

Research.

## ***Good Corporate Governance, Green Accounting, Carbon Emission Intensity, and Company Value: an Empirical Study on the Basic Materials Sector in the Indonesia Stock Exchange Period 2021–2024***

**Fakhri Maulana Hawali<sup>1</sup>, Linda Agustina<sup>2\*</sup>, Darwin Marasi Purba<sup>3</sup>**

[fakhrigelas23@students.unnes.ac.id](mailto:fakhrigelas23@students.unnes.ac.id);<sup>2</sup>[lindaagustina@mail.unnes.ac.id](mailto:lindaagustina@mail.unnes.ac.id);<sup>3</sup>[mazmur.911516@gmail.com](mailto:mazmur.911516@gmail.com)

\*Corresponding author

Received: May 30, 2026

Accepted: June 30, 2026

Published: June 30, 2026

To cite this article: **Hawali, FM., Agustina, L., Purba, DM.,** (2026). Good Corporate Governance, Green Accounting, Carbon Emission Intensity, and Company Value: an Empirical Study on the Basic Materials Sector in the Indonesia Stock Exchange Period 2021–2024. *The Accounting Journal of BINANIAGA.*, 11 (1). 43-58 doi: [10.33062/ajb.v11i01.201](https://doi.org/10.33062/ajb.v11i01.201).

**Abstract.** Environmental degradation has become a pressing global concern, prompting investors to place greater emphasis on corporate environmental accountability and sustainability. This study examines the effects of green accounting, good corporate governance, and carbon emission intensity on firm value among basic material companies listed on the Indonesia Stock Exchange from 2021 to 2024. Samples were selected through purposive sampling, with PROPER award recipient status as one of the selection criteria, yielding 26 companies and 104 firm-year observations. Multiple linear regression was employed as the analytical tool, processed using SPSS 26. Results indicate that green accounting, proxied by PROPER rating, has a positive and statistically significant partial effect on firm value ( $p = 0.028$ ), while good corporate governance shows no significant effect. Carbon emission intensity unexpectedly exhibits a positive significant effect ( $p = 0.048$ ), contrary to the hypothesized direction. The simultaneous F-test is marginally insignificant ( $p = 0.082$ ), and the adjusted  $R^2$  is limited at 4.7%, reflecting constrained model explanatory power. These findings should therefore be treated as preliminary. The unexpected positive direction of carbon emission intensity is suspected to stem from an uncontrolled confounding firm-size effect in the current model specification.

**Keyword:** Green Accounting; Good Corporate Governance; Carbon Emission Intensity; Firm Value

### **INTRODUCTION**

#### **Background**

As the demand for various types of goods increases, the need for raw materials in the industrial and manufacturing processes also grows (Nurhayani, 2022). The fulfillment of these raw material needs is often carried out thru natural resource extraction activities, which in practice can have negative impacts on the environment (Prasetyo et al., 2025). One of the sectors of companies that has significant potential to impact the environment is the basic materials sector or raw materials companies. Companies in this sector play an important role in processing raw materials into basic materials that are then used by various other industrial sectors (Tasri & Sukiswo, 2025).

The value of a company is one of the fundamental indicators that is a primary focus in conducting business activities, as it reflects the market's perception of the company's ability to generate profits, maintain business sustainability, and provide welfare to shareholders

**Fakhri Maulana Hawali; Linda Agustina; Darwin Marasi Purba.** Good Corporate Governance, Green Accounting, Carbon Emission Intensity, and Company Value: an Empirical Study on the Basic Materials Sector in the Indonesia Stock Exchange Period 2021–2024

(Latief & Prasetyo, 2022). For investors, the value of the company serves as a reference in assessing the prospects of returns and the level of risk, while for management, the value of the company is a measure of success in managing resources efficiently (Puspasari et al., 2025). A high company value indicates that the company is considered to have good business prospects, relatively controlled risks, and the ability to gain the trust of investors and creditors. Thus, the increase in company value is not solely related to achieving short-term profits, but also to the company's ability to build reputation, transparency, and long-term business sustainability (Tyas & Prastiwi, 2025).

However, the reality on the ground shows that not all companies are able to maintain their company value at an optimal level. In some companies in the basic materials sector, the value of the company is actually low and fluctuating, as reflected in the low Tobin's Q ratio found in this study, with an average just slightly above one (Akbar & Susilowati, 2024). This condition indicates that the market has not fully appreciated the company's prospects. One of the factors suspected to contribute to the low valuation is the company's orientation, which still tends to prioritize short-term profit acquisition while neglecting the environmental impact caused by its production processes (Kotango et al., 2024). An orientation that overly emphasizes economic aspects often leads to the responsibility for environmental damage not being considered in business decision-making, creating a gap between the company's economic interests on one side and the interests of the environment and society on the other (Denovis & Rahmawati, 2019).

