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The Effect Of Environmental Performance, Industry Type, And Company Size On Carbon Emission Disclosure

Pengaruh Kinerja Lingkungan, Jenis Industri, Dan Ukuran Perusahaan Terhadap Pengungkapan Emisi Karbon

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ABSTRACT
Carbon emission disclosure is an essential component of carbon accounting, which mandates that companies measure, acknowledge, document, present, and reveal their carbon emissions. This investigation seeks to assess how environmental performance, industry classification, and company size affect the disclosure of carbon emissions. The research was conducted on non-financial firms that were publicly listed on the Indonesia Stock Exchange from 2019 to 2021. A total of 186 observations were made over a span of three years, and they were chosen through purposive sampling. The analytical approach employed in this study was Multiple Linear Regression Analysis. The findings of the analysis reveal that environmental performance has an adverse effect on the disclosure of carbon emissions, the industry type does not have a significant impact on carbon emission disclosure, and company size plays a role in influencing the disclosure of carbon emissions.
Keywords: *Carbon Emission Disclosure*

ABSTRAK
Pengungkapan emisi karbon merupakan komponen penting dalam penghitungan karbon, yang mewajibkan perusahaan untuk mengukur, mengakui, mendokumentasikan, menyajikan, dan mengungkapkan emisi karbon mereka. Penelitian ini bertujuan untuk menilai bagaimana kinerja lingkungan, klasifikasi industri, dan ukuran perusahaan mempengaruhi pengungkapan emisi karbon. Penelitian ini dilakukan terhadap perusahaan non-keuangan yang terdaftar di Bursa Efek Indonesia dari tahun 2019 hingga 2021. Sebanyak 186 observasi dilakukan selama rentang waktu tiga tahun, dan dipilih secara purposive sampling. Pendekatan analisis yang digunakan dalam penelitian ini adalah Analisis Regresi Linier Berganda. Temuan dari hasil analisis mengungkapkan bahwa kinerja lingkungan berpengaruh negatif terhadap pengungkapan emisi karbon, jenis industri tidak memiliki pengaruh yang signifikan terhadap pengungkapan emisi karbon, dan ukuran perusahaan berperan dalam mempengaruhi pengungkapan emisi karbon.
Kata Kunci: Pengungkapan Emisi Karbon

1. Introduction

Carbon pollution is one aspect of carbon accounting that falls under the corporate social responsibility (CSR) framework. Companies' actions to reduce greenhouse gas emissions, including carbon emissions, can be understood through carbon emissions disclosure. Carbon emissions disclosure reflects a company's obligations, compliance and contribution to the environment. It reflects how the company explains its steps in reducing carbon emissions, including the calculation of energy used, environmental costs incurred, and compliance with company regulations related to energy use (Pujiati, 2018).

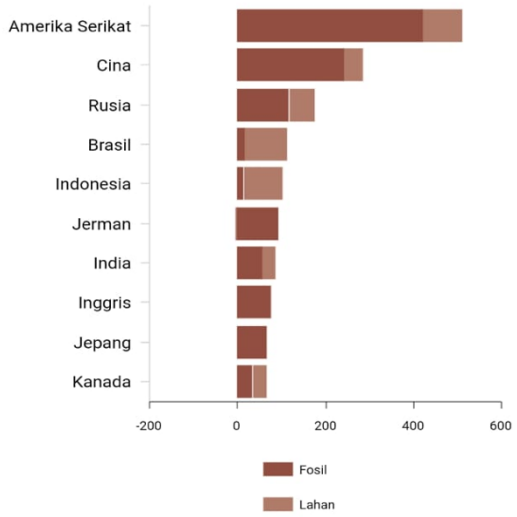

Figure 1. Countries With The Largest Cumulative Carbon Emissions 2021

Source: databoks.katadata.co.id

Carbon emissions in Indonesia are increasing every year. Since the industrial revolution in the 18th century, fossil fuels have continued to be used, releasing CO2 into the earth's atmosphere, causing the earth's surface temperature to rise. According to the Intergovernmental Panel on Climate Change (IPCC), in the last 3 centuries, the earth's temperature has risen by 1 degree Celsius due to the increase in greenhouse gas emissions released in the earth's atmosphere, with CO2 as the largest contributor. In Figure 1 Carbon Brief (2021) reveals "countries that are the main cumulative carbon emitters in the world, Indonesia is ranked fifth after Brazil with cumulative carbon produced of 102.562 GtCO2. This means that Indonesia is one of the countries that contribute to climate change in the world".

