

The Influence of Environmental Performance, Company Size, and Independent Commissioners on Carbon Emission Disclosure

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ABSTRACT

Global warming caused by increased carbon emissions is the impact of company operational activities that use large capacity machines. The research aims to empirically prove the influence of environmental performance, company size and independent board of commissioners on carbon emissions disclosure. The population in the research were energy and basic materials sector companies listed on the Indonesia Stock Exchange during the research period (2018-2021), totaling 165 companies. This sample was determined using purposive sampling and based on existing criteria, 29 companies were obtained with a total of 116 data observations. The data analysis technique uses panel data regression with EViews version 9 software. The research results show that simultaneously environmental performance, company size and independent board of commissioners have a significant influence on carbon emissions disclosure. Partially, environmental performance variables and company size have a significant influence on carbon emissions disclosure. The independent board of commissioners partially does not have a significant influence on carbon emissions disclosure.

INTRODUCTION

Phenomenon global warming that occurs throughout the world is caused by an increased amount of house gas emissions. In Indonesia itself, it can be seen from the graph presented by the Meteorology, Climatology and Geophysics Agency (BMKG) shows trend CO₂ concentration in Indonesia, occurs increase in CO₂ gas in May 2022 until amounting to 415 ppm (BMKG, 2022) . His height increase in carbon gas This dicocide makes the surface earth increase so that gives rise to global warming.

In 2019 , Indonesia produced house gas emissions amounting to 1.86 billion tons of carbon dioxide equivalent (CO₂e), and about 638.8 million tons of CO₂e came only from sector energy (KLHK, 2021). This CO₂ gas emission is caused by activities operational company esp company sector energy and sectors goods standard that uses machines big For activity production and use transportation with capacity machine big For activity mining.

Disclosure emission carbon done as form treatment accountancy For explain related global warming caused by emissions carbon . With exists this spread explores Besides that participate For I reduce emission carbon as well as do action prevention . In accordance with Regulation Regulation no. 47 of 2012 and PSAK No. 1 Verse 9, which is where arrangements about not quite answering social and environmental issues must be carried out by the company. Sadly this rule does not oblige spread related environments, esp spread emission carbon by company.

Table 1 Corporate sector energy and sectors goods standard which is not reveal emission carbon in sustainability reports

Year	Energy companies that don't disclose emission carbon	Goods company standard which is not disclose emission carbon
2018	55	72
2019	49	67
2020	47	62
2021	33	43

Source : processed data researcher , 2023

Can seen in the table on that from 2018 until there is 2021 Lots company from sector energy and sectors goods standard which does not reveal emission carbon on sustainability the report. In 2018 there were 55 visitors energy and 72 companies goods standard which does not disclose emission carbon, in 2019 there were 49 companies energy and 67 companies goods standard, in 2020 there were 47 companies energy and 62 companies goods standard then in 2021 there will be 33 companies energy and 43 companies goods standard. Whereas the second company is the largest in producing carbon emission . Because the author is very interested in taking companies in the energy and sector goods standard as object research , especially in depth emission of carbon. Apart from that, the author also wants to test using two sectors of different companies. However You're welcome to relate directly with material producer emission carbon.

This research is aimed at For examine (1) whether performance environment, size companies, and commissioners independent to spread emission carbon (2) whether performance environment influential to spread emission carbon (3) whether size company influential to spread emission carbon (4) whether commissioner independent influential to spread emission carbon. The results of this research are expected can beneficial for company as material consideration for makers decision in make policy company For do spread emission carbon . For the government can become print performance government in make regulation in arrange practice spread emission carbon in Indonesia. For the community too as well as supervise and control activity companies so that Companies are also taking notice of environment surroundings.

LITERATURE REVIEW

Legitimacy Theory

Legitimacy Theory focuses on relationships between companies with the public through contract social. Contracting this society will ensure something company does activity its operations in accordance with expected boundaries and norms society. According to (Mathew, 1995) in (Purnayudha & Hadiprajitno, 2022) opinion that contract social There is between organizations and members public individual Provided public offer organization with rights and authority law For access " source power ", for example source Power natural or source Power human . Due source Power the crucial For endure lifetime Where organization must Keep going try For fulfil hope society (consistent with contract social) to ensure activity operational they still acknowledged .

Stakeholder Theory

Stakeholder Theory states that a company is something operating entity not only to get profit for Alone just but you also have to give benefit for holders interest or its stakeholders. Holder interest or stakeholders here covers holder shares, suppliers, creditors, consumers, employees, society, government and interested parties. (Firmansyah et al, 2021) state that whole stakeholders interest capable of information activity influencing companies.

