

Application of Green Accounting and Environmental Investment to Supporting SDGs 13 in PT Petrosea

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ABSTRACT

Climate change is currently a global phenomenon, based on Annual Greenhouse Gas (GHG) emissions worldwide 2024, the total gas emissions amounted to 61,588 MtCO₂e and industrial and mining activities influence around 31% of global gas emissions. All mining industry operations can have an impact on the environment to the climate, this drives policy directions and industrial activities to participate in the implementation of Sustainable Development Goals (SDGs). The mining industry is one of the sectors that produces high emissions and waste, one of which is PT Petrosea Tbk. This study aims to analyze the effect of green accounting and environmental investment in supporting the 13th global sustainability program (SDGs) climate action on the financial performance of PT Petrosea Tbk in 2020-2024. All operational activities must be reported transparently and consistently as a form of corporate responsibility towards the environment and stakeholders. The presentation of the resulting report is not only reporting carried out as a form of accountability. This study uses a quantitative method with research samples of the annual report and sustainability report of PT Petrosea Tbk in 2020-2024.

The results of this study prove that the implementation of green accounting using PROPER values and Environmental Investment using profitability can affect the financial performance of PT Petrosea Tbk using ROA analysis. Based on data processing using SPSS software version 27 through several tests, such as classical assumption tests, hypothesis tests, and multiple linear regression tests, it proves that the relationship between independent variables (green accounting and environmental investment) is interrelated with the dependent variable of Financial Performance.

1. INTRODUCTION

Climate change is currently a global phenomenon, based on annual greenhouse gas (GHG) emissions worldwide in 2024, total gas emissions amounted to 61,588 MtCO₂e and industrial and mining activities contributed approximately 31% to global gas emissions. All company operations can impact the environment and climate, this drives the direction of industrial policies and activities to participate in the implementation of the Sustainable Development Goals (SDGs). The Sustainable Development Goals (SDGs) are a program aimed at sustainable development worldwide, encompassing 17 objectives encompassing economic, social, and environmental aspects. The SDGs adapt the 2030 agenda by periodically evaluating the Millennium Development Goals (MDGs) program implemented from 2000 to 2015 and strengthening its sustainability strategy (Helin Garlinia, Yudawisastra, 2021). Therefore, running a sustainable business requires participation in supporting the SDGs, especially Goal 13, which is a concrete action to address climate change, often referred to as climate action. In 2014, the United Nations (UN) issued a program called the Economic and Environmental Accounting System, also known as green accounting. The UN also requires countries and organizations worldwide to implement environmentally friendly accounting systems (Thuy, 2025). The implementation of the 2022 AOS Conference in Chicago, which discussed accounting and promoting climate, called for serving the recording of data related to company business activities, which have an impact on the environment, as a standard for financial reporting worldwide (Christensen et al., 2024). Green Accounting focuses on environmental related costs by recording and reporting transparently and can be accounted for its accuracy. In accordance with the triple bottom line theory, financial performance is measured not only by profit but also by people and the planet. Based on the triple bottom

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line theory, a company's performance is successful if all its business activities generate profit while maintaining social and environmental balance. Mining construction projects carry a high risk of environmental damage and even climate change. Based on global greenhouse gas emission statistics, Indonesia is among the 10 highest emitting countries, ranking 6th with greenhouse gas emissions at 2.5%.

Regarding limited liability companies, limited liability companies that directly exploit natural resources are required to be responsible to the affected communities and the surrounding environment, including reporting responsibly (*Uu No 40 Tahun, 2007*). PT Petrosea Tbk, hereinafter referred to as PTRO, is a private public company operating in the fields of oil and gas mining projects, coal mining, and mining construction services. PT Petrosea (PTRO), a mining company specializing in oil and gas, coal, and Engineering, Procurement, and Construction (EPC) projects in Indonesia, is faced with public demands to strengthen the sustainability aspects of its industry. PTRO, a mining services and project company, reports environmental costs and investments through detailed mitigation costs in its Sustainability Report.