Large companies will face high public expectations around issues such as corporate social responsibility, sustainability and ethical behavior. These companies are more visible and have a greater impact on society, and will come under greater scrutiny and pressure from stakeholders. In contrast, small companies have fewer resources to invest in strategies such as environmental performance or social responsibility, which can make it harder to align their actions with societal expectations. However, small firms also have greater flexibility and agility to respond to changing societal norms and expectations, which allows them to adapt more quickly and maintain their legitimacy over time.

Legitimacy theory suggests that companies seek to maintain their legitimacy by aligning their actions and practices with societal norms and expectations. Overall, the strategies that companies use to maintain their legitimacy may vary depending on their size and available resources. However, regardless of size, companies that are able to align their actions and practices with societal expectations and norms are more likely to build trust and credibility with stakeholders and maintain their legitimacy in the long term.

Research on carbon emission disclosure has indeed been widely researched, but some of these studies still show differences between one researcher and another. Such as research by Yeni et. al. (2021), Astiti and Wirama (2020) revealed that "company size has a negative effect on carbon emission disclosure". Meanwhile, research conducted by Rini et. al. (2021), Maqfiah and Fahriana (2022), and Widiastutik and Khafid (2021) states that "company size has a positive effect on carbon emission disclosure".

Rini et. al. (2021), Mauldiavitasari and Yanthi (2021) say that "environmental performance has a positive effect on carbon emission disclosure". Meanwhile, research conducted by Apriliana et. al. (2019), Amaliyah and Solikhah (2019), and Almuarohmah (2022)

revealed that "environmental performance has a negative effect on carbon emission disclosure".

Another factor related to carbon emissions disclosure conducted by Tana and Diana (2021) revealed that "industry type does not have a positive influence on carbon emissions disclosure". Meanwhile, research conducted by Apriliana et. al. (2019) and Astiti and Wirama (2020) stated that "industry type has a positive effect on carbon emission disclosure".

In addition to these differences, this study was made to develop previous research that has been conducted, including research conducted by Eksi et. al. (2021) which examines "The effect of industry type, environmental performance, and profitability on carbon emission disclosure" and research by Jelin and Merlyana (2021) which examines "the effect of environmental performance on carbon emission disclosure with the board of commissioners as a moderating variable". Although this research refers to previous research, there are differences in research time.

Based on the phenomena that have been described and the inconsistencies in previous studies, it needs to be studied further. This encourages researchers to conduct research with the title "The Effect of Environmental Performance, Industry Type, and Company Size on Carbon Emission Disclosure". The purpose of this study is to determine the effect of environmental performance on carbon emission disclosure, to determine the effect of industry type on carbon emission disclosure, and to determine the effect of company size on carbon emission disclosure.

2. Literature Review

Legitimacy Theory

Legitimacy theory was first proposed by Dowling and Preffer (1975) which provides an overview of "the difference between the values embraced by the company and the values that exist in society, then the company will be in a threatened position or called the Legitimacy Gap. The biggest threat is that society will revoke its social contract if it feels dissatisfied with the operational activities carried out by the company. This theory states that an organization needs to ensure that its business is running in accordance with social norms and contracts in an effort to gain legitimacy in society".

Carbon Accounting

"Carbon accounting is one part of sustainability accounting disclosure" (Pujiati, 2018). "Carbon Accounting as a process of calculating the amount of carbon emitted by industrial processes, setting reduction targets, establishing systems and programs to address carbon emissions, and reporting on the progress of these programs. Companies that implement carbon accounting usually make carbon accounting reporting as part of company costs and are included in voluntary disclosure. The reporting categorizes it into prevention costs, detection costs, internal failure costs, and external failure costs. Through this reporting, the company hopes that stakeholders can assess the company's accountability related to its concern for the environment, especially in reducing greenhouse gases" (Maqfirah, 2022).

Carbon Emission Disclosure

"Companies are required to be more open to information, especially related to the form of corporate responsibility for the environment. This is to show the transparency and accountability of the company. Carbon emission disclosure is part of carbon accounting, which requires companies to measure, recognize, record, present and disclose carbon emissions" (Rini et. al., 2021). Carbon emission disclosure is made as an accounting treatment in presenting the use and treatment of carbon emissions in the company's operational activities in the financial statements.

