

# The Effect of Carbon Emission Disclosure, Environmental Performance, and Green Accounting on Firm Value at Manufacturing Companies Listed on The Indonesia Stock Exchange

Shafira Rahmadina<sup>1</sup>, Ria Anisatus Sholihah\*, and Saunah Zainon<sup>2</sup>

<sup>1</sup>Faculty of Islamic Economics and Business, UIN K.H. Abdurrahman Wahid Pekalongan, Indonesia

<sup>2</sup>Faculty of Accountancy, Universiti Teknologi MARA Cawangan Johor, Malaysia

**Abstract.** Firm value is one indicator of investors in assessing the merits of management when managing a company. The good of a company can be seen from its operational activities that have a good environmental impact or not. The amount of environmental pollution caused by company activities shows that there are still companies that are indifferent and ignore the importance of protecting the environment. This study examines and analyzes the effect of disclosure of carbon emissions, environmental performance, and green accounting on firm value in mining sector manufacturing companies listed on the Indonesia Stock Exchange. This research is quantitative research obtained using secondary data. The number of samples in this study was 51 samples consisting of 17 companies with an observation period of 3 years (2019-2021). The sample selection used the purposive sampling method. The data in this study belong to the panel data category which consists of time series and cross-section data and uses Econometric Views (E-Views) version 10 as a test tool. The results of this study indicate that disclosure of carbon emissions and environmental performance has an influence on firm value. While green accounting has no effect on firm value.

**Keywords:** Carbon Emissions Disclosure, Environmental Performance, Green Accounting, Firm Value.

## 1. Introduction

A Firm will strive to achieve its target, where the target is to increase firm value because firm value becomes a consideration for investors in choosing stocks to be used as investments. The firm value is useful for investors in assessing the quality of management when managing the company. The trust of stakeholders in the current performance of the company as well as its future management aligns with the high value of the company. The goodness of a company can be seen from its operational activities, whether they create a positive or negative impact

---

\* Corresponding author: [ria.anisatus.sholihah@uingusdur.ac.id](mailto:ria.anisatus.sholihah@uingusdur.ac.id)

on the environment. If the environmental impact caused by the company does not harm the surrounding environment, then the company can increase its value and maintain its performance sustainability (Khairiyani et al., 2019). From the data observed that the company value in the manufacturing sector tends to decline. In 2018, the average *price-to-book value* was 2.97%, which then decreased by 0.13% in 2019 to 2.84%. There was also a decrease of 0.48% in 2020 compared to 2019.

The Firm value serves as a reference to depict its performance, both internally and externally. Increasing firm value can enhance the wealth of investors, leading shareholders to invest their capital in the company. One way to measure the firm value is by observing the stock price. When the stock price of a company is high, it means that the company has good value. Investment opportunities in the company will grow along with the increase in stock prices. To enhance firm value, it is also essential for the company to pay attention to environmental aspects influenced by its operational activities.

A good company is one that does not have a negative impact on the surrounding environment. Several case examples illustrate the environmental damage caused by mining companies in Indonesia. Approximately 70% of environmental damage in Indonesia is caused by mining activities. Mining is considered a detrimental factor to water resources, agricultural productivity, and socio-economic conditions. In addition, mining companies also emit greenhouse gases that can contribute to global warming. Unlike other fossil fuels, coal emits 66% more carbon dioxide (CO<sub>2</sub>) per unit of energy produced (Tjokrosetio, 2021). Large-scale coal exploration in Kalimantan is one of the 14 dirty energy projects identified by the environmental group Greenpeace in Indonesia. Kalimantan supplies over 90% of the coal production. Due to its highly carbon-intensive emissions, these 14 projects pose a threat to the sustainability of the Earth. According Suryana (2021), Indonesia ranks sixth among countries with the largest contributions to carbon dioxide emissions, with a value of 2.053 billion tons, representing a 4.7% increase from the previous year. The industrial sector in Indonesia is driven by fossil fuel-derived energy, which has environmental impacts, including the rising surface temperature of the Earth and subsequent global climate changes.