Framework

Framework is defined as reflective synthesis connection between variables studied and guided. To solve problem study as well as develop hypothesis form of research chart equipped flow explanation qualitative (Sugiyono, 2021). Framework good thinking will explain in a way theoretically linkage between variables that will be researched. By theoretical, researchers need to explain the connection between variable free with variable bond. Framework think in this research is as following:

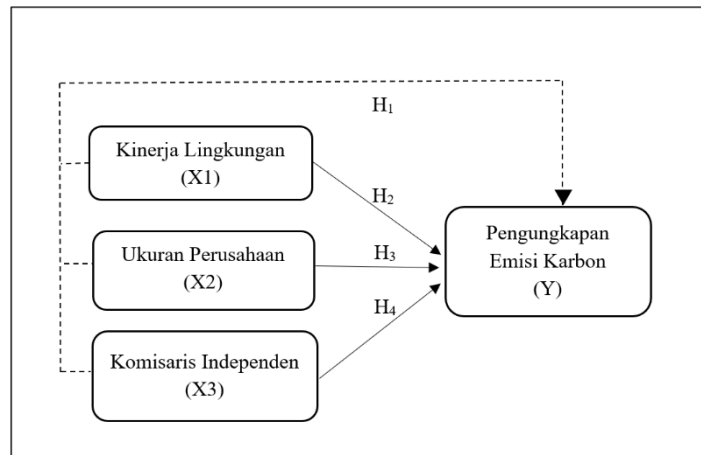


Figure 1. Framework

Hypothesis

Disclosure of carbon emission is one part from disseminate sustainability reports on dimensions of the environment. Carbon Emissions are discharges of carbon into the atmosphere. Nevertheless carbon Lots contained in the natural universe, carbon specifically dangerous for sustainability creatures live. Consequence from emission This excess carbon creates various type problems that arise for example pollution, environment, problems health, as well as the economy. The company has quite a role important Because in is implementing activity its operations company Lots use material burn that emits emission carbon, so company follow role in increasing global warming as well change climate. Disclosure of emission carbon is how wide it is, information about not quite enough to answer the environment by the company concerned with emission carbon (Halimah & Yanto, 2018) . This disclosure was made as form not quite enough answer company to environment life surrounding as tool For legitimize activity its operations.

Disclosure activity operational companies, esp activities that provide impact more against environment Already should be carried out by the company , no specifically spread related emission carbon. Companies that own a performance good environment will be responsible to the government and society For fulfilling a standard performance good environment. This can be proven with spread related emission carbon is also done For show concern to society.

Company with more size big tend will do spread related environment specifically emission carbon , company feel must responsible answer to public Because activity more operational big will more give impact to environment . This is also supported with theory legitimacy Where companies will try to get trust from the public so that company will get image Good in society . There are big companies too that should have good governance. Where the commissioner's independent role is implemented he continued to supervise the management company For do spread emission carbon. Commissioner independent driving company For do transparency with method disclose information more for stakeholders such as spread emission carbon. Based on assumption on can taken hypothesis as following :

H1: Suspected Environmental Performance, Company Size and Commissioners Independent influential to Disclosure Carbon Emissions

One frequent information disclosed by the company is information about policy company to environment , because this matter is considered as the core of ethics business company (Septiani et al., 2019) . Environmental Performance is achievements obtained by a company in control of a problem environment as a result from implementation activity . Company with a good performance environment. Already should fulfil a standard environment that has been determined by the government via PROPER. Companies that comply with standard performance and a good

environment will drive companies to have more environmental strategies proactive. In this case the company has considered understanding and taking responsibility for everything activity operational, then from That company do spread the environment within it load related spread emission carbon. In accordance with theory legitimacy company with performance good environment tend do practice For fulfil trust public to proven company with do spread emission carbon. The results of research conducted by Maulidiavitasari and Yanthi (2021), Purnayudha and Hadiprajitno (2022) found that there exists a connection between the performance environment with spread emission carbon. Based on assumption on can taken hypothesis as following :

H2: Suspected Environmental Performance influential to Disclosure Carbon Emissions

Company size is something Scale Where can be classified big small something the company being measured using total assets , amount sales , value shares and so on (Ayu & Gerianta, 2018). Size companies describe big small companies that can be started with total active or number of sales clean . The more total activity size the company, the bigger the company. Based on the size of the company, shares become small and large, where big companies own more management complexes and have higher profit levels too (Purwasih, 2020).

The size size company can increase spread emission carbon, this is caused big size something company will possible company get more Lots attention from society. The connection with theory legitimacy is company will try For guard overall with public with method responsible answer on activity Its operations are large and provide impact more to environment with method do spread environment and distribution emission carbon . The research results that Firmansyah, et al (2021) prove that size companies are influential in spreading emission carbon. Based on assumption on so can taken hypothesis as following :

H3: Suspected Company size matters to Disclosure Carbon Emissions

Commissioner Independent is part of the governance functioning company. To do supervision to management companies to ensure that management has fulfilled all principle bases from a good governance system. Commissioner independent is member originating direction from outside company (no own connection affiliate with company) selected in a way transparent and independent, has Integrity and freedom from related influences with interest personal or other things, as well can Act in a way objective and independent based on governance principles company (Purwasih, 2020).