Environmental Performance

According to Amaliyah and Solikhah (2019), "environmental performance is the company's ability to make the surroundings where they operate green and clean. Environmental performance can also provide information on how companies care and are responsible for operating in their surrounding environment" (Rini et. al., 2021). Companies can improve their environmental performance through the use of environmentally friendly energy, using raw materials efficiently, and participating in environmental programs created by the government, one of which is PROPER.

Industry Type

Based on Law Number 3 of 2014 concerning industry, "industry is an economic activity in processing materials or objects from raw materials, raw materials, semi-finished products, and / or finished products so that they become commodities with a higher selling price according to their function. The Global Industry Classification Standard (GICS) classifies companies in the world into two types of industries, namely high profile and low profile companies" (Tana and Diana, 2021).

Company Size

"The size of a company reflects the level of complexity of its operational activities. Companies that have a large scale will carry out activities that tend to be larger, which creates greater pressure from society than small companies. Large companies disclose more information about their activities, including disclosure of carbon emissions in sustainability reports, with the aim of providing relevant information to stakeholders" (Tana and Diana, 2021).

Research Hypothesis

H1: Environmental performance has a positive effect on Carbon Emission Disclosure.
H2: Industry type has a positive effect on Carbon Emission Disclosure.
H3: Company size has a positive effect on Carbon Emission Disclosure.

3. Research Methods

This study focuses on the impact of environmental performance, industry type, and company size on carbon emissions disclosure. The population taken in this study includes all non-financial companies listed on the Indonesia Stock Exchange in the 2019-2021 period. The sample determination was carried out using purposive sampling method, so that 62 companies were selected in three periods, totaling 186 observation samples. The data used in this study are quantitative and used to analyze research problems.

The data source used is secondary data consisting of financial reports and annual reports of non-financial companies listed on the Indonesia Stock Exchange and those that comply with PROPER during the 2019-2021 period. Data is obtained through access to www.idx.co.id, proper.menlhk.go.id, and the official websites of related companies. Data collection in this study was carried out through indirect observation. The analysis applied in this research is descriptive statistical analysis.

4. Results and Discussion

Descriptive Analysis

According to Sugiyono (2019: 206), "descriptive statistical analysis refers to a data analysis method that aims to provide an overview or generalization about the data that has been collected. In this context, researchers use descriptive statistical analysis to describe and

describe environmental performance variables, industry type, company size, and carbon emissions disclosure. In this descriptive statistical analysis, the data collected provides information about the characteristics of the research variables, especially the average (mean), maximum value, minimum value, and standard deviation". The results of the descriptive statistical test of each variable can be seen in Table 1 below.

Table 1. Descriptive Analysis Results

	N	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*
CED	186	0.06	0.78	0.3133	0.17458
Environmental Performance	186	1.00	4.00	2.8763	0.56067
Industry Type	186	0.00	1.00	0.8548	0.35321
Company Size	186	23.65	32.82	29.3838	1.75425
Valid N (*listwise*)	186				

Source: Secondary data processed, 2023

Based on the data presented in Table 1, it can be explained that the number of observations (observations) is 186 consisting of 62 companies during the 3-year observation period. The Carbon Emission Disclosure variable shows a minimum value of 0.06 owned by PT Garuda Metalindo Tbk. in 2020 and also PT Asahimas Flat Glass Tbk. during 2019 and 2020, while the maximum value is owned by PT Aneka Tambang Tbk. for 3 consecutive years from 2019-2021 with a value of 0.78. The average value on the Carbon Emission Disclosure variable is 0.3133, this also shows that the data variation is more uniform and homogeneous because the average value is higher than the standard deviation which is 0.17458.

The environmental performance variable shows a minimum value of 1.00, namely the gold category, while the maximum value is 4.00, namely the red category. The average value on the environmental performance variable is 2.8763, this also shows that the data variation is more uniform and homogeneous because the average value is higher than the standard deviation which is 0.56067.

The industry type variable shows a minimum value of 0.00, namely the low profile company category, while the maximum value is 1.00, namely the high profile company category. The average value on the industry type variable is 0.8548, this also shows that the data variation is more uniform and homogeneous because the average value is higher than the standard deviation which is 0.35321.

The company size variable shows a minimum value of 23.65 obtained by PT AKR Corporindo Tbk. in 2020, while the maximum value is 32.82 obtained by PT Indofood Sukses Makmur Tbk. in 2021. The average value on the company size variable is 29.3838, this also shows that the data variation is more uniform and homogeneous because the average value is higher than the standard deviation which is 1.75425.