Attention to climate change has raised concerns about the increasing concentration of greenhouse gases, which ultimately led to the Kyoto Protocol, an international agreement in 1997. The Kyoto Protocol is a pact among industrialized nations aiming to reduce greenhouse gas emissions. The implications of the birth of the Kyoto Protocol have given rise to carbon accounting policies that must be utilized by a company to measure, record, report, and disclose their carbon emissions. The disclosure of carbon emissions is currently being done voluntarily or is optional in Indonesia. Research conducted by M. Ulum et al. (2020) indicates that carbon emissions disclosure does not have an impact on firm value. However, research conducted by Nisa (2022) indicates that carbon emission disclosure have an impact on firm value. This shows that the more companies that disclose carbon emission disclosure items will be increase the firm value.

The government, through the Ministry of Environment, has initiated a program since 2002 to assess the performance of companies in environmental management called PROPER or the Program for Rating the Performance of Companies in Environmental Management. Environmental performance refers to a company's ability to create a green and clean environment. This environmental performance is an indication that the company has implemented environmental accounting, and its operational performance is considered satisfactory according to its social contract. To measure a company's performance, the government will assess it using colors. It starts with the worst color, black, followed by red, blue, green, and the best color, gold. The government hopes that this program will motivate companies to engage in activities that can have a positive impact on their corporate image.

Companies should not only focus on the welfare of their owners and management, but also all stakeholders such as employees, consumers, communities and the environment where the company was founded (Dwicahyanti & Priono, 2021). Companies are required to disclose information about corporate social activities or responsibilities, such as how the company's financial disclosures are made. Currently, companies are competing to implement green accounting which can encourage the ability to minimize environmental problems faced by companies. In addition, the application of green accounting aims as a way to promote a good corporate image towards the surrounding environment. Research by Dewi & Edward Narayana (2020) shows that green accounting variables have an effect on firm value. In contrast to research Sapulette & Limba (2021) green accounting have no effect on firm value.

This research refers to research conducted by (Rusmana & Purnaman, 2020) which has the results of disclosing carbon emissions and environmental performance having an influence on the value of manufacturing companies listed on the Indonesia Stock Exchange in 2016-2018. The current research with previous research has differences in the variables used. Previous research only used disclosure of carbon emissions and environmental performance, while this study added green accounting as an independent variable. So, this research aims to evaluate and to find out whether disclosure of carbon emissions, environmental performance, and green accounting have an effect on firm value.

## 2. Literature Review

### 2.1 Legitimacy Theory

Legitimacy is the theory or concept that entities voluntarily issue environmental and social accountability reports as a core objective (M. Ulum et al., 2020). The theory of legitimacy has required an organization or company to demonstrate that it has operated in a manner consistent with the prevailing social values in society. To obtain recognition or legitimacy, a company must communicate its environmental activities by disclosing their social environment. Disclosing environmental activities is useful for maintaining, restoring, and gaining recognition or legitimacy. As a result, companies need to pay attention to and be responsive to the environmental impacts caused by their ongoing operations. Entities or companies can also seek recognition from society by disclosing carbon emissions or by reducing greenhouse gas effects, which is also a form of corporate environmental stewardship. In addition to carbon emissions disclosure, companies can enhance green accounting practices as an effort to improve societal legitimacy.

### 2.2 Stakeholder Theory

Stakeholders are individuals, groups of people, communities, or those who are connected to and have an interest in the business (Rahmanita, 2019). Edward Freeman developed this theory, which emphasizes that companies should provide benefits to stakeholders (employees, government, shareholders, communities, customers, suppliers, and other entities) by disseminating information related to the company's operations. This information can take the form of corporate actions that can directly impact them, such as sponsorship, protection, and pollution (I. Ulum, 2017).

The main objective of this theory is to assist corporate management in understanding and effectively managing the stakeholder environment. However, stakeholder objectives can be broadly understood to aid corporate executives in enhancing value resulting from their activities and minimizing stakeholder losses. According to the Kyoto Protocol, companies are required to disclose carbon dioxide (CO<sub>2</sub>) emissions. When compared to other gases, carbon dioxide is the most significant contributor to emissions. This is primarily due to the

operational activities of companies. Since this issue also affects the stakeholder environment, companies are compelled to disclose their carbon emissions to stakeholders.

