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# Analyzing the Impact of Environmental Performance and Profit Growth on Firm Value in Indonesia's Oil, Gas, and Coal Sector

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**ABSTRACT**

Corporate value is an important indicator in assessing a company's performance and competitiveness in the market. In the context of the oil, gas, and coal sectors—industries particularly vulnerable to environmental concerns—attention to sustainability is becoming increasingly critical. This study aims to analyze the effect of environmental performance and profit growth on the firm value of companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2023 period. A quantitative method with a correlational design was used, drawing on secondary data from annual and sustainability reports. A purposive sampling technique yielded 31 companies that met specific criteria, including consistent listing on the IDX, complete reporting, and PROPER scores from the Ministry of Environment and Forestry. Environmental performance was measured using PROPER scores, profit growth by the net profit growth ratio, and firm value using Tobin's Q. Data were analyzed using multiple linear regression, preceded by classical assumption tests for normality, multicollinearity, heteroscedasticity, and autocorrelation. The results show that environmental performance has a significant negative effect on firm value ($\beta = -0.996$; $p < 0.001$), while profit growth is not statistically significant ($\beta = 0.033$; $p = 0.058$).

**Keywords:** Corporate Value; Environmental Performance; Oil, Gas, and Coal Sector; Profit Growth; Sustainability

## INTRODUCTION

The oil, gas, and coal industry plays a strategic role in supporting global economic stability and growth by providing primary energy for various sectors (Pahlevi et al., 2024). However, business activities in this sector also contribute significantly to environmental degradation, such as carbon emissions and air pollution. Growing global concerns about climate change and the growing demand for sustainability have driven a shift in perspective for businesses operating in the energy sector. Recurring environmental issues across various companies indicate that many organizations still lack adequate awareness and sensitivity to environmental issues.

Another pressing challenge facing companies is the need to address environmental risks, as their operations inevitably interact with the surrounding ecosystem, directly impacting their ability to achieve long-term goals. Loyalty to environmental sustainability and attention to social aspects are essential and integral to the core of a company's operations (Ningsih& Rachmawati,2017). Companies are not only expected to prioritize financial profit, but also to pay attention to environmental and social conditions. In response, businesses must implement the triple bottom line principle, which integrates financial (profit), social (people), and environmental (planet) considerations. Corporate responsibility for environmental and social aspects has also been mandated in Law No. 40 of 2007 on Limited Liability Companies (The Audit Board of Indonesia [BPK RI, 2007], 2007), which requires companies operating in the natural resources sector to implement social and environmental responsibility initiatives.

In this context, a company's environmental performance has become a crucial aspect in achieving sustainable business operations. Companies are no longer evaluated solely on profitability but also on their efforts to preserve the environment. Companies that demonstrate a strong commitment to responsible environmental practices tend to gain greater trust from stakeholders and are better positioned to mitigate legal and reputational risks. Since early 2002, the Indonesian government has implemented the Corporate Performance Rating Program in Environmental Management, known as PROPER, to encourage corporate contributions to environmental conservation. Administered by the Ministry of Environment and Forestry, the PROPER program assesses companies' performance in managing environmental responsibilities, particularly regarding waste and pollution control. Its implementation also has positive implications for the protection of indigenous communities and forests, as companies are expected to fulfill their environmental obligations and prevent industrial pollution.

On the other hand, the profit growth rate can be used as an important indicator in evaluating economic performance. This metric reflects operational achievements over a specific period and is influenced by various financial decisions made by management (Abbas et al., 2020). In practice, the market tends to respond positively to companies that show a steady profit growth trend, because this directly affects expectations of future returns and capital gains derived from equity valuation (Herlianti & Rianindita, 2024).

However, in industries with high environmental exposure, investor responses to earnings performance can be more complex and shaped by perceptions of the company's long-term sustainability. In today's business climate, companies are no longer expected to focus solely on the interests of owners and managers but must also consider the well-being of consumers, employees, communities, and the environment (Dwicahyanti & Priono, 2021). As environmental awareness grows, both investors and consumers are increasingly considering environmental responsibilities when making investment and purchasing decisions. Consequently, companies are encouraged to integrate

environmentally friendly, sustainable business practices to enhance their appeal to stakeholders and add long-term value to the company.

According to Ani (2021), corporate disclosures that reflect a company's level of concern and responsibility for nature and society can positively impact its valuation. A company's ability to address social and environmental challenges arising from its operations also plays a significant role in shaping its reputation and perceived quality. Industrial operations are inherently linked to the surrounding environment and communities. As companies intensify their operations in response to competitive pressures, there is often an increased focus on profitability. However, this emphasis can have negative consequences for the environment and society if not managed responsibly. Many companies continue to generate substantial profits without adequately considering the environmental impact of their activities. Therefore, it is crucial for businesses to prioritize sustainable practices that balance profitability with environmental stewardship. Achieving this balance is crucial to ensuring a company's long-term viability and success.