As investor awareness of environmental issues increases, conventional financial reports are no longer the sole consideration in investment decision-making. Investors now demand that companies not only report financial performance but also integrate environmental sustainability into their policies and reporting (Indriastuti & Chariri, 2021). Based on these demands, this research selects three variables deemed relevant in explaining company value, namely green accounting, Good Corporate Governance, and Carbon Emission Intensity. Green accounting is chosen because it represents the company's efforts to integrate environmental costs and responsibilities into the reporting system, Good Corporate Governance is chosen because it reflects the quality of governance and oversight that forms the basis of investor trust, while Carbon Emission Intensity is chosen because it increasingly becomes a key indicator of the company's readiness to face environmental regulatory pressures and the transition to a low-carbon economy. These three variables together represent the environmental and governance dimensions that are now the main focus of stakeholders.

Several previous studies have examined the factors that influence company value, but the results still show inconsistencies. The research by Waty Hasibuan et al. (2023), Purnama et al. (2023), Kotango et al. (2024), and Christiana et al. (2025) shows that green accounting has a positive effect on company value. On the other hand, regarding the Good Corporate Governance variable, several studies have found that governance mechanisms do not always have a significant impact on company value, especially when the supervisory functions of independent commissioners, institutional ownership, and the board of directors are not functioning effectively (Hadiansyah et al., 2022; Fadhilla & Khairani, 2025).

Meanwhile, carbon emission intensity is starting to gain attention because a company's ability to manage carbon emissions is seen as an indicator of sustainability as well as the company's readiness to face environmental regulatory pressures. Research (Salsabillah & Sutrisno, 2026) shows that carbon emission intensity will negatively impact the company's value. The variety of findings indicates that the relationship between environmental aspects, governance, and company value is still contextual and requires further testing.

Based on the description, there is a gap that serves as the basis for this research. Phenomenologically, there is a gap between expectations and reality; theoretically, companies that implement green accounting have good governance and are capable of controlling carbon emissions, which should receive a positive response from the market. However, in reality, many companies in the basic materials sector still have low company

**Fakhri Maulana Hawali; Linda Agustina; Darwin Marasi Purba.** Good Corporate Governance, Green Accounting, Carbon Emission Intensity, and Company Value: an Empirical Study on the Basic Materials Sector in the Indonesia Stock Exchange Period 2021–2024

values. In addition, there is also a research gap, specifically the inconsistent findings of previous studies regarding the impact of Good Corporate Governance on firm value. The existence of these two gaps makes it relevant to reexamine the relationship between these three variables, especially by simultaneously combining the environmental and governance dimensions in sectors with high environmental impact intensity.

### **Research Question**

1. Does green accounting affect the value of the company?
2. Does Good Corporate Governance affect the value of the company?
3. Does carbon emission intensity affect the value of the company?

## **LITERATURE REVIEW**

### **Agency theory**

Agency theory is used to explain the importance of Good Corporate Governance in reducing conflicts of interest between management as agents and shareholders as principals (Jensen & Meckling, 1976). Mechanisms such as independent commissioners, institutional ownership, and boards of directors are expected to strengthen the oversight function over management. However, the effectiveness of these mechanisms is not always the same in every company, especially if the ownership structure is concentrated or the governance organs only function formally.

### **Signaling theory**

Signaling theory explains that the information conveyed by a company to the market can serve as a signal for investors in assessing the company's prospects and risks (Spence, 1973). Disclosure of green accounting, PROPER achievements, governance implementation, and carbon emission management can be positive signals if they are considered to reflect the company's commitment to sustainability. However, the signal can become weak if the market perceives the disclosure as merely symbolic or not supported by actual performance.

### **The value of a company**

The value of a company is the perception of investors regarding the company's ability to generate profits, maintain business sustainability, and provide welfare to shareholders. In the capital market, the value of a company is reflected in the market's assessment of the company's prospects and risks. A high company value indicates that investors have confidence in the company's performance and future, while a low company value indicates that the market has not fully appreciated the company.

This research uses Tobin's Q as a proxy for company value. Tobin's Q was chosen because it can compare the market value of the company with the total assets owned. This measurement is relevant because it not only reflects the company's accounting value but also depicts the market's perception of the company's prospects. The higher the Tobin's Q value, the higher the market's assessment of the company.

### **Green Accounting**

Every activity of a company in obtaining economic value essentially always incurs costs, but it is not uncommon for companies to overlook environmental damage as part of their operational impact (Endiana et al., 2020). One approach that can be taken to integrate environmental costs into the financial reporting system is thru the implementation of green accounting or environmental accounting (Wiredu et al., 2023). With this approach,

**Fakhri Maulana Hawali; Linda Agustina; Darwin Marasi Purba.** Good Corporate Governance, Green Accounting, Carbon Emission Intensity, and Company Value: an Empirical Study on the Basic Materials Sector in the Indonesia Stock Exchange Period 2021–2024

companies are able to measure and acknowledge the magnitude of the environmental impact caused, while also serving as a basis for designing and implementing more measurable and responsible sustainability strategies (Erlangga et al., 2021).

Moreover, the implementation of green accounting also has the potential to increase investor confidence in the company. When companies consistently demonstrate their commitment to preserving and protecting the environment thru transparent reporting, the positive image of the company in the eyes of the public and stakeholders will strengthen (Fitriani & Raharja, 2025). This condition can ultimately contribute to the long-term increase in the company's value.

