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## **Influence of Gender Diversity, Institutional Ownership, Environmental Performance, and Audit Committee on Carbon Emission Disclosure**

(Empirical Study on Energy Sector Companies Listed on the  
Indonesia Stock Exchange in 2019-2022)

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### **Abstract**

This study aims to determine the effect of gender diversity, institutional ownership, environmental performance, and audit committee on carbon emission disclosure empirical study on energy sector companies listed on the Indonesia Stock Exchange in 2019-2022. The population in this study were energy sector companies totaling 74 companies. The sample of this study was selected using purposive sampling method where the sample was selected based on the criteria set by the researcher and got a sample of 93 samples from 30 companies. This study uses secondary data where the data is obtained from the company's annual and sustainability reports obtained from the company's official website and from the official website of the Indonesia Stock Exchange. The analysis method in this study uses multiple linear regression analysis which is processed using the SPSS version 23.0 for windows program. The results of this study show that carbon emission disclosure is influenced by all variables at the same time. Then the environmental performance variable has a significant effect on the disclosure of carbon emissions. Meanwhile, the variables of gender diversity, institutional ownership, and audit committee have no significant effect on the disclosure of carbon emissions.

**Keywords:** Gender Diversity, Institutional Ownership, Environmental Performance, Audit Committee, Carbon Emissions Disclosure

## Introduction

Global warming is the phenomenon of increasing temperatures from year to year due to the greenhouse effect caused by increasing emissions of gases such as carbon dioxide. Global warming can cause serious problems for the environment such as tsunamis, floods, landslides, droughts that lead to increased potential for forest fires, and climate change (Triana Vivi, 2008). Carbon emissions are one of the causes of global warming and trigger climate change, which will cause economic instability. Therefore, it is very important to reduce carbon emissions as one of the solutions to reduce economic instability due to climate change (Angelina & Handoko, 2023). According to the National Disaster Management Agency, it appears that more than 78% of disaster events in Indonesia are hydrometeorological disasters and only about 22% are geological disasters. Hydro meteorological disasters include floods, land and forest fires, droughts, landslides, and extreme weather where climate change is the cause of the increase in hydrometeorological disasters. One of the disasters is peatland fires in Kubu Raya Regency Kalimantan in 2022 and landslides in Agam Regency West Sumatra in 2023.

Indonesia's efforts to reduce carbon emissions is by ratifying the first Kyoto Protocol on June 28, 2004 through Law Number 17 of 2004 in order to implement sustainable development and participate in efforts to reduce greenhouse gas emissions. In addition, Indonesia also issued the Presidential Regulation of the Republic of Indonesia Number 61 of 2011 concerning the national action plan for reducing greenhouse gases where article 4 states that business actors take part in efforts to reduce greenhouse gas emissions by disclosing carbon emissions. Based on data from Climate Watch sourced from Consumer News and Business Channel (CNBC) Indonesia, Greenhouse Gas Emissions (GHG) which includes carbon emissions globally are contributed most by the energy sector. The energy sector produces 36.44 gigatons of carbon dioxide equivalent (Gt  $CO_2e$ ) or 71.5% of total emissions. According to Ember Climate's Global Electricity Review 2023, emissions from power plants increased by 12,431 million tons  $CO_2$ ( $mtCO_2$ ) in 2022.