The disclosure of carbon emissions represents the company's accountability to the environment and specifically to stakeholders. If the issue of carbon emissions is not addressed, the consequence is that the environment gradually becomes unable to sustain operational activities. According to stakeholder theory, entities decide to fulfill various demands expressed by interested parties (stakeholders), which are entities outside the territorial boundaries of the entity itself that are affected by the operational activities or decisions of an entity (Zorif, 2022).

### 2.3 Firm Value

A company may have a high value if its stock price is also high (Zorif, 2022). This can influence investors if a company has a high value, as it indicates good performance. The value of a company's stock serves as a measure of its overall worth. The firm value is a meaningful representation of its condition, whether it is good or bad. The Firm value is one of the indicators used to attract investment in the company's business development efforts. A company with significant investment will provide a positive image to investors, leading to an increase in stock prices and ultimately impacting the firm value (Anggita & Nugroho, 2022).

The value of a company's stock is influenced by several factors, such as green accounting through environmental disclosure, the profitability ratio of the company, and the disclosure of corporate social responsibility by the company. Every company has the best interest in protecting its reputation and providing well-being for all members and shareholders.

### 2.4 Carbon Emissions Disclosure

Carbon emissions disclosure refers to the disclosure that takes into account a company's carbon emissions and sets emission reduction targets. This disclosure is crucial as stakeholders require this information. They want to know about the potential environmental hazards associated with the company's operations (Sudibyoy, 2018). Disclosure of carbon emissions in developing countries is considered a new phenomenon, resulting in only a limited number of companies engaging in such disclosure. Compared to companies in developed countries, companies in developing countries also have fewer financial resources for disclosure. Indonesia itself is a developing country where carbon emissions disclosure is still optional or voluntary disclosure, rather than mandatory disclosure.

### 2.5 Environmental Performance

Environmental performance measures the impact and damage of a company's operations on the environment, including how the company manages, disposes of, and reduces the damage caused by waste processing. The potential for environmental damage should be minimized to improve the company's environmental performance. Performance will be deemed poor if the environmental damage caused by the operations of a large company is significant (Chasbiandani et al., 2019).

The criteria set by the Ministry of Forestry and Environment are used to evaluate the environmental performance of companies. The objective of the Program for Rating Company Performance in Environmental Management or PROPER, implemented by the Ministry, is to assess and evaluate the compliance of companies in their environmental performance ranking (Sapulette & Limba, 2021). The PROPER assessment components focus on determining a company's compliance with obligations related to Environmental Impact Analysis (AMDAL), management of Hazardous and Toxic Materials (B3), water and air pollution management, corporate social responsibility, conservation and utilization of resources, and other obligations. The indicators for measuring environmental performance are as follows:

**Table 1.** PROPER Rankings

Gold	For companies that consistently demonstrate environmental excellence in the production of goods and/or provision of services, as well as conduct their business in a morally and socially responsible manner.
Green	Companies whose activities have implemented environmental management systems, utilize resources effectively, and fulfill their social obligations properly in accordance with regulations.
Blue	Companies whose activities take steps to manage the environment, as stipulated in relevant laws and regulations.
Red	For those who have made efforts in their management but do not comply with legislative regulations.
Black	For businesses whose activities intentionally cause pollution or environmental damage and do not comply with laws or other regulations.

## 2.6 Green Accounting

Green accounting or environmental accounting is the recording of financial statements that encompass costs related to a company's activities towards the environment (M. Ulum et al., 2020). Green accounting involves incorporating environmental costs into accounting records within a company. Environmental accounting is also known as conservation costs, aimed at preserving the environment and evaluating the impacts of environmental damage. The concept of green accounting, when applied in the long term, can save production costs and reduce operational expenses for companies. The Indonesian government, through the Ministry of Industry, provides rewards to companies that successfully implement green industry practices on an annual basis. The Ministry of Environment has also implemented PROPER, which stands for Performance Rating Program in environmental management.