Green Accounting is the implementation of environmental management costs as a company's operational expense, often referred to as environmental costs, in an accountable manner (Hasanah & Widiyati, 2023). Green Accounting, often referred to as environmental accounting, modernizes a crucial aspect of business by incorporating environmental issues into annual financial reports, enabling companies to communicate these issues transparently (Singh & Kumar, 2022). Green Accounting is a combination of integrated reporting of environmental values and costs for various accounting implementations related to corporate decisions (Angelina & Nursasi, 2021). The current crisis of public trust in the social and environmental aspects of industry is significant, with many members of society believing that corporate accounting processes focus solely on financial transactions. Failure to report transparently will trigger the perception that the company is neglecting key business principles, such as social and ecosystem aspects. Green Accounting assessments can be measured through PT Petrosea Tbk's PROPER rating. The current crisis of public trust in the social and environmental aspects of the industry is significant, with many members of society believing that corporate accounting processes focus solely on financial transactions. Therefore, the role of accounting is crucial in disseminating information about the impacts of the industry, necessitating the implementation of green accounting in corporate activities.

Companies have social and environmental responsibilities. Through environmental investment, companies can demonstrate their healthy performance and care for the surrounding environment. Environmental investment is implemented through waste management, mitigating environmental damage, obtaining environmental certification, and ensuring the health of the surrounding environment that is indirectly impacted by the company's operational activities (Palupi et al., 2025). Building an effective environment will be directly related to tackling significant climate change, so that companies simultaneously realize their desired goals (Soraya, 2023). The implementation of environmental investment includes reporting environmental costs that will later be adjusted to the desired regulations, so that companies will be recommended based on their level of compliance in managing their environment and transparent reporting (Marianne et al., 2025). The implementation of environmental investment includes reporting environmental costs, which will then be adjusted to comply with regulatory requirements. This allows companies to be recommended based on their level of environmental management compliance and transparent reporting. Therefore, environmental investment is necessary for companies to disclose their efforts to maintain environmental stability and as a form of corporate responsibility to stakeholders.

Financial performance measures a company's success in carrying out all its business activities. One way to assess financial performance related to environmental responsibility is by considering assets, often referred to as Return on Assets (ROA). ROA is chosen in the analysis because this ratio can assess how effectively a company manages its assets in its operational processes to generate profits. Therefore, financial performance reflects a company's ability to manage its business. Through ROA analysis, companies can determine how effectively their business activities optimize asset management.

This study aims to identify the application of green accounting and environmental investment in supporting SDG 13, analyze the impact of green accounting implementation on financial performance, and determine the impact of environmental investment on SDG 13. This study focuses on PT Petrosea Tbk, a mining company, from 2020 to 2024. This company was selected because its entire operational activities are directly related to natural resource exploitation, resulting in numerous negative impacts on the environment and climate. This company demonstrates consistent transparency through its reporting. Therefore, green accounting and environmental investment are urgent matters requiring further research. The purpose of this study is to identify the impact of green accounting and environmental investment on the company's financial performance, not only to find out the company's accountability in carrying out transparency, but this research also finds out the influence of implementing green accounting and

environmental investment, so this research can provide information for stakeholders in making sustainability decisions.

2. METHODS

Type Of Research

The method used in this study is quantitative research. According to (Sugiyono, 2025), quantitative research is a research method based on philosophy. This philosophy states that all knowledge will be declared true in research if proven through observation and measurement of a population or sample, followed by establishing a hypothesis based on the quantitative data collection process. Quantitative research is used to analyze the impact of green accounting and environmental investment implementation on company financial performance.

Data Classification

According to (Sugiyono, 2025), secondary data is data obtained through intermediaries or indirectly, while primary data is data obtained directly during observations. This study used secondary data to obtain supporting reports. All necessary data was prepared formally and transparently by the research subjects. Secondary data sources were chosen because they are more effective and consistent in conducting research over multiple periods. The data sources used in this study were the Annual Report of PT Petrosea Tbk from the Indonesia Stock Exchange website (www.idx.co.id) and the Sustainability Report from the official website of PT Petrosea Tbk (<https://petrosea.com>).

Operational Definition of Variables

Independent Variable

An independent variable is something that will influence the dependent variable (Soesana et al., 2023). This study used Green Accounting and environmental investment as independent variables.