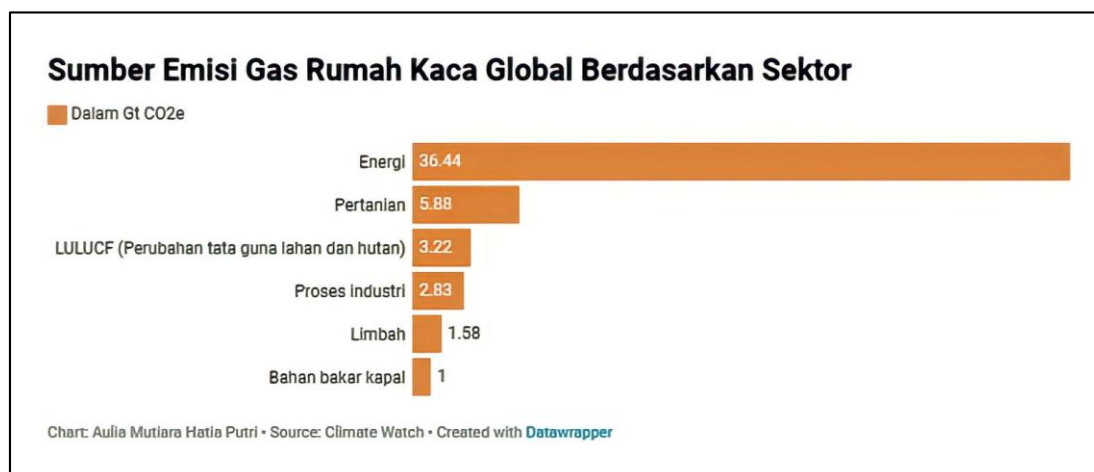


Figure 1. Greenhouse Gas Emissions by Sector

Based on a report from Ember Climate, Indonesia itself has ranked 9th in countries that trigger a lot of carbon emissions in the world based on the energy sector in 2022 as much as 192.7  $mtCO_2$  of carbon dioxide emissions that have been produced. Carbon emissions from the

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energy sector are the result of burning oil, gas and coal. Disclosure of carbon emissions is the company's contribution to global warming and climate change. Company activities that cannot be separated from the impact on the environment make companies required to make transparency related to environmental disclosure, especially disclosure of carbon emissions (Almuaromah & Wahyono, 2022). Companies that disclose carbon emissions will generate a positive view for stakeholders because the company will be considered more consistent with its roles and responsibilities in social and environmental aspects (Angelina & Handoko, 2023).

Various previous studies mention different results, thus research is interested in re-examining the topic by referring to research Angelina & Handoko (2023) which examines institutional ownership, audit committee, and environmental performance on carbon emission disclosure. There are differences in research with the previous one, namely first, there is the addition of a new variable, namely gender diversity. Second, previous research used samples in manufacturing companies while this study used samples in energy sector companies in Indonesia. Third, the previous research was conducted in 2017-2020 while this research was conducted in 2019-2022. This study uses four independent variables in influencing the disclosure of carbon emissions where there are additional variables in the form of gender diversity. Therefore, this study uses four independent variables in influencing the disclosure of carbon emissions, namely gender diversity, institutional ownership, environmental performance, and audit committee.

### **Literature Review**

#### **Stakeholder Theory**

The stakeholder theory expressed by Freeman (1994) explains the nature and social performance of the company. According to Ghozali (2020), stakeholder theory is a theory that explains that companies do not only carry out operations for their own benefit but must also provide benefits to all their stakeholders such as shareholders, creditors, consumers, suppliers, government, etc. There are three assumptions underlying stakeholder theory, namely that companies must operate not only for the financial interests of shareholders but also for the interests of stakeholders, management is equally responsible to all those concerned with corporate governance, and stakeholder theory is based on organizational ethics (Wiralestari, 2022). Stakeholder theory as a foundation for management to achieve a balance of profit and sustainability of the company where this theory states that the company is also responsible for providing benefits to all interested parties (Olimsar et al., 2023). This theory can provide deep insight into the relationship between companies and stakeholders related to environmental issues where research can provide information about stakeholder expectations and interests, especially related to disclosure of carbon emissions.