## 2.7 Hypothesis Development

The hypothesis in a research study is a temporary assumption whose truth has not been tested yet. The development of hypotheses in this study is as follows:

### **The Effect Carbon Emission Disclosure on Firm Value**

Companies that engage in voluntary disclosure should receive positive perceptions from the public. Companies that disclose carbon emissions are also likely to have good operational performance. Efficient resource utilization reduces operational costs and brings advantages to the company. According to legitimacy theory, companies tend to seek legitimacy within the context of their operational environment. One way to achieve this is by disclosing information about the company's operational activities that impact the environment. Companies that gain legitimacy often enhance their public image and reputation, which in turn affects the overall firm value. Therefore, greater transparency in carbon emissions will assist companies in enhancing their firm value.

Research on carbon emission disclosure and firm value has been extensively studied by previous researchers. Rahmanita (2019) stating that carbon emission disclosure has an impact on companies. The findings of this research support the study conducted by Dharmawansyah (2019) which demonstrates that carbon emission disclosure influences firm value. Therefore, it can be interpreted that the higher the transparency of a company's carbon emissions, the higher its firm value. Companies that disclose carbon emissions are also likely to have good operational performance. Thus, companies that engage in carbon emission disclosure will have a positive impact on firm value. Based on this explanation, the hypothesis can be formulated H<sub>1</sub>: Carbon emission disclosure has an impact on firm value

### The Effect Environmental Performance on Firm Value

The environmental performance of a company is assessed based on the extent of damage caused by its business activities during operational activities and how it manages the treatment of production waste. A company's environmental performance is considered good when it causes minimal damage, and vice versa. Environmental performance is deemed poor when it results in significant negative impacts on the environment (Chasbiandani et al., 2019).

Previous research by Sapulette & Limba (2021) indicates that environmental performance variables have an impact on firm value. In contrast, the study conducted by Apratama (2021) which demonstrates that environmental performance does not have an impact on firm value. The higher the PROPER ranking obtained by a company, the higher its firm value increases. H<sub>2</sub>: Environmental performance has an impact on firm value

### The Effect Green Accounting on Firm Value

The primary step that companies can take to minimize environmental issues they face is by implementing green accounting or environmental accounting. By incorporating environmental costs into the company's financial statements, green accounting demonstrates the company's commitment to the environment. According to legitimacy theory, if the company's value system and the societal value system are not aligned, particularly in the context where the company operates, the company may lose recognition from society, and its survival may be jeopardized. As a result, by utilizing green accounting, businesses can reduce the gap between their value system and societal values.

Green accounting does not have an impact on firm value, according to research conducted by Sapulette & Limba (2021). However, Dewi & Edward Narayana (2020) indicates that the implementation of *green accounting* has an impact on firm value. The adoption of green accounting has a significant influence on companies. This means that if a company can effectively implement and disclose green accounting practices, it can create a positive image that indirectly enhances the firm value and instills confidence in stakeholders for the company's future sustainability. Based on the explanation provided, the formulated hypothesis H<sub>3</sub>: Green Accounting has an impact on firm value

## 3. Research Method

The type of research conducted is causal associative using a quantitative approach. The data utilized in this study consists of the sustainability reports or annual reports of each respective company. The population for this research consists of 47 manufacturing companies in the mining sector listed on the Indonesia Stock Exchange during the period 2019-2021. The sampling technique employed in this study is *purposive sampling*. The criteria for sample selection are as follows :

1. Manufacturing companies in the mining sector listed on the Indonesia Stock Exchange (IDX) for a period of 3 years (2019-2021).
2. Manufacturing companies in the mining sector that have published *annual reports* or sustainability reports on the Indonesia Stock Exchange or company *websites* for a period of 3 years (2019-2021).
3. Mining sector companies registered as participants in the PROPER program during the period of 2019-2021.
4. Manufacturing companies in the mining sector that disclose carbon emissions, including at least one procedure regarding carbon emission disclosure, for a period of three years (2019-2021).