Table 2. Variable Frequency Data

Variable	Category	Frequency	Percent
Environmental Performance	Gold	6	3.2%
	Green	24	12.9%
	Blue	143	76.9%
	Red	13	7.0%
	Black	0	0%
Industry Type	High Profile	159	85.5%
	Low Profile	27	14.5%
Company Size	Large Company	181	97.3%
	Small Company	5	2.7%

Source: Secondary data processed, 2023

Table 2 presents data analysis of variable frequency based on certain categories to provide a deeper understanding of the characteristics of the companies observed in this study. The environmental performance variable is categorized into 5 ratings. Based on table 2, it is known that the number of observations that received a gold rating was 6 observations, which accounted for 3.2% of all observations. The green rating is 24 observations at 12.9% of the total observations. The blue rating is the largest of all observations, which is 76.9% of 143 observations. The red rating was 13 observations with a percentage of 7%. None of the observations received a black rating.

The industry type variable is categorized by a dummy variable with number 1 as a high profile company and number 2 as a low profile company. Table 2 explains that the number of observations that are high profile companies is 159 observations or 85.5% of all observations. Meanwhile, for low profile companies, there are 27 observations or 14.5% of the total observations. This means that the number of observations that are high profile companies is more than low profile companies.

The company size variable is calculated with the natural logarithm of company size to simplify total assets without changing the proportion of the actual amount of assets. According to article 1 of the Decree of the Chairman of the Capital Market Supervisory Agency Number KEP-11/PM/1997, a medium or small company is a legal entity established in Indonesia that has assets (total assets) of not more than one hundred billion rupiah (Rp100,000,000,000). Table2 states that the number of observations of large companies is 181 observations, which is 97.3%, while small companies are 5 observations, which is 2.7% of the total observations.

Classical Assumption Test

Before conducting multiple regression analysis, classical assumption testing is required as a prerequisite. This test must be carried out to ensure that the estimation of parameters and regression coefficients is not affected by bias. Classical assumption testing includes several tests, namely normality test, multicollinearity test, autocorrelation test, and heteroscedasticity test. The following describes the results of the classical assumption test in this study: Multicollinearity test is used to identify the presence of high correlation between independent variables.

1) Normality Test

"Normality testing aims to check whether the data in the regression follows a normal distribution" (Ghozali, 2018: 111). Initially, normality testing found that the data was not normally distributed. Therefore, outlier testing was carried out and found that there were 3 data observations that had extreme values so they were excluded from the research model.

Table 3. Normality Test Results

		Unstandardized Residual
N		183
Normal Parameters[a,b]	*Mean*	0,0000000
	Std. Deviation	0,15528060
Most Extreme Differences	*Absolute*	0,085
	Positive	0,074
	Negative	-0,085
Kolmogorov-Smirnov Z		1,145
Asymp. Sig. (2-tailed)		0,145

Source: Secondary data processed, 2023

Table 3 presents that "the value of Asymp. Sig. (2-tailed) above 0.05, which is 0.145. This means that the residual data is normally distributed because Asymp. Sig. (2-tailed) is more than 0.05" (Ghozali, 2018: 166).

Multicollinearity Test

Table 4. Multicollinearity Test Results

	Collinearity Statistics	
Description	*Tolerance*	*VIF*
Environmental Performance	0,914	1,094
Industry Type	0,982	1,018
Company Size	0,899	1,112

Source: Secondary data processed, 2023

"The multicollinearity test is used to identify the presence of a high correlation between the independent (free) variables in the regression model" (Ghozali, 2018: 107). The multicollinearity test results in table 4 show the tolerance value and VIF value for each variable. The environmental performance variable has a tolerance value of 0.914 and a VIF value of 1.094. The industry type variable has a tolerance value of 0.982 and a VIF value of 1.018. Meanwhile, the company size variable has a tolerance value of 0.899 and a VIF value of 1.112. To detect the presence of multicollinearity symptoms in the research model, the tolerance value limit is> 0.10 and the VIF value limit is <10.00 so it can be concluded that there is no multicollinearity in the independent variables.