Commissioner independent in do he continued supervise activity operational including ensure transparency on reports related deployment carried out the company is also spreading environment for example spread emission carbon company. In accordance with stakeholder theory , proportions commissioner high independence will maximizing he continued in maintain governance good company so driving company For express transparency with disclose information more for stakeholders such as do spread emission carbon. Results of research carried out by Purnayudha & Hadiprajitno, (2022) proves that commissioners are independently influential in spreading emission carbon. Based on assumption on so can taken hypothesis as following :

H4: Suspected Commissioner Independent influential to Disclosure Carbon Emissions

METHODS

This research uses method associative with approach quantitative that is all data is in the form numbers . Research model analysis panel data regression with using EViews software version 9. Analysis panel data regression is combined from cross section data and time series data, where the cross section units are the same measured at different times.

Calculation Variable

Disclosure emission carbon be measured with use Carbon Emissions Disclosure Checklist. This Carbon Emissions Disclosure Checklist is a development carried out (Choi et al, 2013) from a questionnaire mentioned by the Carbon Disclosure Project. There are 18 indicators identified as measurement spread emission carbon . Indicator the register into (5) five categories measurement as following : risks and opportunities change climate (CC/Climate Change), house gas emissions glass (GHG/GreenHouse Gas), energy consumption (EC/Energy Consumption), reduction of house gas glass and costs (RC/Reductions and Costs) as well accountability emission carbon (AEC/Carbon Emission Accountability). measurement spread emission carbon based on research conducted by (Wiratno & Muaziz, 2020).

Environmental Performance be measured use PROPER rating given by the Ministry Enviroment with use index score received from research conducted (Suhardi, 2015) namely : Gold (very very good , score 5), Green (very good , score 4), Blue (good , score 3), Red (bad , score 2), Black (very bad , score 1), Nil (no no data, score 0).

Size company can be known with method count natural logarithm (Ln) of the average total assets (total assets) of the company . The use of total assets as a company size tool is based on research conducted (Firmansyah et al., 2021) .

Commissioner independent can be measured by comparing the proportion of commissioners independent with the number of board of commissioners in a way overall in the company . measurement the enter from study (Maulidiavitasari & Yanthi, 2021) .

Population and Sample

According to Sujarweni (2019:105) in (Pasaribu et al., 2023) the sample is part of a number of characteristics possessed by the population used for research . The population in this study is the whole company sector energy and sectors goods standards listed on the Indonesian Stock Exchange in 2018-2021. The sample is aging population, selection sample use based purposive sampling method criteria that have been determined , among other things:

1. Energy Sector and Raw Goods Sector Companies listed on the Indonesia Stock Exchange during period 2018 – 2021.
2. The company conducted an Initial Public Offering (IPO) on the Indonesia Stock Exchange before year research 2018-2021.
3. Presenting company report annually and or report stay in a way complete from 2018-2021.
4. Company by implied nor explicit disclose emission carbon (at least one brightness item emission carbon or related policies _ with emission carbon / house gas glass) in the annual report and/ or sustainability report of 2018-2021.

RESULTS

There are 165 companies that have become population on the object this research , then after that pass procedure election sample with a number of criteria 29 companies were selected that passed the election sample . The details election sample can seen in the table below.

Table 2 Procedure Sample Selection

Criteria	Number of Companies
Companies in the Energy Sector and Raw Goods Sector listed on the IDX for 2018-2021	165
Companies that conducted an <i>Initial Public Offering</i> (IPO) in B E I previously research year 2018-2021 .	137
Companies that present complete annual reports and/or longing reports from 2018-2021	118
The company implicitly or explicitly discloses carbon emissions (at least one item discloses carbon emissions or policies related to carbon/greenhouse gas emissions) <i>in the annual report</i> and/or <i>sustainability report</i> from 2018-2021 _	29
Year 2018-2021 observations	4
observation data (29 x 4)	116

Source : processed data researcher, 2023

Analysis statistics descriptive

In table statistics descriptive below shows variable spread emission carbon own mark maximum 94.44 with minimum score 5.55. Score for performance environment with mark maximum value 5 and minimum value 0. Maximum value variable size company 32.48 and a minimum value of 21.65. Then variables independent commissioners have mark maximum value 75.00 and minimum value 25.00.