However, the research results regarding the impact of green accounting on company value have not been entirely uniform. Some studies find a significant positive impact (Waty Hasibuan et al., 2023); (Purnama et al., 2023); (Christiana et al., 2025), while others show that environmental disclosures may not necessarily be responded to by the market if they remain voluntary and tend to be symbolic. The gap is suspected to arise due to differences in the measures of green accounting used; some studies employ disclosure indices, while this research uses PROPER rankings, as well as differences in the sector characteristics being studied. Referring to the signaling theory perspective, which views environmental disclosure as a positive signal for investors, this study hypothesizes that green accounting has a positive effect on firm value (H1).

### **Good Corporate Governance**

Good Corporate Governance (GCG) is a corporate governance system designed to ensure that the company is run transparently, accountably, and responsibly to all stakeholders (Fadhilla & Khairani, 2025). The implementation of good GCG is believed to be able to minimize the risk of conflicts of interest between management and shareholders, thereby allowing business decision-making to proceed more effectively and efficiently (Simbolon, 2024).

In the context of creating company value, GCG plays a crucial role. Companies that implement good governance will find it easier to build investor trust, as information transparency and management accountability become more assured (Fitriani & Raharja, 2025). High investor confidence will ultimately drive an increase in demand for the company's shares, which directly contributes to the rise in the company's value in the capital market (Lopez et al., 2022).

Although theoretically Good Corporate Governance is expected to enhance company value, existing empirical evidence actually shows a gap in results. In line with agency theory, governance mechanisms such as independent commissioners, institutional ownership, and boards of directors should strengthen the oversight function over management, thereby reducing agency conflicts and increasing the company's value. However, several studies have found that these mechanisms do not always have a significant impact on company value, especially when their supervisory functions are merely formal or when ownership structures are concentrated in the hands of majority shareholders (Hadiansyah et al., 2022); (Fadhilla & Khairani, 2025). The gap between theoretical expectations and empirical findings is what necessitates further testing of the impact of Good Corporate Governance on company value. Based on the aforementioned description, this study hypothesizes that Good Corporate Governance has a positive effect on company value (H2).

### **Carbon Emission Intensity**

Carbon emission intensity reflects the level of carbon emissions produced by a company relative to its economic activity or revenue generated. The higher the carbon emission intensity, the greater the emissions produced by the company for each unit of revenue, indicating lower environmental efficiency. Amid increasing environmental regulatory pressures and global awareness of climate change, carbon emission intensity has become

**Fakhri Maulana Hawali; Linda Agustina; Darwin Marasi Purba.** Good Corporate Governance, Green Accounting, Carbon Emission Intensity, and Company Value: an Empirical Study on the Basic Materials Sector in the Indonesia Stock Exchange Period 2021–2024

one of the indicators that investors and stakeholders pay attention to when assessing a company's sustainability risk (Ding et al., 2026).

In the perspective of signaling theory, companies that can reduce carbon emission intensity can send a positive signal to the market about their readiness to face climate transition risks. However, for the basic materials sector, which is structurally carbon-intensive, carbon emission intensity can also reflect the scale of operations and production capacity of the company, making its impact on the company's value contextual. Therefore, this study hypothesizes that carbon emission intensity affects company value (H3), without determining the direction a priori, considering the limited empirical literature on the Indonesian basic materials sector.

## RESEARCH METHODS

This study uses a quantitative approach with multiple linear regression analysis methods to examine the influence of independent variables, namely Good Corporate Governance, Green Accounting, and Carbon Emission Intensity, on the dependent variable in the form of company value. The data used are secondary data sourced from annual reports and sustainability reports of manufacturing companies in the basic materials sector listed on the Indonesia Stock Exchange (IDX) during the period 2021-2024. The population in this study consists of all manufacturing companies in the basic materials sector listed on the IDX, totaling 128 companies.

The sample selection was conducted using the purposive sampling method with several established criteria, namely companies listed on the Indonesia Stock Exchange (IDX) during the 2021-2024 period, which have received awards in the Company Performance Rating Program (PROPER) from the Ministry of Environment and Forestry (KLHK) during the same period, and consistently publish financial and sustainability reports. Based on these criteria, a total of 26 companies were found to meet the requirements to be included as samples in this study.

**Table 1. Sample Criteria**

No.	Criteria	Criteria issued	Sample
1	A manufacturing company operating in the basic materials sector and already listed on the Indonesia Stock Exchange (IDX) for the period 2021-2024.		128
2	A company that has issued financial reports and sustainability reports for 4 consecutive years.	(30)	98
3	The company participated and won the PROPER award for 4 consecutive years.	(67)	31
	Outlier		5
	Company sample		26
	Conducted research for 4 years (2021-2024)		104
	Amount		104

**Fakhri Maulana Hawali; Linda Agustina; Darwin Marasi Purba.** Good Corporate Governance, Green Accounting, Carbon Emission Intensity, and Company Value: an Empirical Study on the Basic Materials Sector in the Indonesia Stock Exchange Period 2021–2024

The data in this study consists of documentation of annual reports and corporate sustainability reports to obtain data relevant to the research variables. The variables used in this study are as follows:

**Table 2.** Variable Indicators

Company Value(Y)	Measured using Tobin's Q, which is obtained from (market value of equity + liabilities)/total assets.
<i>Green Accounting</i> (X1)	Measured based on the PROPER awards received by the company, such as; 5 (Gold), 4 (Green), 3 (Blue), 2 (Red), 1 (Black)
<i>Good Corporate Governance</i> (X2)	Measured by indicators of the proportion of independent commissioners, institutional ownership, and the number of board members.
Carbon Emission Intensity (X3)	Measured based on the calculation of Total Emissions (TON CO <sub>2</sub> )/Total Revenue.