The existing literature presents mixed findings regarding the relationship between environmental performance and firm valuation. Some studies have identified a significant positive relationship, while others report inconsistent results, depending on industry characteristics and the analysis period. At the same time, the correlation between earnings growth and firm value appears to be mediated by external factors, particularly market fluctuations and policy interventions. This discrepancy suggests the need to re-examine how environmental performance and earnings growth jointly influence firm value.

Environmental performance is the primary variable considered to influence a company's value. Environmental performance refers to the assessment of how effectively a company or organization maintains and improves environmental conditions, both in its operations and in its external impacts. According to research by Tjahjono & Eko(2013) and Wardani & Sa'adah (2020), environmental performance does not have a significant influence on company value. On the contrary, research by Hariati and Rihatiningtyas (2015) found a positive relationship between environmental performance and firm value, suggesting that stronger environmental practices can enhance firm valuation.

Profit growth is the second variable considered to influence a company's value. Profit growth is an important indicator for investors when deciding whether to invest in a company, as year-over-year profit increases indicate solid company performance (Handayani, 2012). In other words, consistent profit growth indicates a healthy financial condition, which can further drive increased stock prices and, thus, higher company value. Supporting this view, a study conducted by Situngkir et al. (2023) concluded that profit growth has a positive effect on company value. However, Goh et al. (2022) argue the opposite, namely that profit growth has no measurable impact on company value.

Based on the above description, the purpose of this study is to analyze the influence of environmental performance and profit growth on company value in the oil, gas, and coal sector listed on the Indonesia Stock Exchange (IDX) during the 2020–2023 period. This study has theoretical significance in enriching the literature on the relationship between sustainability performance and corporate financial performance, particularly in industrial sectors with high environmental risks. Practically, the findings of this study are expected to serve as a reference for corporate management in designing strategies that balance achieving financial profits and fulfilling environmental responsibilities. The novelty of this study lies in the simultaneous integration of PROPER-based environmental performance analysis and profit growth indicators on company value in the context of the extractive industry, which is still limited in previous studies in Indonesia.

## LITERATURE REVIEW

### Legitimacy Theory

Legitimacy theory explains that companies must align their operational activities with prevailing social values, including protecting the interests of society and environmental sustainability, to maintain the continuity of their business in the eyes of the public (Nurhidayat et al., 2020). In the context of companies operating in sectors with high environmental risks, a study by Fernandez-Feijoo shows that these companies tend to disclose environmental information more widely as a form of social accountability (Apriono et al., 2023). A company's environmental impact depends heavily on its level of ecological awareness and organizational commitment, particularly regarding pollution and the exploitation of natural resources. Companies in environmentally sensitive industries—such as energy, mining, chemicals, automotive, construction, waste management, and forestry—have a greater responsibility for transparency and reporting due to their potential to cause significant ecological damage.

Industrial sectors involved in the exploitation of natural resources, including energy and mining, face substantial challenges in maintaining public legitimacy due to the high risk of severe environmental impacts. If companies fail to demonstrate environmental stewardship, public trust can erode, leading to scrutiny from regulators, the media, and non-governmental organizations. For this reason, legitimacy theory serves as an appropriate theoretical framework for examining the relationship between environmental performance and firm value. When investors perceive that a company is committed to environmentally responsible practices, it enhances the company's perceived long-term prospects. This perception can positively influence the company's stock value and enhance its access to funding sources. Therefore, examining environmental performance variables within a social legitimacy framework is an important part of this study.

### Signal Theory

Signaling theory, first introduced by Michael Spence in 1973, provides a framework for addressing information asymmetry between corporate insiders and potential investors by explaining how firms communicate previously unobservable quality attributes through observable signals (Fiana et al., 2022). In this context, the information disclosed by a company serves as a signal that external stakeholders—especially investors—can use to assess the company's potential and credibility over time. This theory emphasizes that companies with strong intrinsic qualities, whether financial, operational, or ethical, tend to send deliberate signals to the market to convey their value and reduce uncertainty.

Thus, signaling theory offers a valuable theoretical perspective for analyzing how earnings growth operates as a credible signal that shapes investors' perceptions of a firm's fundamental value, particularly in situations where information asymmetry can distort valuations. When such signals are perceived as clear, consistent, and credible, they are more likely to generate a positive market response. This is typically reflected in increased investor interest, rising stock prices, and a general improvement in market valuations. In capital-intensive and high-risk sectors such as energy and natural resources, where external uncertainty and internal performance indicators often diverge, signaling theory becomes particularly relevant for examining how financial indicators such as earnings growth affect firm value.

### Company Values

The value of a company is determined by its market value, which reflects the price investors are willing to pay for the company's equity in the stock market (Martins & Lopes, 2016). This market value is usually observed through the company's stock price. When

stock prices rise, they maximize shareholder wealth, thereby increasing the perceived value of the company (Aulia & Noorlaily, 2018). Companies with consistently high stock prices are generally perceived as having strong future prospects and stable current performance, thus fostering market confidence. This value not only reflects the company's financial strength but also indicates the effectiveness of management in utilizing resources. Furthermore, current company performance is increasingly assessed through a holistic lens, encompassing not only economic output but also social and environmental contributions (Hirdinis, 2019).