1. Green Accounting Disclosure in Support of SDGs 13

Green Accounting disclosure in this study used the PROPER (Company Performance Rating Program in Environmental Management) level with an ordinal scale. Green accounting and environmental investment served as the dependent variables, measured using PROPER and profitability. Financial performance was measured using Return on Assets (ROA). Measurement and analysis are explained in the data analysis method.

Table 1. PROPER Rating Assessment Aspects

Rating	Description	Score
Gold	Very Good	5
Green	Fair	4
Blue	Good	3
Red	Bad	2
Black	Very Bad	1

2. Environmental Investment Disclosure

Environmental investment disclosure is an assessment to determine a company's investment in environmental management (Iryani, 2025). All business activities must be responsible for managing their environment consistently and long-term, using a ratio scale. The formula for calculating environmental investment in this study is as follows:

$$\text{Profitability} = \frac{\text{Net Profit Margin}}{\text{Investment}} \quad (1)$$

Dependent Variable

A dependent variable is a variable that can be influenced by the independent variable as a predictor (Soesana et al., 2023). This means that changes in the dependent variable are influenced by the quantity of the independent variable. The dependent variable is the primary focus of a measurement. The relationship between the determined variables will be linked to the dependent variable. All increases and decreases in the independent variable affect the dependent variable. The variable used in this study is financial performance.

1. Financial Performance

Financial performance is an assessment to determine how optimally a company manages finances across its business operations. This study uses profitability ratio analysis with Return on Assets on a ratio scale.

$$\text{Return on Assets} = \frac{\text{Net Profit}}{\text{Total Assets}} \quad (2)$$

Population and Sample

This study used all reports from PT Petrosea Tbk covering the implementation of green accounting, environmental investment, and financial performance. The sample selection in this study used a purposive sampling method, which classifies objects according to predetermined guidelines (Adeoye, 2023). The criteria used in sampling were reports containing evidence of the implementation of Green Accounting, environmental investment, environmental performance, and support for SDG 13 aspects of PT Petrosea Tbk in 2020-2024.

Data Collection Method

This research uses a quantitative method with secondary data sources in the form of numbers. Therefore, the research employed a documentary data collection technique. This data collection method involved collecting and classifying documents relevant to the research variables. The required documents for this study were the company's Annual Report and Sustainability Report, obtained from the official website of the Indonesia Stock Exchange and the official website of PT Petrosea Tbk for the years 2020 to 2024.

Descriptive Statistical Analysis

According to (Sugiyono, 2025), to understand statistical analysis, an analysis is necessary to provide an explanation or description of predetermined data without the intention of drawing conclusions. Therefore, this analysis is used for general analysis. The analysis is applied to determine the minimum, maximum, and mean (average) values. The analysis was conducted with the dependent variable (financial performance) and independent variables (green accounting and environmental investment). Therefore, statistical explanations are important in making decisions about the sustainability of the research. The analysis was conducted using SPSS version 27 software.

Classical Assumption Test

The classical assumption test, conducted in research, is used to ensure that each multiple regression analysis model meets the statistical requirements, ensuring that the test results are reliable and free from bias. This test aims to accurately determine whether the dependent and independent variables have an influence. This test can assess the model's feasibility before further hypothesis testing. This is important because a model that does not meet the basic assumptions can produce inaccurate conclusions. Therefore, the classical assumption test is a crucial research step in the data analysis process. Here are some of the classical assumption tests applied:

1. Normality Test

According to (Ghozali, 2021), a normality test is a classical assumption test used to determine the level of normality in the distribution of data for dependent and independent variables. For the continuity of regression analysis, a normality test is necessary because a good data model is one with a good or near-normal distribution of residual values. This test uses the Kolmogorov-Smirnov (KS) test as the chosen method because testing generally uses the KS test. According to (Ghozali, 2021), the reference for conducting a normality test is the error limit called alpha (α). To meet the normality requirement, the alpha value is estimated at 5% or 0.05. If the significance value is greater than $\alpha=0.05$, the data can be considered normally distributed. Therefore, it can be concluded that the normality test is a crucial test in quantitative research, including the continuity of multiple regression analysis. A significance value of 5% is used as the basis for determining the normality of the data distribution.