Based on this criteria, the number of companies that can fulfill this criteria are 17 companies for a period of 3 years, so this research use 51 sample. The variable measurement this research can be seen in the table below :

**Table 2.** Variable Measurement

Variable	Measurement
Firm Value	Firm Value is measured by Tobin's Q formula (Weston & Copelant, 2001) $\frac{(MVE + \text{Total Liabilities})}{\text{Total Asset}}$
Carbon Emission Disclosure	Carbon Emission Disclosure is measured by assigning scores to each disclosure item on a dichotomous scale. The maximum score is 18, and the minimum score is 0 (Choi, <i>et al.</i> , 2013) $\frac{(\sum di)}{M} \times 100\%$
Environmental performance	Environmental performance is measured using the PROPER ranking by the Ministry of Environment and Forestry with likert scale (Shella Gilby Sapulette, 2021) Gold: 5 (Excellent); Green: 4 (Good); Blue: 3 (Fair); Red: 2 (Poor); Black: 1 (Very Poor)
Green Accounting	Green accounting is measured using a dummy variable <i>dummy</i> (Sapulette & Limba, 2021). If companies that do not include components of waste recycling costs, environmental costs, and environmental R&D costs in their annual reports are assigned a value of 0. And companies that have components of environmental costs, waste recycling costs, and environmental R&D costs in their annual reports are assigned a value of 1.

## 4. Results and Discussion

### 4.1 Descriptive Statistics

Data management begins with descriptive statistical testing which can be seen in the Table 3.

**Table 3.** Descriptive statistics table

	Y	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>
Mean	1.296863	45.20196	3.882353	0.647059
Median	1.030000	44.44000	4.000000	1.000000
Maximum	4.300000	88.88000	5.000000	1.000000
Minimum	0.370000	5.550000	3.000000	0.000000
Std. Dev.	0.828672	24.49561	0.863645	0.482640
Skewness	2.093978	-0.132350	0.227197	-0.615457
Kurtosis	7.437484	1.946624	1.404497	1.378788

Sources : Data processed, 2023

Mean or average value of firm value is 1,296863 with a standard deviation of 0,828672. The minimum value of the firm value is 0,370000, and it has a maximum value of 4,300000. The average value of carbon emission disclosure is 45,20196 with a standard deviation of 24,49561. Its minimum value is 5,550000, and the maximum value is 88,88000. The average value of variable environmental performance is 3,882353 with a standard deviation of 0,863645. Its minimum value is 3,000000, and the maximum value is 5,000000. The average value of variable green accounting is 0,647059 with a standard deviation of 0,482640. Its minimum value is 0,000000, and the maximum value is 1,000000.

## 4.2 Panel Data Regression Model Test

The research model is determined through model testing. There are three models CEM, FEM, and REM. To determine the appropriate model to be used, the model testing process consists of the following steps:

1. Chow Test, The Chow test is a test that utilizes the cross-section chi-square value. If the cross-section chi-square value is less than the significance level  $\alpha$  (0,05), then the selected model is the Fixed Effect Model (FEM).
2. Hausman Test, If the cross section random is more than the significance  $\alpha$  (0,05) then the selected model is Random Effect Model (REM).
3. Lagrange Multiplier Test, the Lagrange Multiplier Test is used to determine whether the common effect model or the random effect model is more accurate to be used in the regression equation of panel data. After obtaining the LM value, the next step is to compare the LM value with the critical value from the chi-square table at a significance level of 5% (0,05). If the calculated LM value is less than the chi-square value, then the selected model is the random effect model. Conversely, if the calculated LM value  $>$  the chi-square value, then the selected model is the common effect model.

**Table 4.** Regression Model Test Results

Effect Test	Statistics	Prob.	Results
STAGE 1 (Chow Test)			
Cross-section Chi-square	56,135144	0,0000	FEM
STAGE 2 (Hausman Test)			
Random cross-section	3,196995	0,3622	REM
STAGE 3 Lagrange Multiplier Test			
One-sided cross-section	0,0019		REM
Both	0,0012		REM

Sources : Data processed, 2023

Referring to the data analysis results from EViews in Table 4, the cross-section chi-square value from Chow Test obtained is less than 0,05. Based on the initial model testing, the selected model is the fixed effect model. Next, before comparing the fixed effect and random effect in the Hausman test, regression analysis is conducted using the random effect model first. Next, based on Table 4, Hausman Test Result for random cross-section obtained is probability more than 0,05 so the selected model is the Random Effect Model. And, the last step with Lagrange Multiplier Test, it can be observed that the cross-section Breusch-Pagan value is 0,0019., is less than 0,005, then the accurate model is the Random Effect Model.

