investments produce observable financial outcomes. Therefore, integrating sustainable investment strategies with operational efficiency and financial objectives becomes essential for strengthening corporate value creation.

Conversely, ESG disclosure was not found to significantly mediate the relationship between sustainable investment and corporate value. This insignificant mediating effect indicates that sustainability reporting practices have not yet effectively transmitted the benefits of sustainable investment into market valuation. A possible explanation is that investors within the Indonesian market continue to place greater emphasis on conventional financial indicators than on ESG-related disclosure. In addition, the relatively limited influence of sustainable investment on ESG disclosure

suggests that sustainability reporting among the sampled companies remains inconsistent and insufficiently aligned with corporate investment strategies.

These findings contribute to the sustainability finance literature in several important ways. First, this study provides empirical evidence from an emerging market setting, particularly within environmentally intensive industries that have received limited attention in previous sustainability research. Second, the study incorporates both ESG disclosure and financial performance as mediating variables, offering a broader understanding of the mechanisms through which sustainable investment shapes corporate value. Third, the findings emphasize that financial considerations continue to dominate investor decision-making despite the growing global focus on sustainability and ESG implementation.

From a practical perspective, the findings imply that companies operating in environmentally sensitive industries should not treat sustainable investment solely as a reputational or compliance-oriented strategy. Instead, environmental investment should be integrated with operational efficiency and profitability objectives to generate measurable financial outcomes capable of enhancing investor confidence and corporate value. Corporate managers should therefore focus on ensuring that sustainability initiatives contribute directly to operational performance improvement rather than relying exclusively on ESG disclosure practices.

The findings also provide implications for regulators and policymakers. The insignificant influence of ESG disclosure indicates that sustainability reporting practices in Indonesia may still require stronger standardization, transparency, and regulatory supervision. Improving the credibility and comparability of ESG disclosure could enhance investor trust and increase the informational relevance of sustainability reporting within capital markets. Regulators may therefore need to strengthen ESG disclosure standards and encourage greater integration between sustainability reporting and corporate strategic performance indicators.

Although this study provides important contributions, several limitations should be acknowledged. The analysis is limited to oil, gas, and coal companies listed on the Indonesia Stock Exchange, which may reduce the applicability of the findings across different industries and countries. In addition, the measurement of sustainable investment mainly relies on environmental performance indicators that may not entirely capture the complexity of corporate sustainability investment practices. Future studies may broaden the research coverage by incorporating more diverse industrial sectors, alternative sustainability indicators, and comparative international analysis to develop a deeper understanding of the relationship between sustainable investment and corporate value.

CONCLUSION

This study confirms that sustainable investment plays a significant role in shaping corporate value and financial performance among Indonesian energy companies in the oil, gas, and coal sectors during 2020–2024. The findings reveal that sustainable investment positively contributes to corporate value and significantly strengthens financial performance, indicating that sustainability-oriented investment supports not only environmental objectives but also corporate economic outcomes. Conversely, ESG disclosure does not significantly influence corporate value and fails to mediate the relationship between sustainable investment and corporate value. These findings suggest that investors in the Indonesian capital market remain more focused on profitability and financial outcomes than on sustainability disclosure practices when assessing corporate market valuation.

Moreover, the study demonstrates that financial performance acts as a significant mediating variable in explaining how sustainable investment shapes corporate value. This result suggests that the benefits derived from sustainable investment are translated more effectively into higher corporate value through enhanced profitability and operational efficiency rather than through ESG reporting practices. The research contributes to sustainability finance literature by offering empirical evidence from environmentally sensitive industries within an emerging market context. Practically, these findings imply that companies should integrate sustainable investment initiatives with financial performance strategies to strengthen long-term corporate value and investor confidence.

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