#### **Carbon Emission Disclosure**

Carbon emissions are one of the greenhouse gas emissions that cause global warming and are a major factor in environmental pollution, especially air (Labiba & Pradoto, 2018). Disclosure of carbon emissions is a growing topic in various countries due to the impact related

to climate change on the survival of a company, including Indonesia. This disclosure is disclosed by each company which can be accessed through the company's annual report or sustainability report to determine the level of carbon emissions generated by the company (Jannah & Muid, 2014). Disclosure of carbon emissions is measured using the Carbon Disclosure Project (CDP), where CDP is an independent non-profit organization that has been developed by Choi et al. (2013) to provide information about world climate change. Carbon emissions disclosure is calculated through:

$$CED = \frac{\text{Total Items Disclosed}}{18}$$

### **Gender Diveristy**

Gender is the difference between roles, traits, attitudes, and behaviors that exist in society (Eagly & Karau, 2002). Gender diversity is a form of equality shown by the composition of women on the company's board (Hossain et al., 2017). Gender diversity in this study leads to sex differences between men and women where assessing the presence of women on the board of directors in the company. According to Post et al. (2011) diversity in the board of directors can increase the variety of knowledge and ideas in decision making so as to maximize the decisions taken for the progress and sustainability of the company, especially in corporate reporting. Gender diversity is calculated through:

$$GD = \frac{\text{Number of Female Directors}}{\text{Total Directors}}$$

### **Institutional Ownership**

Institutional ownership is a partnership or cooperation over shares obtained by institutions such as banks, insurance, and investment companies (Tarjo, 2008). The existence of institutional investors is considered to be an effective supervision in every decision taken by management, where this supervision will ensure trust for shareholders (Permanasari, 2010). According to Pratiwi (2018), institutional ownership will increase supervision and monitoring of company activities to disclose all activities carried out by the company in order to build a positive image to stakeholders. Institutional ownership is calculated through:

$$IO = \frac{\text{Number of Institutional Shares}}{\text{Total Shares Outstanding}}$$

### **Environmental Performance**

Environmental performance is the company's performance to create a good corporate environment and operations for the company to demonstrate responsibility for the environment in its activities and interactions with stakeholders assessed from the environmental management system about control in terms of environmental aspects (Suratno et al., 2006). According to Parahdila et al. (2023), environmental performance is the performance of a company that cares about the surrounding environment where good environmental performance will cause many companies to disclose their social and environmental activities. In this study using the GRI index or Global Reporting Initiative, namely the GRI 300 environmental performance section. Environmental performance is calculated through:

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$$\text{GRI} = \frac{\text{Total Items Disclosed}}{\text{Total GRI Environment}}$$

### **Audit Committee**

According to Tugiman (1995), an audit committee is an association of several individuals or a group of company commissioners who carry out special duties and responsibilities that have the priority of providing independent protection from management. Based on the Ikatan Komite Audit Indonesia (2004), the establishment of an audit committee is to assist the board of commissioners in supervising and improving the quality of the company's internal control. One of the things that shows the superiority of the audit committee is the number of audit committee meetings, the more often the audit committee meetings are held, the more often the members provide ideas and thoughts in decision making and this makes the decisions to be taken more optimal (Amaliyah & Solikhah, 2019). According to regulations of Bapepam (2012), the audit committee must hold regular meetings at least once every 3 (three) months or four times a year. Therefore, the audit committee is measured by calculating the number of meetings held by the audit committee in 1 (one) year against the minimum number of meetings determined by Bapepam, namely four times in 1 (one) year (Cinthyia & Indriani, 2016). Audit committee is calculated through:

$$\text{AC} = \frac{\text{Number of Meetings in 1 Year}}{\text{Minimum number of meetings required by Bapepam}}$$

### **Research Hypothesis**

The hypothesis of this study are:

- H<sub>1</sub> : There is an effect of gender diversity, institutional ownership, environmental performance, and audit committee on the disclosure of carbon emissions.
- H<sub>2</sub> : There is an effect of gender diversity on the disclosure of carbon emissions.
- H<sub>3</sub> : T There is an effect of institutional ownership on the disclosure of carbon emissions.
- H<sub>4</sub> : There is an effect of environmental performance on the disclosure of carbon emissions.
- H<sub>5</sub> : There is an effect of audit committee on the disclosure of carbon emissions.