2. Multicollinearity Test

According to (Ghozali, 2021), the multicollinearity test is a classical assumption test used to identify the level of correlation between independent variables. The test can be based on the variance inflation factor (VIF) and tolerance values. The criteria that must be met are: if the tolerance value is greater than 0.01 and the variance inflation factor (VIF) is less than 10, then it is concluded that multicollinearity does not occur. Conversely, if the tolerance value is less than 0.01 and the variance inflation factor (VIF) is greater than 10, it can be concluded that there are symptoms of multicollinearity that require further action. Therefore, the multicollinearity test plays an important role in testing continuous regression models. With data without multicollinearity, the analysis results are accurate, and the interpretation between variables is clear and in line with the research objectives.

3. Heteroscedasticity Test

According to (Ghozali, 2021), the heteroscedasticity test is a classical assumption test conducted to prove the existence and inequality of residual variances. Several methods can be used to determine the

presence of heteroscedasticity, one of which is the scatterplot test between residuals and predicted values (ZPRED). If the points on the scatterplot are randomly distributed and do not form a specific pattern, it can be concluded that heteroscedasticity does not occur. Therefore, the heteroscedasticity test plays an important role in regression analysis because it can produce effective and efficient sustainability testing.

Multiple Linear Regression Analysis

Multiple linear regression analysis is a statistical analysis method for determining, measuring, and identifying the influence of independent variables on dependent variables (Nugraha, 2022). This analysis can predict a hypothesis. It can provide an explanation of the relationship between variables to ensure the validity of a hypothesis and the interrelationships between variables. This study examines the effect of the implementation of green Accounting and environmental investment in supporting SDGs 13 on company financial performance. The multiple linear regression equation in this study is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon \quad (3)$$

Description:

Y : Financial Performance

A : Constant

B : Regression Coefficient

X1 : Green Accounting

X2 : Environmental Investment

ε : Error Term

T-test

According to (Ghozali, 2021), the T-test is a test conducted to determine the level of significance of the regression coefficient between the independent and dependent variables. This can prove the established hypothesis. The T-test process must meet criteria, namely a predetermined significance level of 5% or 0.05, which is the margin of error. The criteria that must be met are: if the significance value is less than 0.05, the alternative hypothesis is accepted and the null hypothesis is rejected. This proves that the independent variable influences the dependent variable. Conversely, if the significance value is greater than 0.05, the alternative hypothesis is accepted and the null hypothesis is rejected, indicating that the independent variable has no effect on the dependent variable. Therefore, it can be concluded that the T-test plays a crucial role in quantitative research because it allows all established hypotheses to be answered and proven.

Coefficient of Determination (R-Square) Test

According to (Ghozali, 2021), the coefficient of determination is a coefficient that indicates the ability of the independent variable to explain the dependent variable. It can be said that the R Square test is used to describe the relationship between the independent variable and the dependent variable. The provisions that need to be considered in this test are when the R^2 value approaches zero, then the independent variable is unable to explain the dependent variable or it can be said that there is no relationship between the two. If the R^2 value approaches one, it can be concluded that the independent variable can explain the dependent variable, it can be said that the independent variable can influence the dependent variable and the remaining R^2 value is an influence outside the predetermined variable. Thus, the coefficient of determination is one of the important tests in quantitative research to determine the accurate relationship between variables.

3. RESULTS AND DISCUSSIONS

Results

Descriptive Statistical Analysis

Table 2. Descriptive Statistical Test Results

	N	Minimum	Maximum	Mean	Std. Deviation
<i>Green Accounting</i>	5	3	4	3,6	0,548
<i>Investasi Lingkungan Kinerja Keuangan</i>	5	0,00000003385	0,00000022131	0,00000013656	0,00000009311
	5	1,15	6,9	4,4534	2,78276

Column N shows the data used for five Green Accounting and environmental investment samples at PT Petrosea Tbk for the 2020-2025 period, or five years. The independent variable, financial performance, using the Return on Assets (ROA) calculation, had a minimum value of 1.15 in 2024 and a maximum value of 6.9 in 2022. The average value was 4.4534 with a standard deviation of 2.78276. The average value is higher than the standard deviation, indicating good data distribution. The dependent variable, Green Accounting, used an ordinal scale with five categories ranging from 1 to 5 to measure the level of Green Accounting implementation at PT Petrosea Tbk for the 2020-2024 period. Green Accounting had a minimum value of 3 and a maximum value of 4. The average value was 3.6 with a standard deviation of 0.548. Thus, Green Accounting has a mean value greater than the standard deviation, indicating good data distribution. The dependent variable, environmental investment at PT Petrosea Tbk from 2020 to 2024, had a minimum value of 0.0000003385 in 2024 and a maximum value of 0.00000022131 in 2022. The average value was 0.00000013656 with a standard deviation of 0.00000009311. The average value is higher than the standard deviation, indicating good data distribution.