To quantitatively measure a company's value, the Tobin's Q ratio is commonly used. This ratio compares the market value of a company's equity to the book value of its assets. A Tobin's Q value between 0 and 1 indicates that the market is valuing the company below the replacement cost of its assets, indicating lower market confidence in the company (Puspitasari & Wiagustini, 2019). Conversely, a Tobin's Q value greater than 1 indicates that the market places a premium on the company, viewing it as having strong growth potential and effective management. Therefore, a high Tobin's Q ratio implies that the company is expected to deliver solid future performance, which is in line with broader investor expectations and increases its overall value in the capital market.

**Environmental Performance**

Environmental performance refers to the measurable results obtained from a company's environmental management efforts, particularly in controlling and reducing its impacts on environmental elements (Astuti et al., 2017). This reflects the extent to which a company can foster positive environmental conditions through responsible practices (Burhany & Nurniah, 2013). Companies with strong environmental performance actively maintain a sustainable and clean environment, while companies associated with high levels of environmental degradation are considered to have poor environmental performance (Sulistiawati & Dirgantari, 2016). In Indonesia, environmental performance is generally evaluated using the PROPER system, a structured assessment tool administered by the Ministry of Environment. PROPER provides ratings based on each company's environmental practices, allowing for comparison and continuous improvement across sectors. According to the Ministry of Environment, environmental performance is the result of integrated resource and environmental management policies aimed at achieving sustainable development. This rating system categorizes companies into five color-coded ratings, each representing a different level of environmental responsibility and compliance (see Table 1).

**Table 1.** PROPER Color Description

| Color | Information |
|---|---|
| Gold | Has implemented environmental management beyond established standards and has made 3R efforts (Reuse, Recycle, and Recovery), implemented a sustainable environmental management system and taken actions that benefit society in the long term. |
| Green | Has implemented environmental management that exceeds established standards, has an effective environmental management system, built positive relationships with the community, and implemented the 3R initiative (Reuse, Recycle, and Recovery). |
| Blue | Has implemented the required environmental management steps in accordance with applicable laws and regulations. |
| Red | Implementing environmental management measures, but only partially meeting the standards set by applicable laws. |
| Black | Not taking action regarding the environment shows, intentionally, lack of necessary environmental management efforts, and this can result in environmental pollution. |

**Profit Growth**

Growth is an indicator of how effectively a company integrates into the broader economic system or within its specific industrial sector (Machfoedz, 2007). Specifically, profit growth reflects a company's ability to maintain operations and expand its scale over time. In essence, increasing company size is closely related to consistent profit growth. Profit growth indicates the extent to which a company has succeeded in increasing its capacity to generate net profit relative to its overall financial performance (Kasmir,2019).

The calculation of earnings growth involves subtracting the previous period's earnings from the current period's earnings, then dividing the difference by the previous period's earnings. According to the basic principles of financial reporting, earnings are defined as the increase in economic benefits during a reporting period, usually in the form of growth in revenues or assets derived from investments. However, a company's earnings are not guaranteed to grow steadily every year; they can increase in one period and decrease in the next. This variability is referred to as earnings growth, a concept characterized by its annual fluctuations. Hargiansyah (2015) stated that profit growth is defined as the percentage increase in a company's profits, where positive profit growth generally indicates healthy financial conditions. Such conditions, in turn, can have a positive impact on a company's value, especially since dividend distributions often depend on a company's profitability.

**Hypotheses Development**

***The Influence of Environmental Performance on Company Value***

In explaining the relationship between environmental performance and corporate value, Legitimacy Theory offers a strong conceptual foundation. This theory states that companies are driven to gain societal recognition or acceptance by aligning their actions with prevailing social norms and public expectations. In industries like oil, gas, and coal—sectors known for their substantial environmental impact—companies are particularly obligated to demonstrate a strong commitment to sustainable practices.

According to Aini and Faisal (2021), environmental performance has a positive effect on company value. This means that the more effectively a company manages its environmental responsibilities, the higher its value. Implementing environmental performance assessments through mechanisms such as the PROPER program allows companies to mitigate the risk of environmental damage while building a reputation as an environmentally responsible organization.

Participation in PROPER also signals a company's commitment to reducing its ecological footprint and supporting global sustainability initiatives. This proactive approach increases investor confidence, which in turn encourages greater investment and contributes to the company's market value. The results of this study are consistent with the findings of Apriandi and Lastanti (2023). All of which found that higher PROPER ratings were associated with lower environmental costs.

Based on the theoretical and empirical basis, the following hypothesis is proposed:

H1: Environmental performance has a positive effect on firm value.

***The Effect of Profit Growth on Company Value***

Earnings growth is a key indicator investors consider when deciding whether to invest in a company. Within the framework of signaling theory, companies strategically disclose information to the capital market as a way to convey a credible indication of future operational performance and long-term growth potential. In this context, earnings growth

serves as a strong signal regarding operational efficiency, profitability, and business sustainability.