## 4.3 Classical Assumption Test

A panel data regression model can be considered a good model if it meets the criteria of *Best Linear Unbiased Estimator* (BLUE). BLUE can be achieved if it satisfies the classical assumptions. The testing of classical assumptions includes tests for normality, multicollinearity, heteroscedasticity, and autocorrelation. However, according to Gujarati and Porter (2009), equations that satisfy the classical assumptions are only those that use the *Generalized Least Squares* (GLS) method. In EViews, the estimation models that use the GLS method are only the *Random Effect Model* (REM), while the *Common Effect Model* (CEM) and *Fixed Effect Model* (FEM) use *Ordinary Least Squares* (OLS). Therefore, the necessity of testing the classical assumptions in this study depends on the chosen estimation model. Since the *Random Effect Model* (REM) is used in this research, there is no need to perform classical assumption tests.



#### 4.4 Hypothesis Testing

The research conducted by the researcher utilizes statistical theory with the type of panel data regression. Panel data regression is performed to determine the influence of independent variables on the dependent variable (company value). The independent variables in this study consist of carbon emission disclosure, environmental performance, and green accounting.

Based on the estimation and model selection steps above, the appropriate model to be used is the *Random Effect Model* (REM). The results of the regression analysis using the REM model can be seen in the following table:

**Table 5.** Main Regression Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Results
C	2.496989	0.711381	3.510059	0.0010	
X <sub>1</sub>	0.011771	0.005101	2.307479	0.0255	H <sub>1</sub> accepted
X <sub>2</sub>	-0.463223	0.184554	2.509961	0.0156	H <sub>2</sub> accepted
X <sub>3</sub>	0.102324	0.273501	0.374128	0.7100	H <sub>3</sub> rejected
Weighted Statistics					
F-statistic		3.102850	R-squared		0.165313
Prob (F-statistic)		0.035412	Adjusted R-squared		0.112035

Sources : Data processed, 2023

Based on Table 5, The significance value of Carbon Emission Disclosure (X<sub>1</sub>) is 0,0255 < 0,05. This means that the variable of carbon emission disclosure has a significant influence on the company value, and H<sub>1</sub> is accepted. The significance value of Environmental Performance (X<sub>2</sub>) is 0,0156 < 0,05. This means that the variable of environmental performance has an impact on the company value, and H<sub>2</sub> is accepted. The significance value of Green Accounting (X<sub>3</sub>) is 0,7100 > 0,05. This means that the variable of green accounting does not have a significant influence on the company value, and H<sub>3</sub> is rejected.

Referring to Table 5 above, it can be observed that the Prob (F-statistic) is 0,035412 < 0,05. This means that Carbon Emission Disclosure, Environmental Performance, and Green Accounting have a significant simultaneous impact on the company value in the mining sector.

The coefficient of determination is used to determine the extent to which the independent variables influence the tested dependent variable. Based on the results in Table 5, the Adjusted R-squared value is 0,112035. This means that only 11,20% of the variation in the dependent variable can be explained by the independent variables, while the remaining 88,80% is explained by other variables outside the scope of this study.

#### 4.5 The Effect of Carbon Emission Disclosure on Firm Value

Greenhouse gas emissions (GHG) are one of the primary threats to life on Earth, being a major cause of global warming and climate change. Carbon emission disclosure serves as a means for companies to take responsibility for their carbon emissions. Referring to the partial analysis testing (t-test) mentioned above, it can be concluded that Carbon Emission Disclosure has an effect on firm Value. Therefore, the first research hypothesis stating that carbon emission disclosure has an impact on company value is accepted.

In legitimacy theory, it is shown that voluntary carbon emission disclosure is responded to by the market because the market recognizes that carbon emission information is one of their evaluations in assessing the sustainability of companies. Therefore, stakeholders can assess the responsibility and attention of the company in collectively addressing potential environmental issues that the company may have.

Aligned with stakeholder theory, the establishment of environmental affection fosters a company's marketing tool to enhance its performance, similar to attaining maximum

profitability, as customers are only interested in using products from environmentally-friendly companies.