2) Heteroscedasticity Test

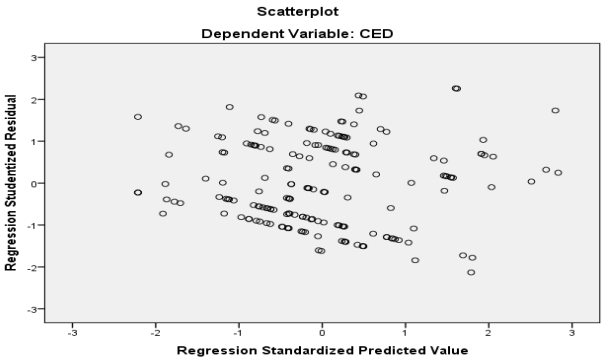

Figure 2. Scatterplot Graph

Source: Secondary data processed, 2023

"The heteroscedasticity test is used to test whether the variance of the regression error is not constant. A good regression model is a model that does not occur heteroscedasticity (Ghozali, 2018: 137). To test heteroscedasticity, one of them is by looking at the distribution of variance in the scatterplot graph on the SPSS output. In Figure 1 shows the scatterplot graph on the model, it can be described as follows:

a. The data points spread above and below and/or around the number 0.
b. The dots do not collect only above or below the number 0 only.
c. The dots do not spread to form a wavy pattern widening then narrowing and widening again.
d. The distribution of data points is not patterned.

With this explanation, it can be concluded that there is no heteroscedasticity in the regression model.

3) Autocorrelation Test

The autocorrelation test aims to detect the dependence between a period t and the previous period (t-1)" (Ghozali, 2018: 108).

Table 5. Autocorrelation Test Results

Model	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*	*Durbin-Watson*
1	*0,389a*	*0,152*	*0,137*	*0,14889*	*1,930*

Source: Secondary data processed, 2023

Table 5 shows that the Durbin-Watson value is 1.930 with 186 observations (n = 186) and 3 independent variables (k = 3). This value will be compared with the 5% significance table value, then the dL value is 1.727 and the dU value is 1.793. It can be concluded that the dU value is smaller than DW (1.793 < 1.930) and 4-dU is greater than DW (2.207 > 1.930). This meets the criteria dU < DW < 4-dU (1.793 < 1.930 < 2.2071). Therefore it can be concluded that there is no autocorrelation in this study.

Multiple Linear Regression Analysis

After all classical assumption tests have been met, so that hypothesis testing can be carried out. Furthermore, multiple linear regression analysis was conducted to test the effect of environmental performance (X1), industry type (X2), and company size (X3) on carbon emission disclosure (Y).

Table 6. Multiple Linear Regression Analysis Results

	Unstandardized Coefficients		*Standardized Coefficients*		
Model	B	Std. Error	Beta	t	Sig.
(Constant)	-0,231	0,247		-0,935	0,351
Environmental Performance	-0,086	0,021	-0,283	-4.013	0,000
Industry Type	0,012	0,035	0,023	0,341	0,733
Company Size	0,026	0,008	0,247	3,476	0,001

Source: Secondary data processed, 2023 (Appendix 9)

Based on table 6, the results of multiple linear regression analysis obtained the regression equation, as follows:

$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + e$

$Y = -0,231 - 0,086X_1 + 0,012X_2 + 0,026X_3$

Description:

Y = Carbon Emission Disclosure

α = constant

β1, β2, β3 = regression coefficient

X1 = environmental performance

X2 = industry type

X3 = company size

e = error

The results of the regression equation in table 6 can be interpreted as follows:

1) The constant value (α) is negative 0.231. This means that if environmental performance, industry type, and company size are equal to zero, the value of carbon emission disclosure will decrease by 0.231 units.
2) The regression coefficient of the environmental performance variable (X1) is -0.086, meaning that environmental performance has a negative effect on carbon emission disclosure. This shows that if the environmental performance variable increases by one unit, the value of carbon emission disclosure will decrease by 0.086 units with the assumption that other variables are constant.

3) The regression coefficient of the industry type variable (X2) is 0.012, meaning that the industry type has a positive effect on carbon emission disclosure. This shows that if the industry type variable increases by one unit, the value of carbon emission disclosure will increase by 0.012 units, assuming other variables are constant.
4) The regression coefficient of the company size variable (X3) is 0.026, meaning that company size has a positive effect on carbon emission disclosure. This shows that if the company size variable increases by one unit, the value of carbon emission disclosure will increase by 0.026 units, assuming other variables are constant.

Hypothesis Test

Hypothesis testing in this study uses multiple linear regression analysis. This aims to determine the effect of the independent variable on the dependent variable.