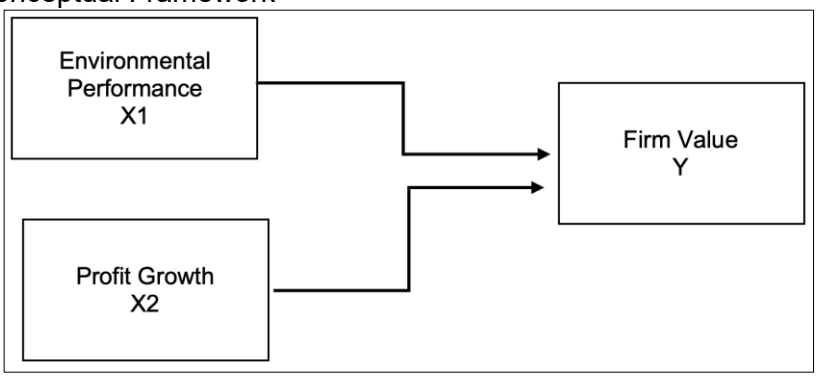
A stable profit growth pattern is usually perceived positively by investors because it reflects the company's ability to consistently generate value. Jihadi et al. (2021) found that increased profits have a positive impact on company value. Increasing profits indicate promising future prospects and solid financial performance. When a company consistently records profit growth, it signals effective operational management and strengthens its ability to enter new markets.

Furthermore, profit growth serves as an important indicator of a company's strategic vision and credibility, strengthening investor confidence in its capacity to meet financial obligations. Thus, profit growth plays a crucial role in increasing company value. Empirical findings from Situngkir et al. (2023) support this relationship, indicating that profit growth has a positive effect on firm value. Based on this reasoning, the following hypothesis is proposed:

H2: Profit growth has a positive effect on firm value.

**Conceptual Framework**

**Figure 1.** Conceptual Framework




The explanation of the relationship between related ideas or variables in a study is called a conceptual framework, which is used to determine and explain the relationship between the variables studied. The main focus of this study is the influence of environmental performance and profit growth on the firm value. Thus, Figure 1 depicts the conceptual framework of this study.

## RESEARCH METHOD

This study uses a quantitative methodology with a correlational design to test systematic relationships between predictor and outcome variables using parametric statistical analysis. The quantitative approach was chosen based on its ability to provide objective, measurable, and empirically tested insights into how environmental performance and profit growth affect firm value. By employing a correlational design, this study not only explores the existence of relationships between variables but also quantifies the strength and direction of these influences.

This methodological approach is well-suited to the structured nature of secondary data obtained from companies' annual reports, allowing for a precise and reliable analysis of the proposed hypotheses.

**Data Collection Technique**

The sample selection was carried out using a purposive sampling method, namely by setting the following criteria: (1) companies that are consistently listed on the IDX during the research period, (2) companies that publish complete annual financial reports and sustainability reports for 2020–2023, and (3) companies that obtain a PROPER score annually from the Ministry of Environment and Forestry (KLHK). Based on these criteria, 31 companies were obtained as research samples (see Table 2).

**Table 2.** Companies' Names and Codes

| NO | Company Code | Company name |
|---|---|---|
| 1 | ABMM | PT ABM Investama Tbk |
| 2 | ADRO | PT Adaro Energy Indonesia Tbk |
| 3 | AKRA | PT AKR Corporindo Tbk |
| 4 | EARTH | PT Bumi Resources Tbk |
| 5 | DSSA | PT Dian Swastatika Sentosa Tbk |
| 6 | GEMS | PT Golden Energy Mines Tbk |
| 7 | ITMG | PT Indo Tambangraya Megah Tbk |
| 8 | PTBA | PT Bukit Asam Tbk |
| 9 | SMMT | PT Golden Eagle Energy Tbk |
| 10 | TOBA | PT TBS Energi Utama Tbk |
| 11 | TEBE | PT Dana Brata Luhur Tbk |
| 12 | ENRG | PT Energi Mega Persada Tbk |
| 13 | MEDC | PT Medco Energi Internasional Tbk |
| 14 | PGAS | PT Gas Negara Tbk |
| 15 | BSSR | PT Baramulti Suksessarana Tbk |

**Data Analysis Techniques**

This study uses multivariate linear regression analysis to investigate the relationship between predictor variables and dependent variables. The data were analyzed using multiple linear regression to determine the simultaneous and partial effects of environmental performance and profit growth on firm value. Prior to the regression analysis, the data were tested using classical assumption tests to ensure the regression model met statistical requirements. Several assumption tests were performed, including the Kolmogorov-Smirnov test to assess data normality, multicollinearity testing using tolerance values and the Variance Inflation Factor (VIF), and heteroscedasticity and autocorrelation evaluations.

This diagnostic procedure is essential to ensure that the model meets the necessary statistical requirements and that the resulting parameter estimates are valid and unbiased. Interpretation of the classical assumption test indicates that the regression model meets statistical feasibility, making the results of the regression analysis reliable and valid for use in drawing conclusions from this study.