## RESULTS AND DISCUSSION

### Descriptive Statistic

Table 3. Descriptive Statistic Test

Model	N	Minimum	Maximum	Mean	Std. Deviation
GA (X1)	104	3,00	5,00	3,5648	0,81198
GCG (X2)	104				
PKI (X2_1)	104	0,25	0,75	0,4176	0,11554
KI (X2_2)	104	0,02	1,00	0,7101	0,21285
DD (X2_3)	104	3,00	15,00	5,8704	2,61231
IEK (X3)	104	0,00	7,28	0,4175	1,19402
NP (Y)	104	0,38	7,59	1,1217	0,88692

**Fakhri Maulana Hawali; Linda Agustina; Darwin Marasi Purba.** Good Corporate Governance, Green Accounting, Carbon Emission Intensity, and Company Value: an Empirical Study on the Basic Materials Sector in the Indonesia Stock Exchange Period 2021–2024

Descriptive statistical tests are conducted to provide an overview of the data to be used. All variables have the same amount of data, which is 104 data points. Green Accounting (X1), based on the results of descriptive statistics, Green Accounting has a minimum value of 3.00, a maximum value of 5.00, a mean value of 3.5648, and a standard deviation of 0.81198. The average value indicates that, in general, the companies in the sample received PROPER ratings ranging from Blue to Green. This indicates that most companies have met environmental compliance aspects, and some companies have even shown better environmental management performance.

The proportion of Independent Commissioners (X2\_1) has a minimum value of 0.25, a maximum value of 0.75, a mean value of 0.4176, and a standard deviation of 0.11554. This means that most of the companies studied have complied with the regulations set by the Financial Services Authority (OJK) and the Indonesia Stock Exchange (IDX), which require companies to have 30% independent commissioners from the total number of board of commissioners.

Institutional Ownership (X2\_2) has a minimum value of 0.02, a maximum value of 1.00, a mean value of 0.7101, and a standard deviation of 0.21285. Indicating that the average company is a subsidiary (with 71% of its shares outstanding) owned by state-owned enterprises, foreign companies, or state-owned companies. The Board of Directors (X2\_3) has a minimum value of 3.00, a maximum value of 15.00, a mean value of 5.8704, and a standard deviation of 2.61231. This variable only determines the number of board members in each company, but it has a larger standard deviation compared to the other variables.

Carbon Emission Intensity (X3) has a minimum value of 0.00, a maximum value of 7.28, a mean value of 0.4175, and a standard deviation of 1.19402. Carbon emission intensity is measured by comparing total carbon emissions to total company revenue, with the unit being tons of CO<sub>2</sub> per Rp1 million in revenue. The average value of 0.4175 indicates that for every Rp1 million in revenue generated by the company, it is associated with an average carbon emission of 0.4175 tons of CO<sub>2</sub>. Meanwhile, the standard deviation of 1.19402, which is higher than the average value, indicates that the level of carbon emission intensity among the companies in the sample varies relatively. Thus, although the average carbon emission intensity appears low, there are certain companies with emission intensities much higher than others.

The Company Value (Y) has a minimum value of 0.38, a maximum value of 7.59, a mean value of 1.1217, and a standard deviation of 0.88692. Based on the calculations using the Tobin Q formula, it shows that the resulting company value tends to be low with not too much variation.

### Normality Test

The normality test using the One-Sample Kolmogorov-Smirnov method showed an Asymp. Sig. value of 0.066. This value is greater than the significance level of 0.05, so it can be concluded that the data in this study are normally distributed.

### Multicollinearity Test

**Table 4. Multicollinearity Test**

Collinearity Statistic			
Model	Tolerance	VIF	Note
GA (X1)	0,948	1,055	No Multicollinearity Occurred

**Fakhri Maulana Hawali; Linda Agustina; Darwin Marasi Purba.** Good Corporate Governance, Green Accounting, Carbon Emission Intensity, and Company Value: an Empirical Study on the Basic Materials Sector in the Indonesia Stock Exchange Period 2021–2024

GCG (X2)			
PKI (X2_1)	0,898	1,113	No Multicollinearity Occurred
KI (X2_2)	0,976	1,025	No Multicollinearity Occurred
DD (X2_3)	0,970	1,031	No Multicollinearity Occurred
IEK (X3)	0,925	1,081	No Multicollinearity Occurred

Based on Table 4, all research variables show a Tolerance value greater than 0.10 and a VIF value less than 10.00. These results indicate that there is no multicollinearity among the independent variables, making the regression model in this study suitable for further testing.