### **Research Method**

The research used in this study is quantitative research where quantitative research uses data in the form of numbers and will be measured using statistical tools to test the problem under study to draw a conclusion (Ghozali, 2016). This study uses secondary data where secondary data is data published or used by organizations that are not processors or official documents published to data users (Amir et al, 2009). Data sources are obtained from annual reports and sustainability reports on energy sector companies listed on the Indonesia Stock

Exchange (IDX) in 2019-2022 which are taken through the official IDX website [www.idx.co.id](http://www.idx.co.id).

The sample selection used purposive sampling method as criteria, namely energy sector companies listed on the Indonesia Stock Exchange and companies that present sustainability reports on the company's official website. The research population consists of 74 energy sector companies listed on the Indonesia Stock Exchange from 2019 to 2022. Sampling using purposive sampling method which obtained a sample of 93 samples from 30 companies. This study uses multiple linear regression analysis with the following equation:

$$CED = \alpha + \beta_1GD + \beta_2IO + \beta_3GRI + \beta_4AC + \varepsilon$$

## Result/Findings

### Descriptive Statistics

Descriptive statistics are used to explain the data of all research variables seen from the maximum, minimum, average, and standard deviation values which aim to explain the description of the behavior of the research sample data (Ghozali, 2018). The results of descriptive statistical analysis using the SPSS version 23.0 program show the following results:

Table 1. Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Gender Diversity	93	.00	.67	.1123	.16254
Institutional Ownership	93	.10	.99	.7746	.19336
Environmental Performance	93	.06	.85	.4535	.19554
Audit Committee	93	.50	14.25	2.6263	2.62477
Carbon Emission Disclosure	93	.06	.78	.4510	.20212
Valid N (listwise)	93				

*Table Source: Data processed by SPSS*

The descriptive statistical test results show that the total research data (N) amounted to 93 data. The gender diversity variable (X1) has a minimum value of 0 and a maximum value of 0.67 with an average of 0.1123 and a standard deviation of 0.16254. The institutional ownership variable (X2) has a minimum value of 0.10 and a maximum value of 0.99 with an average of 0.7746 and a standard deviation of 0.19336. The environmental performance variable (X3) has a minimum value of 0.06 and a maximum value of 0.85 with an average of 0.4535 and a standard deviation of 0.19554. The audit committee variable (X4) has a minimum value of 0.50 and a maximum value of 14.25 with an average of 2,6263 and a standard deviation of 2,62477. e. The carbon emission disclosure variable has a minimum value of 0.06 and a maximum value of 0.78 with an average of 0.4510 and a standard deviation of 0.20212.

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**Normality Test**

The data normality test in this study used the Kolmogorov-Smirnov Test. The basis for decision making can be done by drawing conclusions, if the significance value  $\geq 0.05$  then the residual value is normally distributed and if the significance value  $\leq 0.05$  then the residual value is not normally distributed. The results of the normality test using the Kolmogorov-Smirnov Test in this study are:

Table 2. Normality Test

<b>One-Sample Kolmogorov-Smirnov Test</b>			
			Unstandardized Residual
N			93
Normal Parameters <sup>a,b</sup>	Mean		.0000000
	Std. Deviation		.11391120
Most Extreme Differences	Absolute		.071
	Positive		.071
	Negative		-.062
Test Statistic			.071
Asymp. Sig. (2-tailed)			.200 <sup>c,d</sup>
Monte Carlo Sig. (2-tailed)	Sig.		.706 <sup>e</sup>
	99% Confidence Interval	Lower Bound	.694
		Upper Bound	.718
a. Test distribution is Normal. b. Calculated from data. c. Lilliefors Significance Correction. d. This is a lower bound of the true significance. e. Based on 10000 sampled tables with starting seed 2000000.			

*Table Source: Data processed by SPSS*

Based on the test results above, it shows a value of 0.706 and in the sense that the significance value is  $\geq 0.05$ . In addition, there are the results of graphical analysis using a histogram which shows that the data distribution shows a bell-shaped shape and also a Plot graph which shows the results of the distribution of data residuals moving along the diagonal line. This it can be concluded that the data is normally distributed and the regression model can be continued.