**Validity and Reliability**

The validity of the data in this study was ensured through the use of official sources, such as audited financial statements and verified sustainability reports, which have been reviewed by relevant authorities. These sources offer a high level of accountability and credibility. To maintain the study's reliability, consistent measurement procedures were applied along with standardized statistical analysis techniques. Furthermore, the use of IBM SPSS Statistics 25 software enhanced the precision of the analysis by ensuring accurate calculations and reducing the potential for errors associated with manual data processing. This combination of verified data sources and reliable analysis methods builds a solid foundation for interpreting the study's findings with confidence.

### Measurement of Research Variables

#### *Environmental Performance*

Environmental performance refers to how well a company contributes to creating positive environmental conditions or how much resources it allocates to environmental aspects. This action indirectly conveys a positive impression to stakeholders and potential investors. The measurement instrument used in this study is PROPER, published by the Ministry of Environment and Forestry, which assesses companies in five categories. The PROPER scores, which are ordinal (ranging from black to gold), are converted to a numeric scale for statistical analysis (see Table 3). This conversion allows the data to be processed using linear regression.

**Table 3.** Correct Score

| Ranking | Point |
|---|---|
| Black | 1 |
| Red | 2 |
| Blue | 3 |
| Green | 4 |
| Gold | 5 |

#### *Profit Growth*

Profit growth is the percentage change in the increase or decrease in a company's profits. This variable is denoted by (PL). Profit growth is calculated using the following formula:

$$PL = \frac{Net\ Profit_{it} - Net\ Profit_{it-1}}{Net\ Profit_{it-1}}$$

#### *Company Values*

This study uses Tobin's Q to determine firm value. Tobin's Q, also known as the Q ratio or Q Theory, was first proposed by James Tobin in 1969. According to Butt et al. (2023), one method for assessing firm value is through the use of Tobin's Q. This ratio compares the market value of a company's assets to their replacement cost, providing insight into how the market views the company's growth prospects and overall performance.

$$TB\ Q\ Ratio = \frac{Market\ Value\ of\ Equity\ (MVE) + Liabilities}{Asset\ Total\ or\ Activa\ Total}$$

## RESULTS

### Descriptive Test Analysis

Descriptive statistical tests were used to identify the lowest, highest, mean, and standard deviation values for each variable in this study. This test provides a clearer understanding of the characteristics and distribution of each variable analyzed. The results of the descriptive statistical tests are presented below.

**Table 4.** Descriptive Analysis Test Results (before removing outlier data)

| Variables | N | Minimum | Maximum | Means | Development Standards. |
|---|---|---|---|---|---|
| Environmental Performance | 60 | 3 | 5 | 3.80 | 0.798 |
| Profit Growth | 60 | -665.899 | 620.617 | 269.437 | 229.678 |
| Company Values | 60 | 721.739 | 969.761 | 252.453 | 240.211 |

Source: Data Processed by Researchers Using SPSS (2025)

Based on Table 4, there are 60 valid data points (N). Descriptive statistics for each variable are as follows: Environmental performance shows a relatively stable distribution with scores ranging from 3 to 5 (mean = 3.80, SD = 0.798), indicating a high degree of uniformity in environmental practices of oil, gas, and coal sector companies. In contrast, profit growth shows extreme variation, with values ranging from -665.899 to 620.617, reflecting substantial fluctuations in financial performance across the industry. Firm value also shows a wide dispersion, ranging between 721.739 and 969.761, illustrating significant differences in market valuations of sample companies. These observed data distributions provide initial evidence of complex interdependencies among environmental performance metrics, profitability trajectories, and firm valuation mechanisms in the volatile energy sector.

**Table 5.** Descriptive Statistics Test Results (after removing outlier data)

| Variables | N | Minimum | Maximum | Means | Development Standards. |
|---|---|---|---|---|---|
| Environmental Performance | 31 | 3 | 5 | 3.77 | 0.762 |
| Profit Growth | 31 | -665.899 | 620.617 | -113.760 | 250.602 |
| Company Values | 31 | 72.173 | 147.111 | 101.294 | 188.691 |
| Valid N (Based on List) | 31 | | | | |

Source: Data Processed by Researchers Using SPSS (2025)

Based on Table 5, there are 31 valid data points (N). Descriptive statistics for each variable are as follows: Environmental performance shows a relatively stable distribution with scores ranging from 3 to 5 (mean = 3.77, SD = 0.762), indicating a high degree of uniformity in environmental practices among oil, gas, and coal sector companies. In contrast, profit growth shows extreme variation with values ranging from -665.899 to 620.617, reflecting significant fluctuations in financial performance across companies in the industry. Firm value also shows high variance, ranging between 72.173 and 147.111, illustrating considerable differences in market valuations of the sampled companies. The observed data distribution offers initial evidence of the complex interdependence between environmental performance metrics, profit growth, and the company valuation mechanisms in the volatile oil, gas, and coal sector.

**Normality Test Results**

The normality test was conducted to evaluate whether the data in this study follow a normal distribution. According to Ghozali, the statistical validity of the normality test can be compromised if its basic assumptions are not met, especially in studies with very small sample sizes. The following are the results of the Asymptomatic and Sig. normality tests.