#### **Autocorrelation Test**

Based on Table 6, the results of the autocorrelation test using the Durbin-Watson method yielded a value of 1.787. The Durbin-Watson value of 1.787 falls within the range  $dU < dW < 4 - dU$ , specifically  $1.782 < 1.787 < 2.218$ , thus it can be concluded that there is no autocorrelation.

#### **Heteroscedasticity Test**

**Table 5.** Heteroscedasticity

Variable	Sig	Conclusion
(Constant)	0,281	No Heteroscedasticity Occurred
GA (X1)	0,214	No Heteroscedasticity Occurred
GCG (X2)		
PKI (X2_1)	0,907	No Heteroscedasticity Occurred
KI (X2_2)	0,313	No Heteroscedasticity Occurred
DD (X2_3)	0,085	No Heteroscedasticity Occurred
IEK (X3)	0,406	No Heteroscedasticity Occurred

Based on Table 5, the results of the heteroscedasticity test indicate that all research variables have significance values greater than 0.05. The significance values above this threshold indicate that there is no equality of residual variance among the observations in the model. Thus, it can be concluded that the regression model in this study is free from heteroscedasticity issues and is suitable for further testing.

**Coefficient of Determination Test ( $R^2$ )**

Based on the obtained Adjusted R-Squared value of 0.047. The value indicates that the independent variables consisting of good corporate governance, green accounting, and carbon emission intensity are able to explain the variation in changes to the company value variable by 4.7%. Meanwhile, the remaining 95.3% is influenced by other factors outside the model that are not included in this study.

**Multiple Linear Regression Test**

**Table 6. Multiple Linear Regression Test**

Variable	Coefficient B
(Constant)	0,703
GA (X1)	0,190
GCG (X2)	
PKI (X2_1)	-0,054
KI (X2_2)	-0,008
DD (X2_3)	-0,029
IEK (X3)	0,071

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

$$Y = 0,703 + 0,190 GA - 0,054 PKI - 0,008 KI - 0,029 DD + 0,071 IEK + e$$

Y = Company Value

$\alpha$  = constanta

X1 = Green Accounting

X2 = Good Corporate Governance

X3 = Carbon Emission Intensity

e = Error

**t test**

**Table 7. t test (partial)**

Model	T	Sig.
(Constant)	2,571	0,012
GA (X1)	2,226	0,028
GCG (X2)		

PKI (X2_1)	-0,255	0,800
KI (X2_2)	-0,072	0,943
DD (X2_3)	-0,652	0,516
IEK (X3)	2,005	0,048

Based on Table 7, the results of the partial test (t-test) for each independent variable are as follows. Green Accounting has a t-statistic value of 2.226 with a significance value of 0.028, which is below 0.05, so it can be concluded that Green Accounting has a positive and significant effect on the company's value and H1 is accepted. The proportion of independent commissioners has a t-value of -0.255 with a significance value of 0.800, which means this variable does not significantly affect the company's value, thus H2\_1 is rejected. Institutional ownership has a t-value of -0.072 with a significance value of 0.943, indicating that this variable also does not affect the company's value, thus H2\_2 is rejected. The Board of Directors has a t-value of -0.652 with a significance value of 0.516, so it can be stated that the Board of Directors does not significantly affect the company's value, and H2\_3 is rejected. The Carbon Emission Intensity has a t-value of 2.005 with a significance value of 0.048, which is below 0.05, thus it can be concluded that Carbon Emission Intensity has a positive and significant effect on the company's value and H3 is accepted.

### ***F test***

Based on the F-test results, the calculated F-value is 2.022, which is slightly smaller than the F-table value. This indicates that simultaneously, all independent variables do not have a significant effect on the company's value.

### **Model Testing Results**

Before discussing the influence of each variable, it should be acknowledged that the simultaneous test (F-test) obtained a significance value of 0.082, which is slightly above the conventional threshold of 0.05. Therefore, technically, the hypothesis that all independent variables simultaneously do not have an effect cannot be rejected at the 95% confidence level. Additionally, the Adjusted R<sup>2</sup> of 0.047 indicates that the variation in company value explained by this model is limited to 4.7%, while 95.3% is explained by factors outside the model.

These results indicate that the research model specification is not yet comprehensive in explaining the determinants of firm value in the basic materials sector. This may be due to the exclusion of important control variables such as company size, profitability, leverage, and liquidity, which in corporate finance literature are known to have a strong influence on company value. Nevertheless, partial testing of the three main variables was still conducted and interpreted within the limitations of this model.

### **The Influence of Green Accounting (X1) on Company Value**

Based on the research findings, Green Accounting, proxied thru the PROPER rating, has a positive effect on company value. This finding indicates that companies with better PROPER ratings tend to receive positive responses from the market. This can occur because the PROPER rating reflects an external assessment of the company's environmental management performance, signaling to

**Fakhri Maulana Hawali; Linda Agustina; Darwin Marasi Purba.** Good Corporate Governance, Green Accounting, Carbon Emission Intensity, and Company Value: an Empirical Study on the Basic Materials Sector in the Indonesia Stock Exchange Period 2021–2024

investors that the company is committed to compliance and environmental management. Thus, PROPER can enhance stakeholder trust and contribute to an increase in company value.