1) Model Feasibility Test (F Test)

Table 7. Model Feasibility Test Results (F Test)

Model	*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
Regression	0,991	3	0,330	13,478	0,000[b]
Residual	4,388	179	0,025		
Total	5,380	182			

Source: Secondary data processed, 2023

The F test shows how far the influence of the independent variables simultaneously in explaining the dependent variable. In table 7, it is known that the F value is 13.478 with a significance value of 0.000 where this significance value is smaller than the value of the degree of confidence (α) of 0.05. This is in accordance with the test criteria, if the significance value <0.05 then the regression model is feasible to use in research and environmental performance variables, industry type, and company size simultaneously affect carbon emission disclosure.

2) Coefficient of Determination (R^2)

Table 8. Determination Coefficient Test Results

Model	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*
1	*0,389a*	*0,152*	*0,137*	*0,14889*

Source: Secondary data processed, 2023

The coefficient of determination from the regression results shows how much the dependent variable can be explained by the independent variables. Table 8 shows the coefficient of determination (Adjusted R Square) of 0.137. This means that the environmental performance, industry type, and company size variables contribute 13.7%, while the remaining 86.3% is explained by other variables not disclosed in this study.

3) Partial Test (t Test)

The t statistical test basically shows how far the influence of one independent variable is in explaining the dependent variable individually. If the significance value in the regression output is ≤ 0.05, the research hypothesis can be accepted. Based on Table 8, the results of hypothesis testing can be explained as follows:

a. In the test results of the environmental performance variable, the coefficient value is -0.086 with a significance value of 0.000. Thus, in accordance with the provisions in the test criteria, if the significance value <0.05, then this means that partially the environmental performance variable has a negative and significant effect on carbon emission disclosure so that the first hypothesis (H1) is not supported.

b. In the test results of the industry type variable, the coefficient value is 0.012 with a significance value of 0.733. Thus, in accordance with the provisions in the test criteria, if the significance value> 0.05, then this means that partially the industry type variable has no significant effect on carbon emission disclosure so that the second hypothesis (H2) is not supported.
c. In the test results of the company size variable, the coefficient value is 0.026 with a significance value of 0.001. Thus, in accordance with the provisions in the test criteria, if the significance value <0.05, then this means that partially the company size variable has a significant effect on carbon emission disclosure so that the first hypothesis (H3) is supported.

1. Effect of Environmental Performance on Carbon Emission Disclosure

The findings from this research indicate that there is an adverse relationship between environmental performance and carbon emission disclosure, implying that the initial hypothesis (H1) is not supported. Therefore, it can be inferred that companies with lower environmental performance tend to exert more effort in disclosing their carbon emissions through carbon emission disclosure. In contrast, when a company's environmental performance is stronger, there is a reduced inclination to disclose its carbon emissions. This underscores that environmental performance, as gauged by the PROPER rating, exerts a negative impact on carbon emission disclosure.

This study is not in line with Legitimacy Theory which states that “companies will always comply with the prevailing norms in society in order to gain legitimacy from society. Companies believe that the PROPER rating they get is enough to represent the company's compliance with government recommendations and their success in managing the company's environment well. In the company's view, their responsibility is limited to the government, and if they manage to get a PROPER rating such as gold, green, or blue, it is considered that the company has successfully reduced carbon emissions” (Ramadhan et. al., 2021).

The results of this study are in line with research conducted by Apriliana et. al. (2019), Amaliyah and Solikhah (2019), and Almuarohmah (2022) revealed that “environmental performance has a negative effect on carbon emission disclosure. In these studies, it is stated that the results of environmental performance that have no effect on carbon emission disclosure are also due to the PROPER ranking which focuses on natural resource conservation issues, environmental management systems, and CSR implementation and does not put the main focus on global warming or climate change.

Companies that receive a high PROPER rating will feel no need to conduct carbon emission disclosure because they will assess that their performance is already good in reducing carbon emissions. In contrast, companies that receive a low PROPER rating will try to get recognition from the surrounding environment by voluntarily publishing carbon emission disclosure for their environmental performance results”.

2. Effect of Industry Type on Carbon Emission Disclosure

The hypothesis testing results in this research indicate that industry type does not exert a statistically significant influence. Consequently, the second hypothesis (H2) lacks support in this study. In summary, it can be deduced that industry type does not impact the disclosure of carbon emissions.