**Table 6.** Normality Test Results (Before Removing Outlier Data)

| | | Unstandardized Residual |
|---|---|---|
| N | | 60 |
| Normal Parameters[a,b] | Mean | 0.0000002 |
| | Std. Deviation | 235,015,600,589,367,000 |
| Most Extreme Differences | Absolute | 0.226 |
| | Positive | 0.226 |
| | Negative | -0.140 |
| Test Statistics | | 0.226 |
| Asymp.Sig. (2-tailed) | | 0.000[c] |

Based on Table 6, the results of the normality test using the One Sample Kolmogorov-Smirnov Test method show that the variables Environmental Performance, Profit Growth, and Company Value do not follow a normal distribution. This is evidenced by

the Asymp. Sig (2-tailed) value, which is less than 0.001, which means it is smaller than 0.05, which indicates that the residuals are not normally distributed. Therefore, treatment is needed to direct the data towards normality. The treatment applied is by removing outlier data, namely, data that does not match. After the outliers are removed, the following are the results of the normality test using the One-Sample Kolmogorov-Smirnov Test.

**Table 7.** Normality Test Results (After Removing Outlier Data)

| | | Unstandardized Residual |
|---|---|---|
| N | | 31 |
| Normal Parameters[a,b] | Mean | 0.0000000 |
| | Std. Deviation | 18,786,088,814,139,600 |
| Most Extreme Differences | Absolute | 0.142 |
| | Positive | 0.142 |
| | Negative | -0.072 |
| Statistical test | | 0.142 |
| Asymp.Sig. (2-tailed) | | 0.112[c] |

After the outlier data was removed, the results of the normality test using the One Sample Kolmogorov-Smirnov Test method, as presented in Table 7, indicate that the variables Environmental Performance, Profit Growth, and Firm Value follow a normal distribution. This is indicated by the Asymp. Sig (2-tailed) value of 0.112, which is greater than 0.05, indicating that the residual values are normally distributed. Therefore, it can be concluded that in this study, the variables Environmental Performance, Profit Growth, and Firm Value show a normal distribution.

**Multicollinearity Test Results**

**Table 8.** Multicollinearity Test Results

| Variables | T | Signature. | Collinearity Statistics | |
|---|---|---|---|---|
| | | | Tolerance | VIF |
| Environmental Performance | -59.993 | 0.000 | 1.000 | 1.000 |
| Profit Growth | 1.975 | 0.058 | 1.000 | 1.000 |

On Table 8, it can be seen that the tolerance value for all variables used in this study exceeds 0.10, while the VIF value is still below 10. This indicates that the research model does not experience multicollinearity.

**Heteroscedasticity Test Results**

The heteroscedasticity test is used to determine whether the residuals in the regression model differ between observations (Ghozali, 2018). The results of the heteroscedasticity test are as follows:

**Table 9.** Heteroscedasticity Test Results

| Variables | Unstandardized Coefficients | | Standard Coefficient | T | Signature. |
|---|---|---|---|---|---|
| | B | Standard Error | Beta | | |
| (Constant) | -589.299 | 108.350 | | -0.544 | 0.591 |
| Environmental Performance | 5.322.038 | 281.460 | 0.336 | 1.891 | 0.069 |
| Profit_Growth | 0.003 | 0.009 | 0.055 | 0.310 | 0.759 |

Source: Data Processed by Researchers Using SPSS (2025)

Based on Table 9, the Environmental Performance variable has a value of 0.069, and the Profit Growth variable has a value of 0.759, which is a significance value greater than 0.05. This indicates no symptoms of heteroscedasticity.

**Autocorrelation Test Results**

In regression analysis, the autocorrelation test aims to determine whether there is a relationship between the disturbance error at time t and the disturbance error at the previous time, t-1. The Durbin-Watson test is used to indicate the presence or absence of serial autocorrelation in regression analysis. The results of the autocorrelation test are as follows:

**Table 10.** Autocorrelation Test Results

| R | R Square | Adjusted R Squared | Standard Error of Estimate | Durbin-Watson |
|---|---|---|---|---|
| 0.094a | 0.009 | -0.062 | 194.454 | 2.106 |

Source: Data Processed by Researchers Using SPSS (2025)

If dU < d < 4–dU, then the null hypothesis is accepted, which means there is no autocorrelation. From Table 10, it can be concluded that the Durbin-Watson statistical value was recorded at 2.106. It should be noted that this value is within the acceptable range, namely 1.5701 < 2.189 < 1.2969. Thus, it can be stated that the non-autocorrelation assumption has been met, and no signs of autocorrelation were found in the regression model used in this study.

**Determination Coefficient Test Results**

This study uses R-squared, which has a scale between 0 and 1, where an R-squared value approaching 1 indicates that the model can explain the dependent variable better (Ghozali, 2018).

**Table 11.** Results of the Determination Coefficient Test

| R | R Square | Adjusted R Squared | Standard Error of Estimate |
|---|---|---|---|
| 0.094a | 0.009 | -0.062 | 194.454 |

Source: Data Processed by Researchers Using SPSS (2025)

Based on the results of the coefficient of determination in Table 11, it can be seen that the R-squared value is 0.009. This figure indicates that the Environmental Performance and Profit Growth variables collectively influence the Firm Value variable by 0.9%, while the remaining 99.1% is influenced by other factors not examined in this study.