### **The Influence of Good Corporate Governance (X2) on Company Value**

The results of the partial tests show that the three proxies of Good Corporate Governance, the proportion of independent commissioners (Sig. = 0.800), institutional ownership (Sig. = 0.943), and the number of board of directors (Sig. = 0.516) do not show a significant influence on the company's value individually. Thus, the hypothesis H2 stating that GCG has a positive effect on company value is not supported in this research sample. These insignificant results do not necessarily mean that the GCG mechanism is unimportant. Several interpretations consistent with previous literature can be considered.

First, the GCG indicators used in this study are structural-quantitative (proportion, ownership, number) which, according to several previous studies, do not necessarily reflect the substantive effectiveness of the supervisory function (Hadiansyah et al., 2022; Fadhillah & Khairani, 2025).

Second, in the basic materials sector, which is largely dominated by companies with a concentrated ownership structure (average institutional ownership of 71%), the formal oversight role of independent commissioners tends to diminish compared to companies with dispersed ownership.

Third, there is a possibility that the market during the research period responded more to other indicators such as profitability, industry prospects, and sustainability performance that were not included in this research model.

These findings are in line with the research of Hadiansyah et al. (2022) and Fadhillah & Khairani (2025), which also reported the insignificance of several GCG proxies on firm value. Further research is recommended to use more substantive GCG indicators such as the ASEAN Corporate Governance Scorecard or qualitative assessments of oversight functions.

### **The Influence of Carbon Emission Intensity (X3) on Company Value**

The test results show that the intensity of carbon emissions has a positive and partially significant relationship with the value of the company ( $\beta = 0.071$ ;  $t = 2.005$ ; Sig. = 0.048). This finding is not in line with the initial expectations based on signaling theory, which predicts a negative relationship, and needs to be interpreted with great caution. At least there are three possible explanations for this finding.

First, in the context of the basic materials sector that is structurally carbon-intensive, including the cement, steel, chemical, and metal mining industries. The level of carbon emission intensity is closely correlated with the scale of the company's operations. Companies with large production capacities generally produce higher emissions, but at the same time, they have larger market shares, revenues, and market capitalizations. Without controlling for the firm size variable, the relationship detected in this study may potentially be a scale confounding effect, rather than the pure effect of emission intensity on firm value.

Second, the Indonesian market during the 2021–2024 period may not have fully integrated carbon pricing into the valuation of basic materials sector stocks. The carbon tax scheme regulated in Law Number 7 of 2021 on the Harmonization of Tax Regulations has had its full implementation postponed several times, so the risk transition from carbon emissions has not yet been significantly reflected in market prices.

**Fakhri Maulana Hawali; Linda Agustina; Darwin Marasi Purba.** Good Corporate Governance, Green Accounting, Carbon Emission Intensity, and Company Value: an Empirical Study on the Basic Materials Sector in the Indonesia Stock Exchange Period 2021–2024

Third, this result differs from the research by Salsabillah & Sutrisno (2026), which found a negative impact of carbon emission intensity on the mining sub-sector. This difference indicates that the relationship between carbon emission intensity and company value is contextual to the characteristics of the industry sub-sector.

### **Research Limitations**

This research has several limitations that need to be acknowledged and considered when interpreting the results.

First, from the model specification side, this study does not include control variables that are commonly used in the corporate value literature, such as firm size, return on assets, leverage, and stock liquidity. The absence of these control variables implies a low Adjusted R<sup>2</sup> value (4.7%) and a potential confounding bias on the coefficients of the independent variables, particularly for the carbon emission intensity variable, whose positive relationship with firm value is suspected to be largely explained by the scale effect of the company.

Second, from the perspective of variable measurement, green accounting in this study is proxied thru the PROPER ranking, which is actually a measure of environmental compliance performance, not environmental accounting practices in the narrow sense. The use of this proxy is based on the availability of data and the objectivity of external assessments, but it has limitations in capturing the accounting dimensions (recognition, measurement, and disclosure of environmental costs) that are at the core of the green accounting concept. Subsequent research is recommended to use an environmental disclosure index based on GRI guidelines or item-by-item disclosure.

Third, from the perspective of sample selection, the purposive sampling criteria requiring participation in PROPER for four consecutive years resulted in a relatively homogeneous sample and tended to represent companies with above-average environmental commitment. This limits the variation in the green accounting variable (ranging from 3–5 on a scale of 1–5) and has the potential to cause selection bias, so generalizing the findings to the entire basic materials sector needs to be done with caution.

Fourth, from the perspective of the analysis method, this study uses multiple linear regression (OLS) on panel data without testing for fixed effects or random effects. The use of panel data techniques that are more suited to the data structure can provide more accurate estimation results in future research.

Fifth, from the perspective of the research period, the four-year span (2021–2024) encompasses the post-COVID-19 pandemic period and the transitional phase of Indonesia's climate policy, marked by the delay in the full implementation of the carbon tax. This period may not fully reflect the normal conditions of the basic materials sector in the long term.