**Multicollinearity Test**

The multicollinearity test in this study uses the Tolerance Value and VIF (Variance Inflation Factor) value. The basis for decision making can be done by drawing conclusions, if  $VIF \geq 10$  and Tolerance Value  $< 0.1$ , it is indicated that the model has symptoms of Multicollinearity and if  $VIF \leq 10$  and Tolerance Value  $> 0.1$ , it is indicated that the model does not have symptoms of Multicollinearity. The results of the multicollinearity test in this study are:

Table 3. Multicollinearity Test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	,088	,057		1,537	,128		
Gender Diversity	,102	,075	,082	1,358	,178	,986	1,015
Institutional Ownership	-,045	,063	-,043	-,712	,478	,986	1,014
Environmental Performance	,892	,070	,863	12,732	,000	,785	1,274
Audit Committee	-,007	,005	-,089	-1,307	,195	,783	1,277

a. Dependent Variable: Carbon Emission Disclosure

*Table Source: Data processed by SPSS*

Based on the test results above, it shows that in the regression model formed there is no correlation between the research variables. All independent variables show VIF values < 10 and tolerance > 0.1. Therefore, it can be stated that the independent variables used in the regression model of this study are free from multicollinearity symptoms.

**Heteroscedasticity Test**

The heteroscedasticity test in this study uses the Glejser test. The basis of decision making can be done by drawing conclusions, if the significance value > 0.05 then there are no symptoms of heteroscedasticity in the research model and if the significance value < 0.05 then there are symptoms of heteroscedasticity in the research model. The results of the heteroscedasticity test in this study, namely:

Table 4. Heteroscedasticity Test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.110	.036		3.082	.003
Gender Diversity	-.039	.047	-.087	-.820	.415
Institutional Ownership	-.035	.040	-.093	-.875	.384
Environmental Performance	.026	.044	.071	.599	.551
Audit Committee	-.001	.003	-.038	-.315	.754

a. Dependent Variable: ABS\_RES

*Table Source: Data processed by SPSS*



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Based on the test results above, it shows that the significance value for all variables is more than 0.05. Therefore, it can be concluded that the regression model in this study does not experience symptoms of heteroscedasticity.

**Autocorrelation Test**

The autocorrelation test in this study uses the Lagrange Multiple (LM) test. The basis of decision making can be done by drawing conclusions, if the LAG residual parameter coefficient has a significance value > 0.05 then there are no autocorrelation symptoms and if the LAG residual parameter coefficient has a significance value < 0.05 then there are autocorrelation symptoms. The results of the autocorrelation test in this study are:

Table 5. Autocorrelation Test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.005	.051		.095	.925
	Gender Diversity	.000	.068	.000	-.003	.998
	Institutional Ownership	-.005	.057	-.008	-.081	.936
	Environmental Performance	-.004	.063	-.007	-.066	.947
	Audit Committee	.000	.005	.008	.069	.945
	LAG	.458	.096	.458	4.769	.000

a. Dependent Variable: Unstandardized Residual

*Table Source: Data processed by SPSS*

Based on the test results above, it shows that the LAG residual parameter coefficient has a significance value of more than 0.05 for all variables. Thus, it can be concluded that the regression model in this study does not experience autocorrelation symptoms.

**Multiple Linear Regression Analysis**

The analysis is carried out to determine the direction and how much influence the independent variable has on the dependent variable. The results of this test are:

Table 6. Multiple Linear Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.088	.057		1.537	.128
	Gender Diversity	.102	.075	.082	1.358	.178
	Institutional Ownership	-.045	.063	-.043	-.712	.478
	Environmental Performance	.892	.070	.863	12.732	.000
	Audit Committee	-.007	.005	-.089	-1.307	.195

a. Dependent Variable: Pengungkapan Emisi Karbon

*Table Source: Data processed by SPSS*

Based on the results of the multiple linear regression analysis test above, the regression equation is obtained as follows:

$$CED = 0,088 + 0,102 GD - 0,045 IO + 0,892 GRI - 0,007 AC + \epsilon$$

The results of the multiple linear regression analysis equation can be interpreted as follows: (1) The multiple regression analysis equation has a constant value of 0.088 where the amount of the constant shows that if the independent variables are assumed to be constant, then the dependent variable carbon emission disclosure is constantly worth 0.088. (2) The regression coefficient value of gender diversity is positive at 0.102. This can be interpreted that if gender diversity increases by one unit, the disclosure of carbon emissions will also increase by 0.102. (3) The regression coefficient value of institutional ownership is negative at -0.045. This means that if institutional ownership increases by one unit, the disclosure of carbon emissions will decrease by 0.045 or in the opposite direction. (4) The environmental performance regression coefficient value is positive at 0.892. This can be interpreted that if environmental performance increases by one unit, the disclosure of carbon emissions will also increase by 0.892. (5) The regression coefficient or audit committee is negative -0.007. This implies that if the audit committee increases by one unit, the disclosure of carbon emissions will decrease by 0.007 or in the opposite direction.

**Determination Coefficient Test**

Table 7. Determination Coefficient Test

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.826 <sup>a</sup>	.682	.668	.11647

Table Source: Data processed by SPSS

It is known that the Adjusted R Square value is 0.668, it can be concluded that the contribution of the influence of the independent variables on the dependent variable simultaneously or together is 66.8%. While the remaining 33.2% is influenced by other causes outside the research model.

**F-Test**

The basis for decision making can be done by drawing conclusions, if the significance value > 0.05 then simultaneously the independent variable has no effect on the dependent variable and if the significance value < 0.05 then simultaneously the independent variable affects the dependent variable. The results of the model feasibility test (f test) in this study are:

Table 8. F-Test

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.565	4	.641	47.262	.000 <sup>b</sup>
	Residual	1.194	88	.014		
	Total	3.758	92			

Table Source: Data processed by SPSS

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It is known that the significance value is 0.000, which means that the significance value in this study is smaller than 0.05. So it can be concluded that the regression model is declared fit and the independent variables, namely gender diversity, institutional ownership, audit committee, and environmental performance, have a significant effect simultaneously or together on the dependent variable, namely the disclosure of carbon emissions, which means that hypothesis 1 is accepted.

### **T-Test**

It can be seen in table 6 that (1) The significance value of the gender diversity variable is 0.178, which means that the significance  $> 0.05$ , so the X1 variable has no influence on the disclosure of carbon emissions, which means that hypothesis 2 is rejected. (2) The significance value of the institutional ownership variable is 0.478, which means that the significance  $> 0.05$ , the X2 variable has no influence on the disclosure of carbon emissions, which means that hypothesis 3 is rejected. (3) The significance value of the environmental performance variable is 0.000, which means that the significance  $< 0.05$ , the X3 variable has an influence on the disclosure of carbon emissions, which means that hypothesis 4 is accepted. (4) The significance value of the audit committee variable is 0.195, which means that the significance  $> 0.05$ , the X4 variable has no influence on the disclosure of carbon emissions, which means that hypothesis 5 is rejected.

### **Discussion**

#### **The Effect of Gender Diversity, Institutional Ownership, Environmental Performance, and Audit Committee on Carbon Emissions Disclosure**

The results showed that all independent variables in this study were able to explain the dependent variable. This is in accordance with the stakeholder theory which is the basis for the company by not discriminating against women, maximum supervision by the institution, improved environmental performance, and the supervision of the audit committee of the company together which will make the company further increase the disclosure of carbon emissions in order to create a positive image for stakeholders. In this study, only one independent variable individually has an effect but together they have an influence. This is because one influential independent variable, namely environmental performance, has a dominant influence of 0.000 so that it represents other independent variables and the results state that the independent variables jointly have an influence on the dependent variable.