**Simultaneous Test Results (F Test)**

**Table 12.** Simultaneous Test Results (F Test)

| Variables | F | Signature. |
|---|---|---|
| Company Values | 1180.544 | 0.000[b] |

Source: Data Processed by Researchers Using SPSS (2025)

The F-test yielded statistically significant results (F = 180.544, p < 0.001) as shown in Table 12. The results (F = 24.67, p < 0.001) strengthen the collective contribution of all independent constructs to the variance in the dependent construct, confirming the accuracy of the model specification. The very low p-value (p < 0.01) further supports the existence of a strong predictive relationship between the explanatory variables and the outcome measure. Despite the low $R^2$ value, this significant F-test result still indicates that the overall model has substantial predictive power. The empirical findings provide sufficient grounds to reject the null hypothesis, confirming the significant influence of at least one explanatory variable on firm value.

**Partial Test Results (t-Test)**

**Table 13.** Partial Test Results (t-Test)

| Variables | Not standardized Coefficient | | Standardization Coefficient | T | Signature. |
|---|---|---|---|---|---|
| | B | Standard Error | Beta | | |
| (Constant) | 101.322 | 308.372 | | 328.572 | 0.000 |
| Environmental Performance | -2.000 | 0.033 | -0.996 | -59.993 | 0.000 |
| Profit_Growth | 0.002 | 0.001 | 0.033 | 1.975 | 0.058 |

Source: Data Processed by Researchers Using SPSS (2025)

The t-test is used to measure the influence of independent variables on dependent variables separately (partially) (Ghozali, 2018). Statistical analysis of t can be done by evaluating the coefficient value. If the coefficient value is below 0.05, then H0 is rejected and Ha is accepted, indicating a partial or individual influence. Conversely, if the coefficient value exceeds 0.05, then H0 is accepted and Ha is rejected, indicating no partial or individual influence. Regression analysis on Table 13 revealed a highly significant negative relationship between environmental performance and firm value ($\beta = -0.996$, $p < 0.001$), while profit growth did not show a statistically significant effect ($\beta = 0.033$, $p = 0.058$). This paradoxical finding regarding environmental performance likely stems from the unique economics of the extractive industry, where sustainability spending is often perceived as an operational cost that reduces short-term profitability, rather than an investment that creates long-term value. The low profit growth may be due to the cyclical nature of this industry, which causes investors to pay less attention to short-term performance. These findings offer valuable insights into how the market interprets and values various factors in the energy sector.

**Multiple Linear Analysis Test Results**

**Table 14.** Multiple Linear Analysis Test Results

| Variables | Not standardized Coefficient | | Standardization Coefficient | T | Signature. |
|---|---|---|---|---|---|
| | B | Standard Error | Beta | | |
| (Constant) | 101.322 | 308.372 | | 328.572 | 0.000 |
| Environmental Performance | -2.000 | 0.033 | -0.996 | -59.993 | 0.000 |
| Profit_Growth | 0.002 | 0.001 | 0.033 | 1.975 | 0.058 |

Source: Data Processed by Researchers Using SPSS (2025)

Multiple linear regression analysis on Table 14 demonstrates a nuanced relationship between environmental performance, profit growth, and firm valuation in the energy sector. The results indicate a highly significant negative relationship between environmental performance and firm value ($\beta = -0.996$, $p < 0.001$), leading to the rejection of H1, which hypothesized a positive effect. This paradoxical result may reflect the unique cost structure of extractive industries, where environmental investments are often perceived not as long-term value drivers but as operational expenses that reduce short-term financial attractiveness.

Meanwhile, profit growth did not show a statistically significant effect on firm valuation ($\beta = 0.033$, $p = 0.058$). Thus, H2 was rejected. This result may be due to the cyclical and volatile nature of the energy sector, where short-term profit fluctuations are less of a concern to investors compared to long-term resource sustainability. Although the overall

model showed statistical significance ($F = 180.544$, $p < 0.001$), the low adjusted $R^2$ value (−0.062) indicates that various external or unobserved factors still play a substantial role in determining firm value beyond the scope of environmental performance and profit growth.

## DISCUSSION

This study yields interesting findings regarding the relationship between environmental performance, profit growth, and firm value in the oil, gas, and coal sectors in Indonesia. The significant negative coefficient of environmental performance on firm value ($\beta = -0.996$; $p < 0.001$) indicates an inverse relationship, inconsistent with the initial hypothesis and generally accepted sustainability theory. This finding reflects the complexity of the operational economics of carbon-intensive industries, where environmental initiatives are still viewed by the market as a cost burden rather than a long-term, value-added investment. This may be due to investor perceptions that sustainability activities, particularly in the extractive sector, do not immediately generate tangible financial benefits, especially in the context of less robust environmental governance.