The findings of this study are in line with the research conducted by (Cahyani, 2022) which states that carbon emission disclosure has an impact on company value. Therefore, it can be concluded that the company value increases with higher carbon emission disclosure. Disclosing the reduction of emissions, such as disclosing the total energy usage and quantifying the use of renewable energy, provides greater benefits for the sustainability of natural ecosystems and the current and future state of life.

#### **4.6 The Effect of Environmental Performance on Firm Value**

Referring to the partial analysis testing (t-test) mentioned above, it can be concluded that environmental performance has an effect on firm Value. Therefore, the second research hypothesis stating that environmental performance has an impact on company value is accepted. Environmental performance of a company refers to its performance in achieving an orderly environment. Performance represents the impact that a company obtains from its environmental conservation efforts, which are core efforts in fulfilling social and environmental responsibilities. Environmental performance indicates that a company has implemented environmental accounting, aligning its operational performance with its social contract. However, the results of hypothesis testing demonstrate a negative effect between environmental performance and company value. This means that the company value will decrease as environmental performance improves. This finding is inconsistent with the legitimacy theory used in this study. According to legitimacy theory, it is explained that the better the environmental performance of a company, the higher its corporate image and public trust.

The research findings do not support the statement from Sapulette & Limba (2021) the claim that the assessment of environmental performance has an impact on increasing company value. The environmental performance disclosed by companies in annual reports or sustainability reports has been proven to not have a positive influence on company value. The company's compliance with regulations for reducing environmental impacts has not been fully implemented, resulting in the company not having significant environmental performance that can enhance company value. The results of this study also fail to prove that companies that have obtained a PROPER rating will have good corporate value. The disclosure of PROPER rating information in annual reports as well as corporate sustainability reports can be considered inadequate in supporting investors in making investment decisions.

#### **4.7 The Effect of Green Accounting on Firm Value**

Based on the results of the partial test (t-test), green accounting does not have a significant influence on firm value. Therefore, the third research hypothesis stating that green accounting has an impact on firm value is rejected. This indicates that the allocation and disclosure of environmental costs by the company do not enhance consumer and investor trust in the company's assessment, thus not affecting sales and profit levels. Furthermore, the reporting of corporate social responsibility activities and costs has now been updated to include environmental efforts by the company. Therefore, whether or not environmental costs are disclosed in the company's annual report will not affect the firm value.

The results of this study are not consistent with previous research Yuliani & Prijanto (2022) that the implementation of green accounting affects the firm value, where the implementation of green accounting demonstrates the company's concern for the environment through the disclosure of environmental costs in the company's environmental reports. However, this study is consistent with research conducted by Melawati & Rahmawati (2022) who proved that the green accounting variable does not have an impact on firm value.

## 5. Conclusions

Referring to the results of the data analysis processed using E-views 10 software, several common threads can be drawn as the research conclusions as follows: Carbon Emission Disclosure has an effect on Firm Value in manufacturing companies in the mining sector. This means that the more comprehensive the disclosure of GHG emissions, the higher the corporate value. Environmental Performance has a negative effect on firm value. This means that the better the environmental performance of a company, the lower its firm value. Green accounting does not have an impact on firm value. This can be interpreted as the presence or absence of environmental cost disclosure in the annual report will not affect the firm value.