Normality Test

Table 3. Normality Test Results

One-Sample Kolmogorov-Smirnov Test				
			Unstandardized Residual	
N			5	
Normal Parameters ^{a,b}	Mean		0	
	Std. Deviation		0,17730187	
Most Extreme Differences	Absolute		0,204	
	Positive		0,202	
	Negative		-0,204	
	Test Statistic		0,204	
Asymp. Sig. (2-tailed) ^c			,200 ^d	
Monte Carlo Sig. (2-tailed) ^e	Sig. 99% Confidence Interval		0,741	
	Lower Bound	Upper Bound	0,73	
				0.753

Based on the results of the normality test using the Kolmogorov-Smirnov method, a significance value (Asymp.Sig. 2-tailed) of 0.2 was obtained. This value is greater than the predetermined significance level of 0.05. Therefore, based on the decision-making criteria in the K-S test, it can be concluded that the residual data generated in this study are normally distributed.

Multicollinearity Test

Table 4. Multicollinearity Test Results

	Collinearity Statistics	
	Tolerance	VIF
Green Accounting	0,341	2,929
Environmental Investment	0,341	2,929

The table shows the results of the Tolerance and Variance Inflation Factor (VIF) calculations for each independent variable identified in the study, namely green accounting (X1) and environmental investment (X2). The test results show that the Tolerance value for both variables is 0.341, indicating that the Tolerance value is greater than 0.10. This indicates that the tolerance and VIF calculations are shown in the table. The tolerance values for green accounting (X1) and environmental performance (X2) are greater

than 0.10, indicating a relatively low correlation between the two independent variables. Therefore, multicollinearity is present in the regression model.

Heteroscedasticity Test

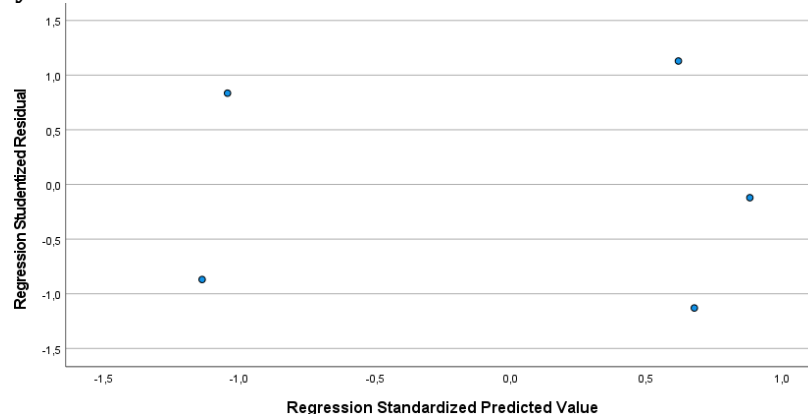


Figure 1. Heteroscedasticity Test Results

Based on the test results, the figure shows that the points in the scatterplot graph above are randomly distributed and do not form a pattern. Therefore, it can be concluded that the regression model in this study does not exhibit heteroscedasticity. This condition indicates that one of the classical assumptions has been met, thus the regression model used can be considered feasible and capable of producing more accurate and reliable estimation results. Therefore, the analysis can proceed to the next stage without the need for data transformation or model correction related to heteroscedasticity issues.