This study does not align with legitimacy theory, which posits that industries with higher visibility face greater societal pressure than those with lower visibility. Therefore, high-profile industrial companies are expected to disclose carbon emissions to enhance their public legitimacy. The theory predominantly emphasizes a company's efforts to attain social legitimacy through environmental information disclosure and sustainable practices. In this

context, all companies, regardless of their industry type, are inclined to disclose information regarding their carbon emissions to secure support and recognition from society.

This study is in line with research conducted by Tana and Diana (2021), Ramadhan et. al. (2021), and Astiti (2022) which revealed that "industry type has no effect on carbon emission disclosure. In previous studies, it was stated that industry type does not affect carbon emission disclosure because if the company feels that its operational activities do not disturb the surrounding community and there are also no complaints to the company, then the company feels that it will not need to make disclosures.

This happens because carbon emission disclosure is the policy of each company's management, so it is not influenced by the company's industry type. Companies that intensively produce carbon emissions do not necessarily disclose their carbon emissions because currently the nature of carbon emission disclosure is still included as voluntary disclosure. Industry type also does not affect the awareness of companies to publish carbon emission disclosure because not only high profile industries will publish carbon emission disclosure, low profile industry types will also try to disclose their carbon emission performance to gain legitimacy from the wider community".

3. The Effect of Company Size on Carbon Emission Disclosure

The results of hypothesis testing in this study show that company size has a significant impact, so the first hypothesis (H3) is proven true in this study. The conclusion that can be drawn is that the larger the size of a company, the company management will be more active in disclosing carbon emissions. This indicates that company size, as measured by its total assets, has a positive influence on carbon emissions disclosure.

This result is consistent with legitimacy theory which states that in all its operational activities, a company will try to comply with the prevailing norms in society to gain legitimacy. In this context, larger companies tend to have a greater variety of activities, which have the potential to have more significant environmental impacts. Therefore, large companies will experience increased pressure from various parties to submit environment-related reports, including disclosure of carbon emissions.

This is in line with research conducted by Rini, et. al. (2021), Maqfiah and Fahriana (2022), and Widiastutik and Khafid (2021) which state that "company size has a positive effect on carbon emission disclosure. In previous studies, it was stated that companies with large sizes have more diverse and complex activities that have a greater impact on the environment, one of which is the high level of emissions produced.

Company size indicates the level of resources and operational activities of the company. The larger the size of the company, the greater the public attention to the company. This makes the community put more pressure on large companies. This disclosure is also supported by the many resources owned by companies that make it easier to collect and process information about carbon emissions produced, so companies tend to publish carbon emission disclosure. In addition, companies with large sizes are considered to have sufficient costs to pay the costs of producing information about carbon emissions".

5. Conclusion

Based on the results of the analysis and discussion that has been done, the following conclusions can be drawn:

1) Environmental performance has a negative effect on carbon emission disclosure so that the first hypothesis is not supported. This means that companies that have poor environmental performance will increasingly try to disclose their carbon emissions. Conversely, if the company already has good environmental performance, then the company management considers no need to disclose its carbon emissions.

2) Industry type has no effect on carbon emission disclosure so that the second hypothesis is not supported. This means that the type of industry of a company will not affect the disclosure of carbon emissions because if the company feels that its operational activities do not disturb the surrounding community and also there are no complaints that come to the company, then the company feels that it will not need to disclose.
3) Company size affects carbon emission disclosure so that the third hypothesis is supported in this study. This means that the larger the size of the company, the more the company's management will disclose its carbon emissions.

Based on the results of the analysis and conclusions that have been made, several suggestions can be made for further research and interested parties as follows:

1) For future researchers, it is recommended to add other variables such as: leverage, managerial ownership, growth, and profitability because the adjusted R2 value in this study is relatively low at 0.137 or 13.7%. In addition, researchers can also conduct similar studies with a focus on different company sectors on the Indonesia Stock Exchange (IDX), such as, manufacturing, mining, and LQ-45 company sectors.
2) For companies, it is expected to continue to maintain their environmental performance in order to gain legitimacy from the community. Companies can pay attention to their responsibility for environmental impacts and seek to proactively disclose information about carbon emissions.
3) As well as the government to issue clearer regulations and guidelines to strengthen corporate responsibility for the environment and encourage more transparent disclosure of information can play an important role in increasing awareness and involvement of companies in managing carbon emissions.

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