## References

- Anggita, W., & Nugroho, A. A. (2022). *Carbon Emission Disclosure And Green Accounting Practices On The Firm Value*. XXVI(03), 464–481.
- Apratama, L. P. (2021). Pengaruh Kinerja Lingkungan, Pengungkapan Emisi Karbon, Dan Pengungkapan Akuntansi Lingkungan Terhadap Nilai Perusahaan.
- Cahyani, P. N. (2022). *Pengaruh Pengungkapan Emisi Karbon dan Leverage Terhadap Nilai Perusahaan*. 2(6), 510–518. <https://doi.org/10.36418/comserva.v>
- Chasbiandani, T., Rizal, N., & Indra Satria, I. (2019). Penerapan Green Accounting Terhadap Profitabilitas Perusahaan Di Indonesia. *AFRE (Accounting and Financial Review)*, 2(2), 126–132. <https://doi.org/10.26905/afr.v2i2.3722>
- Dewi, P. P., & Edward Narayana, I. P. (2020). Implementasi Green Accounting, Profitabilitas dan Corporate Social Responsibility pada Nilai Perusahaan. *E-Jurnal Akuntansi*, 30(12), 3252. <https://doi.org/10.24843/eja.2020.v30.i12.p20>
- Dharmawansyah, A. (2019). Pengaruh Pengungkapan Emisi Karbon Dan Kinerja Lingkungan Terhadap Nilai Perusahaan Pada Perusahaan Industri Yang Tercatat Pada Bursa Efek Indonesia. 274–282.
- Khairiyani, K., Mubyarto, N., Mutia, A., Zahara, A. E., & Habibah, G. W. I. A. (2019). Kinerja Lingkungan Terhadap Kinerja Keuangan Serta Implikasinya Terhadap Nilai Perusahaan. *ILTIZAM Journal of Shariah Economic Research*, 3(1), 41. <https://doi.org/10.30631/iltizam.v3i1.248>
- Melawati, H. G., & Rahmawati, M. I. (2022). Pengaruh Green Accounting Dan Pengungkapan CSR Terhadap Nilai Perusahaan : Profitabilitas Sebagai Variabel Mediasi. *Jurnal Ilmu Dan Riset Akuntansi*, 11(6), 1–25.
- Rahmanita, S. A. (2019). *Accounting Carbon : Pengaruh Carbon Emission Disclosure Terhadap Nilai Perusahaan Dengan*.
- Sapulette, S. G., & Limba, F. B. (2021). Pengaruh Penerapan Green Accounting, Dan Kinerja Lingkungan Terhadap Kinerja Keuangan Pada Perusahaan Manufaktur Di Bursa Efek Indonesia. *Jurnal Akun Nabelo: Jurnal Akuntansi Netral, Akuntabel, Objektif*, 2(2), 31–43.
- Siregar, B. S. (n.d.). *Indonesia Produsen Emisi Karbon Dunia*. <https://bappebti.go.id/artikel/detail/2997>
- Sudibyoy, Y. A. (2018). Carbon emission disclosure: Does it matter. *IOP Conference Series: Earth and Environmental Science*, 106(1). <https://doi.org/10.1088/1755->

1315/106/1/012036

- Suryana, H. N. (2021). *Menuju Indonesia Bebas Emisi Karbon* (pp. 1–6). [https://www.kompasiana.com/kigempurmuda/618cb47f06310e2aa22ac992/menuju-indonesia-bebas-emisi-karbon-bag-2-habis?page=1&page\\_images=2](https://www.kompasiana.com/kigempurmuda/618cb47f06310e2aa22ac992/menuju-indonesia-bebas-emisi-karbon-bag-2-habis?page=1&page_images=2)
- Tjokrosetio, D. (2021). *No Title*. <https://www.icdx.co.id/news-detail/publication/dilema-batu-bara-di-tengah-tren-energi-ramah-lingkungan>
- Ulum, I. (2017). Intellectual Capital : Model Pengukuran, Framework Pengungkapan dan Kinerja Organisasi. In *Akuntansi*.
- Ulum, M., Agriyanto, R., & Warno, W. (2020). Pengaruh Pengungkapan Emisi Gas Rumah Kaca terhadap Nilai Perusahaan dengan Biaya Lingkungan sebagai Variabel Moderasi. *At-Taqaddum*, 12(2), 155–168. <https://doi.org/10.21580/at.v12i2.6184>
- Yuliani, E., & Prijanto, B. (2022). Pengaruh penerapan green accounting terhadap nilai perusahaan dengan profitabilitas sebagai variabel moderating pada perusahaan sub sektor tambang batubara yang terdaftar di Bursa Efek Indonesia periode 2019-2021. *Fair Value: Jurnal Ilmiah Akuntansi Dan Keuangan*, 5(5), 2275–2284. <https://doi.org/10.32670/fairvalue.v5i5.2347>
- Zorif, A. (2022). *Pengaruh Pengungkapan Emisi..., Abdurrohman Zorif I. FEB UMP 2022*. 10–21.