Multiple Linear Regression Test

Table 5. Multiple Linear Regression Test Results

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-10,795	1,679		-6,427	0,023
Green Accounting	2,675	0,392	0,526	6,828	0,021
Environmental Investment	41143047,05	2304372,079	1,377	17,854	0,003

Based on the results of the multiple regression analysis in the table above, information was obtained regarding the relationship between variables (X1) green accounting and (X2) environmental investment and variable (Y) financial performance. The resulting regression equation is $Y = -10.795 + 2.675X_1 - 41143047.049X_2 + \varepsilon$. The constant value obtained in the regression equation is -10.795. This indicates that if the green accounting and investment variables remain unchanged or have a value of zero, then financial performance will have a value of -10.795. This value indicates that without the green accounting and environmental investment variables, financial performance in variable Y will be low or experience a decline.

The regression coefficient for the green accounting variable (X1) is 2.675. This means that when Green Accounting increases by one unit, financial performance will increase by 2.675, with other variables held constant. The test results indicate that implementing accounting that considers environmental sustainability can positively impact a company's financial performance. All transparency can improve company performance. Indirectly, companies contribute to environmental and climate sustainability, increasing public and investor trust, and contributing to the achievement of SDGs 13.

Furthermore, the coefficient value of the environmental investment variable (X2) is 41,143,047.049. This indicates that variable X2 impacts financial performance. This significant coefficient value indicates that any increase in environmental investment will have a significant impact on a company's financial performance. Therefore, the more funds a company allocates to environmental sustainability, the

greater and more secure its profitability. Consistent environmental investment indirectly contributes to the company's financial well-being, as negative environmental impacts resulting from company operations are better managed, preventing significant expenditures on environmental losses or sustainability.

T-Test

Table 6. T-Test Results

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-10,795	1,679		-6,427	0,023
Green Accounting	2,675	0,392	0,526	6,828	0,021
Environmental Investment	41143047,05	2304372,079	1,377	17,854	0,003

Based on the test results, the independent variable green accounting has a significant effect on financial performance of 0.021, meaning the significance value is less than 0.05. This indicates that green accounting has a significant impact on a company's financial performance. The implementation of green accounting can effectively and efficiently enable companies to manage environmental costs. This indicates that any environmental costs incurred to preserve and maintain environmental sustainability can minimize the impacts that significantly degrade a company's financial condition. Overall transparency in financial reporting in environmental management can increase public and investor confidence, thus maintaining a stable company. Consequently, company profitability stabilizes or even increases. Therefore, it can be concluded that the implementation of Green Accounting has a positive and significant effect on financial performance, and the proposed hypothesis is accepted.

Furthermore, the T-test results for the Environmental Investment variable showed a significant value of 0.003, indicating that environmental investment has a significant value less than 0.05. These test results indicate that environmental investment has an impact on financial performance. Environmental investments are made to control the overall impact of a company's operations on the environment. Each environmental investment is considered long-term. Each impact of a company's operational activities on the environment is expected to be properly managed and addressed to avoid losses due to environmental damage. Not only the environment but also public and investor trust will be maintained if all operational activities are carried out with sound long-term consideration, especially regarding the impact on the environment. Therefore, it can be concluded that environmental investments can impact financial performance, thus accepting the proposed hypothesis.

Coefficient of Determination (R-Square) Test

Table 7. R-Square Test Results

R	R Square	Adjusted R Square	Std. Error of the Estimate
,998 ^a	0,996	0,992	0,25074

Based on the research results, the R-Square (coefficient of determination) value was 0.996, indicating that the independent variable had a 99.6% influence on the dependent variable, with the remaining 0.4% influenced by other variables or factors outside the study. The independent variable's influence on the dependent variable is considered strong.

Discussion

The Impact of Green Accounting Implementation in Supporting SDGs 13 on the Financial Performance of PT Petrosea Tbk 2020-2024

In this study, the hypothesis is the impact of green accounting in supporting SDG 13 on the financial performance of PT Petrosea Tbk in the 2020-2024 period. The hypothesis test showed a significance value of 0.021, which is less than 0.05. This indicates that green accounting can significantly impact financial performance. Green Accounting is the disclosure of a company's operational activities related to the environment. All activities are transparently reported annually through the company's sustainability

report. This report contains details of the company's operations, from production activities to impacts and mitigation efforts, along with supporting evidence. A company's transparency regarding its environmental responsibilities can increase public trust, especially among stakeholders. This positively impacts investment activity. Therefore, it can be concluded that when green accounting is implemented properly, PT Petrosea Tbk's financial performance is considered good.