### **CONCLUSIONS AND SUGGESTIONS**

This study examines the influence of green accounting (PROPER proxy), Good Corporate Governance, and carbon emission intensity on firm value in the basic materials sector listed on the Indonesia Stock Exchange for the period 2021–2024. The results of the partial tests show that green accounting and carbon emission intensity have a significant positive relationship with company value, while Good Corporate Governance does not show a significant effect. The positive relationship between carbon emission intensity, which does not align with the initial hypothesis, is suspected to be a confounding effect of the

**Fakhri Maulana Hawali; Linda Agustina; Darwin Marasi Purba.** Good Corporate Governance, Green Accounting, Carbon Emission Intensity, and Company Value: an Empirical Study on the Basic Materials Sector in the Indonesia Stock Exchange Period 2021–2024

company's scale that was not controlled in the model. Meanwhile, the marginal simultaneous F-test (Sig. = 0.082) and the limited Adjusted R<sup>2</sup> (4.7%) indicate that the results of this study should be viewed as preliminary evidence requiring further replication and development. Theoretical Implications. These findings contribute to the ESG literature in emerging markets by showing that: (1) signals of environmental performance based on external assessments (PROPER) are positively responded to by the Indonesian market, supporting signaling theory; (2) structural-quantitative GCG mechanisms are inadequate to explain variations in company value in the basic materials sector, indicating the need for more substantive GCG measurements; (3) the relationship between carbon emissions and company value is contextual to sub-sector characteristics.

Suggestions for Future Research. Future research is recommended to: (1) include control variables such as company size, profitability, leverage, and stock liquidity; (2) use panel data regression techniques with fixed effects and random effects testing; (3) replace the green accounting proxy with a GRI-based disclosure index; (4) use a composite GCG index or ASEAN CG Scorecard; (5) extend the research period and/or compare sub-sectors to identify the contexts of the relationship between carbon emissions and company value.

## REFERENCES

Akbar, Z. N., & Susilowati, E. (2024). Pengaruh Sustainability Reporting, Green Accounting, dan Kinerja Keuangan terhadap Nilai Perusahaan. *Al-Kharaj: Jurnal Ekonomi, Keuangan & Bisnis Syariah*, 6(12), 7166–7180. <https://doi.org/10.47467/alkharaj.v6i12.4108>

Christiana, V. E., Josephine, K., Febe, M., & Pangestu, J. C. (2025). *Pengaruh Implementasi Green Accounting, Good Corporate Governance, dan Kinerja Lingkungan terhadap Nilai Perusahaan*. (November), 80–88. <https://doi.org/10.47709/jebidi.v4i3.381>

Denovis, F. O., & Rahmawati, Y. (2019). Penerapan Green Accounting Berbasis University Social Responsibility (Usr) Di Universitas Andalas Padang. *MENARA Ilmu*, 8(7), 30–39. <https://doi.org/https://doi.org/10.33559/mi.v13i7.1497>

Endiana, I. D. M., Dicriyani, N. L. G. M., Adiyadnya, M. S. P., & Putra, I. P. M. J. S. (2020). The Effect of Green Accounting on Corporate Sustainability and Financial Performance. *Journal of Asian Finance, Economics and Business*, 7(12), 731–738. <https://doi.org/10.13106/jafeb.2020.vol7.no12.731>

Erlangga, C. M., Fauzi, A., & Sumiati, A. (2021). Penerapan Green Accounting dan Corporate Social Responsibility Disclosure Terhadap Nilai Perusahaan Melalui Profitabilitas. *Akuntabilitas*, 14(1), 61–78. <https://doi.org/10.15408/akt.v14i1.20749>

Fadhilla, R., & Khairani, S. (2025). Pengaruh Penerapan Green Accounting Dan Good Corporate Governance Terhadap Nilai Perusahaan Sektor Consumer Non-Cyclicals. *Surplus*, 5(1), 71–80. <https://doi.org/https://doi.org/10.35449/surplus.v5i1.981>

Fitriani, T., & Raharja, S. (2025). Apakah Sustainability Reporting Penting Bagi Kinerja Perusahaan? *Owner: Riset & Jurnal Akuntansi*, 9(1), 289–297. <https://doi.org/https://doi.org/10.33395/owner.v9i1.2584>

Hadiansyah, R., Cahyaningtyas, S. R., & Waskito, I. (2022). Pengaruh Kepemilikan Manajerial Dan Kepemilikan Institusional Terhadap Nilai Perusahaan. *Risma*, 2(4), 656–670.