While contrary to initial expectations, these results remain relevant within the framework of legitimacy theory. If a company is able to effectively manage its environmental responsibilities, this can enhance its public reputation and social acceptance. In the long term, this acceptance can foster customer loyalty and open market access, potentially increasing the company's value. The Ministry of Environment's PROPER assessment scheme provides one form of external recognition for these efforts. However, these results indicate that this recognition has not consistently translated into increased market valuation, at least in the short term. This is in line with several previous studies, such as Tjahjono and Eko (2013), which also found that environmental awards did not have a significant influence on company value in certain sectors.

In contrast, this study differs from the findings of Hariati and Rihatiningtyas (2015) as well as Situngkir et al. (2023), which show that companies with high environmental performance tend to have higher market value. This difference highlights the importance of industry context in assessing the effectiveness of sustainability programs. In the extractive industry, the costs of complying with environmental regulations or achieving a high PROPER rating may actually be viewed by the market as reducing profitability.

In addition, this study finds that profit growth does not have a statistically significant effect on firm value ($\beta = 0.033$, $p = 0.058$), leading to the rejection of H2. The findings by Jihadi et al. (2021) contradict this study's findings. This may be attributed to the inherently cyclical and volatile nature of the oil, gas, and coal sectors, where short-term profit growth is less valued by investors compared to long-term resource security, strategic positioning, and regulatory compliance. Profit fluctuations in these sectors are often influenced by external factors such as global commodity prices, geopolitical tensions, and policy shifts, which may overshadow internal performance metrics in shaping investor confidence.

Furthermore, these results suggest that traditional valuation frameworks, such as Tobin's Q, may not fully capture the strategic value of sustainability practices, particularly during the energy transition phase. The risk of stranded assets and global pressures for decarbonization are not fully reflected in short-term valuations. Therefore, this study contributes to the debate on the limitations of conventional valuation approaches and the importance of integrating more holistic sustainability indicators into financial reporting and decision-making systems.

Despite the overall significance of the regression model ($F = 180.544$, $p < 0.001$), the very low and negative adjusted $R^2$ value (−0.062) highlights a critical limitation of the study. It suggests that the explanatory power of environmental performance and profit growth on firm value is minimal, and that a wide range of unobserved or external factors—such as capital structure, macroeconomic conditions, corporate governance, or investor sentiment—may play a more dominant role. Future research is encouraged to expand the model by incorporating these variables to better capture the complexities of firm valuation in environmentally sensitive industries.

From a practical perspective, these findings provide important insights for managers and investors. For managers, these results emphasize the need to align sustainability strategies with market expectations so that environmental programs not only have a social impact but also generate measurable economic value. For investors, these results serve as a reminder not to rely solely on formal ESG indicators like PROPER, but to consider the industry context, implementation effectiveness, and government policy direction when assessing a company's long-term value potential.

## CONCLUSION

This study analyzes the influence of environmental performance and profit growth on company value in the oil, gas, and coal sector. The study results show a highly significant negative relationship between environmental performance and firm value ($\beta = -0.996$, $p < 0.001$). This finding contradicts the prevailing hypothesis and may reflect investors' perception that environmental initiatives in the natural resource extraction sector are treated as current operating costs, rather than as generators of future value, particularly in regions with less stringent environmental governance. Meanwhile, profit growth did not show a statistically significant impact on firm value ($\beta = 0.033$, $p = 0.058$). This may be due to the cyclical nature of the industry, which causes investors to prioritize long-term natural resource sustainability over short-term profits.

The overall model achieved statistical significance ($F = 180.544$, $p < 0.001$), indicating that the independent variables collectively contribute to the variance of the dependent variable. The coefficient of determination (R-squared) of 0.009 (0.9%) indicates that environmental performance and profit growth together have limited ability to influence firm value, with the majority (99.1%) being influenced by other factors not examined in this study.

This study found an inverse correlation between environmental performance and company valuation in the oil, gas, and coal sectors, while profit growth had no significant effect. This suggests that financial markets may currently view environmental investments in fossil fuel companies as operational costs, rather than strategic assets. The model's limited predictive capacity suggests that conventional valuation models may not fully assess the role of sustainability in carbon-dependent industries. Therefore, this study emphasizes the need for industry-specific sustainability indicators and encourages companies to be more transparent about how environmental measures can improve process optimization and risk reduction.

Theoretically, these findings contribute to the growing discourse on the applicability of stakeholder theory in high-carbon industries and highlight the limitations of conventional valuation models, such as Tobin's Q, in capturing the strategic value of environmental performance during the global energy transition. The significant negative relationship between environmental performance and firm value, combined with the low explanatory power of the model, suggests that existing financial metrics may overlook long-term sustainability benefits and risk mitigation efforts. Future research should consider using

curvilinear models and introducing moderating variables—such as emissions trading systems, clean energy adoption, or regulatory stringency—to better capture the nuanced relationship between sustainability initiatives and firm valuation. Moreover, expanding the scope to include private firms and longer observation periods may offer a more comprehensive view of valuation dynamics across different market cycles. Ultimately, this study underscores the need for a more holistic and context-sensitive approach to evaluating sustainability performance in the extractive and energy sectors.

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