The Impact of Environmental Investment Implementation in Support of SDGs 13 on the Financial Performance of PT Petrosea Tbk 2020-2024

In this study, the hypothesis is the impact of environmental investment in supporting SDG 13 on the financial performance of PT Petrosea Tbk for the 2020-2024 period. The hypothesis test showed a significance value of 0.003, which is less than 0.05. This indicates that investment can significantly impact financial performance. Environmental investment is implemented by properly allocating environmental mitigation and management costs. When the impacts of PT Petrosea Tbk's operational activities, which are essentially related to mining, are managed consistently, significant impacts or losses due to environmental damage can be avoided. Not only environmental damage, but also legal proceedings can lead to higher costs. When allocations are carried out transparently, stakeholders can trust PT Petrosea with all its operational activities. If financial performance is targeted to be stable or even improving, the company must maintain and preserve the environment to minimize significant impacts over a given period. If these issues are addressed and handled effectively, funds can be allocated according to established targets. Therefore, when environmental investments are implemented effectively, financial performance remains strong.

The Impact of Green Accounting Implementation and Environmental Investment in Support of SDGs 13 on the Financial Performance of PT Petrosea Tbk (2020-2024)

The hypothesis testing was conducted not only to determine the effect of each independent variable (green accounting and environmental investment) on the dependent variable (financial performance), but also to determine the relationship between green accounting and environmental investment in supporting the achievement of SDG 13, namely climate change mitigation, and the financial performance of PT Petrosea Tbk (2020-2024). Based on the hypothesis testing, the relationship between green accounting and environmental investment lies in the role of both variables in establishing a sound environmental management system. Green Accounting is implemented as a means of reporting and transparency for companies as a form of responsibility to society and the environment, while Environmental Investment is the allocation of funds for the company's actual environmental mitigation and rehabilitation. Consistent implementation of Green Accounting and Environmental Investment not only significantly controls environmental impacts but also maintains a company's reputation. When a company's reputation and responsibilities are reported transparently, investor interest will increase, resulting in a sound and stable financial condition. Therefore, based on testing, the implementation of Green Accounting and optimal environmental investment is linked to the financial performance of PT Petrosea Tbk. The implementation of these two variables not only serves as a form of transparency of the company's environmental responsibility to stakeholders but also as a corporate strategy to achieve sound, stable, and sustainable financial performance. Therefore, the integration of green accounting transparency and environmental investment allocation serves as a guideline for supporting the company's success, from economic, social, and environmental sustainability aspects.

PT Petrosea Tbk's Participation in Achieving SDG 13: Climate Action

Based on PT Petrosea Tbk's transparency in its sustainability report, the company's role in supporting the achievement of sustainability goals, particularly SDG 13, climate action, can be identified. This is evident through consistent annual reporting and the implementation of green accounting and environmental investment. This sustainability report demonstrates PTRO's commitment not only to achieving financial performance but also to addressing environmental aspects as a form of responsibility for its operational activities. PTRO adheres to the ISO 14001-based environmental management system. In implementing green accounting, the company has implemented structured transparency, starting from explaining operational activities, impacts, and the company's steps in handling and mitigating the impacts of production activities. The allocation of environmental costs and environmental investments are included in the sustainability report, and disclosures regarding energy use, greenhouse gas emissions, and waste management demonstrate that PTRO is oriented towards the triple bottom line theory. Environmental investments are achieved through the use of B35 biodiesel to minimize carbon emissions. PTRO's participation in supporting the achievement of SDGs 13 is strengthened by environmental rehabilitation programs. The implemented programs include mangrove planting, reducing erosion and flood risks, waste management, and controlling dust and water pollution. Therefore, PTRO's participation in supporting the

achievement of SDGs 13 through green accounting and environmental investments has been realized significantly. This implementation can have a positive impact on the company, not only reducing emissions and maintaining environmental and climate sustainability, but can also increase accountable transparency and of course, indirectly, financial performance will remain stable and even sustainable.