Indriastuti, M., & Chariri, A. (2021). The role of green investment and corporate social

**Fakhri Maulana Hawali; Linda Agustina; Darwin Marasi Purba.** Good Corporate Governance, Green Accounting, Carbon Emission Intensity, and Company Value: an Empirical Study on the Basic Materials Sector in the Indonesia Stock Exchange Period 2021–2024

responsibility investment on sustainable performance. *Cogent Business and Management*, 8(1). <https://doi.org/https://doi.org/10.1080/23311975.2021.1960120>

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/https://doi.org/10.1016/0304-405X(76)90026-X)

Kotango, J., Jeandry, G., & Ali, I. M. A. (2024). Dampak Penerapan Green Accounting, Kinerja Lingkungan dan Biaya Lingkungan terhadap Profitabilitas pada Perusahaan Pertambangan yang Terdaftar di Bursa Efek Indonesia Tahun 2018-2022. *JURNAL EKSPLORASI AKUNTANSI*, 6(1), 86–102. <https://doi.org/10.24036/jea.v6i1.1443>

Latief, A., & Prasetyo, R. (2022). Factors Affected the Firm Value of the Mining Sector that Go Public in Indonesia. *Almana : Jurnal Manajemen Dan Bisnis*, 6(3), 433–443. <https://doi.org/10.36555/almana.v6i3.1863>

Lopez, B., Rangel, C., & Fernández, M. (2022). The impact of corporate social responsibility strategy on the management and governance axis for sustainable growth. *Journal of Business Research*, 150(April), 690–698. <https://doi.org/10.1016/j.jbusres.2022.06.025>

Nurhayani. (2022). Analisis sektor industri manufaktur di Indonesia Nurhayani. *Jurnal Paradigma Ekonomika*, 17(3), 713–722.

Prasetyo, M. H., K. Baderan, D. W., & Hamidu, M. S. (2025). Dampak Kerusakan Lingkungan Akibat Eksploitasi Sumber Daya Mineral dari Kegiatan Pertambangan. *Hidroponik : Jurnal Ilmu Pertanian Dan Teknologi Dalam Ilmu Tanaman*, 2(2), 01–11. <https://doi.org/10.62951/hidroponik.v2i2.328>

Purnama, S. C., Harta, M. N. P. S., Nyoman, B. I. G. A., & Ardhani, S. E. (2023). The Effect Of Green Accounting Implementation And Corporate Social Responsibility Disclosure On Firm Value With Good Corporate Governance As A Moderating Variable. *Eurasia: Economics & Business*, 77(11), 44–56. <https://doi.org/https://doi.org/10.18551/econeurasia.2023-11 UDC>

Puspasari, M., Sulistyorini, E., Pratama, A. H. S., Metyopandi, V., & Puspitasari, E. D. (2025). Corporate Social Responsibility And Managerial Ownership: Their Impact On Firm Value In The Indonesian Mining Sector Through Profitability's Mediating Role. *International Journal of Scientific Research and Management (IJSRM)*, 13(01), 8296–8310. <https://doi.org/10.18535/ijsrm/v13i01.em10>

Salsabillah, N., & Sutrisno, B. (2026). Pengaruh Intensitas Emisi Karbon , Leverage , dan Ukuran Perusahaan terhadap Nilai Perusahaan Pertambangan yang Terdaftar di Bursa Efek Indonesia. *Jurnal Akuntansi, Manajemen Dan Ilmu Ekonomi (JASMIEN)*, 05(11), 1625–1635. <https://doi.org/https://doi.org/10.54209/jasmien.v5i09.2069>

Simbolon, R. F. (2024). Good Corporate Governance, Green Accounting Dan Nilai Perusahaan. *Jurnal Ekonomis*, 17(2), 95–104.

Spence, M. (1973). Job Market Signaling. *The Quarterly Journal of Economics*, 87(3), 355–374. <http://www.jstor.org/stable/1882010>

Tasri, N. R., & Sukiswo, W. H. D. (2025). Pengaruh Ukuran Perusahaan Dan Achievement Terhadap Pengungkapan Sustainability Report. *Equilibrium : Jurnal Ilmiah Ekonomi, Manajemen Dan Akuntansi*, 14(2), 337. <https://doi.org/10.35906/equili.v14i2.2441>

Tyas, C., & Prastiwi, A. (2025). Pengaruh Profitabilitas Terhadap Nilai Perusahaan

**Fakhri Maulana Hawali; Linda Agustina; Darwin Marasi Purba.** Good Corporate Governance, Green Accounting, Carbon Emission Intensity, and Company Value: an Empirical Study on the Basic Materials Sector in the Indonesia Stock Exchange Period 2021–2024

Dengan ESG Performance Sebagai Variabel Moderasi. *Owner*, 9(2), 946–954. <https://doi.org/10.33395/owner.v9i2.2624>

Waty Hasibuan, A., Erwin, K., & Adnans, A. A. (2023). Effects of Implementation of Green Accounting and Good Corporate Governance on Firm Value, Moderated by Corporate Social Responsibility (A Study on the Mining Companies Listed on IDX in the Period 2017-2021). *International Journal of Research and Review*, 10(3), 430–440. <https://doi.org/10.52403/ijrr.20230350>

Wiredu, I., Osei Agyemang, A., & Agbadzidah, S. Y. (2023). Does green accounting influences ecological sustainability? Evidence from a developing economy. *Cogent Business and Management*, 10(2), 1–25. <https://doi.org/10.1080/23311975.2023.2240559>

**Fakhri Maulana Hawali; Linda Agustina; Darwin Marasi Purba.** Good Corporate Governance, Green Accounting, Carbon Emission Intensity, and Company Value: an Empirical Study on the Basic Materials Sector in the Indonesia Stock Exchange Period 2021–2024

*This pages intentionally be emptied*