#### **The Effect of Gender Diversity on Carbon Emissions Disclosure**

Based on the tests that have been carried out, the results show that the gender diversity variable has no influence on the disclosure of carbon emissions. It can be concluded that the number of female directors in the company cannot affect the amount of carbon emission disclosure. The lack of effect of gender diversity on carbon emission disclosure in this study can be caused by sample data that shows the low presence of women in the board of directors where the data shows the presence of women in the board of directors only has an average of

11.23% still far below 50% so that in this research sample, the presence of women in the board of directors is not a major indication in decision making related to environmental issues such as disclosure of carbon emissions.

### **The Effect of Institutional Ownership on Carbon Emissions Disclosure**

Based on the tests that have been carried out, the results show that the institutional ownership variable does not have a significant influence on the disclosure of carbon emissions. It can be concluded that the amount of institutional ownership in the company cannot affect the amount of carbon emission disclosure. The lack of influence of institutional ownership on the disclosure of carbon emissions can be caused by institutions that are more focused on overseeing the company's mechanisms and management performance so that the company benefits in financial terms so that institutional ownership does not affect the decisions taken regarding environmental issues such as disclosure of carbon emissions.

### **The Effect of Environmental Performance on the Disclosure of Carbon Emissions**

Based on the tests that have been carried out, the results show that the environmental performance variable has a positive and significant influence on the disclosure of carbon emissions. It can be concluded that the higher the company's environmental performance, the higher the disclosure of carbon emissions in the company. The results of this study are in line with stakeholder theory where companies that have good performance in the environment tend to maximize the implementation of environmental disclosure. This good performance in the environment is able to motivate the company to be more transparent in its environmental disclosure with the aim of forming good relationships with stakeholders.

### **The Effect of Audit Committee on Carbon Emission Disclosure**

Based on the tests that have been carried out, the results show that the audit committee variable does not have a significant influence on the disclosure of carbon emissions. It can be concluded that the more meetings of the audit committee conducted in a year has no influence on the amount of disclosure of carbon emissions disclosed. The lack of influence of the audit committee on the disclosure of carbon emissions can be caused by the fact that in some companies in the research sample there is a sustainability committee formed to be responsible for sustainable governance in which there are environmental aspects, so that the role of the audit committee does not have a major influence on decisions related to environmental issues such as disclosure of carbon emissions.

### **Conclusion**

The purpose of this study was to examine the effect of gender diversity, institutional ownership, environmental performance, and audit committee on the disclosure of carbon emissions in energy sector companies listed on the Indonesia Stock Exchange in 2019-2022. From the results of information processing, the conclusions of this study can be summarized as follows:

## ***Influence of Gender Diversity, Institutional Ownership, Environmental Performance, and Audit Committee on Carbon Emission Disclosure***

1. Gender diversity, institutional ownership, environmental performance, and audit committee simultaneously or together have an influence on the disclosure of carbon emissions.
2. Gender diversity has no influence on the disclosure of carbon emissions. This is because the decision is taken by the authorized party not necessarily by a woman on the board of directors.
3. Institutional ownership has no influence on the disclosure of carbon. This is because investors who have institutional ownership in the company tend to pay more attention to the company's financial performance than environmental factors such as carbon emissions.
4. Environmental performance has an influence on the disclosure of carbon emissions. This is because the better the level of environmental performance the company has, of course, the more open and complete it will be in providing information regarding disclosure of carbon emissions.
5. The audit committee has no influence on the disclosure of carbon emissions. This is because the audit committee is more responsible for the compliance and reliability of the company's financial statements so that the audit committee meetings focus more on the company's internal finances rather than disclosing carbon emissions.

Limitations in this study include, among others, there are still many companies that have not published sustainability reports, thus reducing the sample from the actual company population, the measurement method only uses one measurement, and only tests the energy sector. Therefore, it is recommended for future researchers to add the latest research year period, further expand the research population in companies listed on the Indonesia Stock Exchange, and use other measurement methods in measuring the variables concerned so that the results are better.

### **Declaration of conflicting interest**

The authors declare that there is no conflict of interest in this work.

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