4. CONCLUSION

Based on the results of testing and data processing through several stages using various methods, including validity and reliability tests, descriptive statistical tests, classical assumption tests, multiple linear regression tests, and hypothesis tests, along with a discussion of the analysis of the implementation of green accounting and environmental investment in support of SDGs 13 on the financial performance of PT Petrosea Tbk from 2020 to 2024, the following conclusions can be drawn: Based on the testing and data processing conducted on the independent variable of green accounting in support of SDGs 13 on PT Petrosea's financial performance from 2020 to 2024, it can be concluded that the implementation of green accounting can influence the fluctuations in PT Petrosea's financial performance. If green accounting is not implemented or is implemented poorly, the company's financial performance will become unstable and decline. By implementing green accounting, the company indirectly participates in achieving climate change mitigation goals, as all mining and other company operations are transparently reported routinely and accompanied by supporting documentation. All environmental impacts are appropriately allocated to minimize emissions and ongoing environmental damage. Therefore, the relationship between the company, the community, and the environment is maintained, resulting in stable financial performance, driven by the company's consistent commitment to protecting and preserving the environment, while considering long-term financial performance.

Based on several tests and discussions conducted in the data processing of the independent variable (environmental investment) in support of SDG 13 and the dependent variable of PT Petrosea Tbk's financial performance for 2020-2024, it can be concluded that environmental investment can influence the fluctuations in PT Petrosea Tbk's financial performance. This is demonstrated by the realization of mitigation and management costs to maintain environmental stability around the company's operations. If implemented consistently and with careful consideration, it can enhance the company's image and demonstrate that PTRO fulfills its obligation to participate in development, particularly climate change action. The strategies implemented are tailored to the inputs and outputs of the company's operations. Waste management, emission reduction, air pollution mitigation, and other measures are implemented for long-term environmental investment, making the overall impact of production activities more manageable. Therefore, if environmental investments are implemented optimally, the environment and climate will be maintained, as well as the trust of the public and stakeholders. This will ensure stable financial performance, as investors and excessive emergency costs will be minimized.

Based on these two independent variables, it can be concluded that both influence PTRO's financial performance. Green Accounting and environmental investment are effective steps in maintaining the global climate ecosystem. All mining activities and other PTRO operations certainly have a significant impact on the environment. Through the balanced implementation of green accounting and environmental investment, the company also participates in maintaining climate stability for sustainability. A very minimal impact on the environment and climate increases the company's public trust and image, thus maintaining financial performance with significant investor investment, maintaining environmental stability, and preventing the public from being affected by environmental damage.

Recommendations

For the Company, based on the explanation of green accounting conducted by PT Petrosea Tbk, the author recommends a more consistent and high-quality implementation of the green accounting concept. Details of environmental costs and investments should be provided with evidence to facilitate stakeholder understanding. Furthermore, companies are expected to optimize the allocation of environmental investments and monitor all activities that impact the environment. They should also improve strategies for mitigating environmental and climate damage. They should also regularly evaluate the company's financial performance, taking into account sound environmental investments and green accounting practices.

For Future Researchers, based on the research conducted, it is recommended that further research extend the research period and include independent variables. This is preferable to determine trends in the implementation of green accounting and environmental investment. This facilitates research with an appropriate amount of data, but not too little. It is recommended to identify research objects with operational activities directly related to nature to determine the level of risk.

For the government, it is hoped that they can improve regulations and oversee the implementation of green accounting and environmental investment with structured and clear regulations. Monitor and monitor company operational activities, especially those directly exploiting or utilizing natural resources. Supervision is necessary to maintain company compliance. Focusing not only on profit but also on sustainable practices, one of which supports the achievement of SDG 13.

For Stakeholders, based on the discussions and research conducted, stakeholders are advised to consider environmental aspects more as a reference when considering investment decisions. If a company has a good level of green accounting and environmental investment implementation, long-term risk is better. This occurs because a company's strategy and commitment are considered sound when all its operations consistently consider sustainability. Therefore, stakeholders are advised to choose relevant strategies by considering environmental investment and green accounting as aspects to minimize sustainability risks. Stakeholders are encouraged to participate in overseeing company operational activities. Stakeholders act as social watchdogs in the implementation of green accounting and environmental investment strategies. Through this, companies will be more encouraged to provide detailed transparency. Companies are required to adopt sustainable business practices while still paying attention to social and environmental aspects. Stakeholder participation can significantly strengthen a sustainable corporate environment in accordance with SDGs 13.

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