Table 3 Analysis Results Statistics Descriptive

	Disclosure Carbon Emissions	Performance Environment	Company Size	Independent commissioner
Means	60.96743	2.025862	28.41450	42.73399
median	66.66667	3.000000	30.03332	40,00000
Maximum	94.44444	5.000000	32.48394	75,00000
Minimum	5.555556	0.000000	21.65310	25,00000
Std. Dev.	21.81340	1.949186	3.569431	11.56271
Inclination	-0.978689	0.076771	-0.717289	1.075423
Kurtosis	2.836775	1.310392	1.919485	3.266992
Observation	116	116	116	116

Source : Eviews 9 output data for 2023

Testing Hypothesis

Based on the coefficient test results determination (R^2) of table on produce mark amounting to 0.135603. These results show that whole variable independent that is performance environment, size companies, and commissioners independent give influence by 13% against variable depends that is spread emission carbon. Then the difference namely 87% influenced by other outside variables this research.

Table 4 Analysis Results panel regression data

Variable	Coefficient	Std. Error	t-Statistics	Problem.
C	-2.943781	24.41063	-0.120594	0.9042
KL	3.197199	1.318534	2.424813	0.0169
TO THE TOP	1.928839	0.791790	2.436049	0.0164
KI	0.061477	0.196417	0.312991	0.7549
Securities Specifications				
			elementary	
			school	Rho
Random cross section			10.88394	0.3095
Special random			16.25732	0.6905
Weighted Statistics				
R-squared	0.158152	Means var depends	36.48187	
Adjusted R-squared	0.135603	SD-dependent var	17.26505	
The sum of the squares is				
SE regression	16.05182	located	28858.03	
F-statistics	7.013573	Durbin-Watson Statistics	1.109718	
Problem (F-statistics)	0.000230			

Source : Eviews 9 output data for 2023

Influence of Environmental Performance , Company Size and Commissioners Independent to Disclosure Carbon Emissions

The results of the F test (simultaneous) show a mark of 0.000230. The value $0.000230 < 0.05$ which is significantly whole variable independent ie performance environment , size companies , and commissioners independent influential in a way simultaneously to variable depends ie spread emission carbon. Companies that own a performance good environment will be marked with a PROPER rating and will show that they care for a proven environment with a spread of volunteers to emit carbon. This condition will also be seen by the public as form concern company to environment. Size more companies will drive them to disclose carbon. Society has high hopes with more companies big For care to the environment that is to spread emission carbon. Proportion commissioner independent in the company influence A company do spread to the environment. Commissioner independent will supervise the company in operation, as well as his responsibility to impact the environment. This makes proportion commissioner high independence in A company will make companies do spread to the environment specifically emission carbon .

Influence performance environment to spread emission carbon

Partial t test results variable performance measured environment use score PROPER rating indicates mark significance of more than 0.0169 small from level meaning of 0.05 which is significant hypothesis second accepted. These results show that the more Good performance environment is for a company, then the more high level spread emission carbon is carried out. The company will show its concern with an increased performance management environment and information about performance companies related with the environment (Ulfa and Ermaya, 2019). Company with performance good environment will differentiate self with disclose information in a way volunteer about performance environment company they including information spread emission carbon. In accordance with theory legitimacy, the information disclosed by the company can give profit for company Because can obtain trust from public nor other parties so will give support full to society as well in the end will increase image company. The results of this study are consistent with research conducted by Maulidiavitasari and Yanthi (2021), Purnayudha and Hadiprajitno (2022) which states that the performance environment is influential in spreading emission carbon.

Influence size company to spread emission carbon

Partial t test results variable size proxy company using Ln total assets show mark significance of more than 0.0164 small from level meaning of 0.05 which is significant hypothesis third accepted. The results of this research show that more companies will tend to spread related emission carbon. On the contrary, the company is more small will more a little do spread related emission carbon. Big company more aware will not quite enough answer in disclose information carbon in a way volunteer that in is implementing activities, there are exists decline quality environment (Firmansyah, et al, 2021). This is because more companies big considered more capable in matter obtain profit so that activity operational the company is doing also more a lot and in the end company get demands social from public For do spread in a way volunteer to environment specifically spread emission carbon. In accordance with theory legitimacy Where company will try responsible answer to society and the environment for the company get image good on the eyes society. The results of this study are consistent with research conducted by Firmansyah, et al (2021) proves that size companies are influential in spreading carbon emission.

Influence commissioner independent to spread emission carbon

Partial t test results variable commissioner independently measured with compare amount commissioner independent with amount the entire board of commissioners in the company show mark significance of more than 0.7549 big from level meaning of 0.05 which is significant hypothesis fourth rejected. The results of this research show that proportion of commissioners independent in company No influence spread related emission carbon. Proportion of the board of commissioners independent No can increase function monitoring and dissemination report stay caused by member commissioner lots of independence not enough effective compared to with member commissioner independent in number more a little so that No capable give objective decision related spread emission carbon. The results of this study are consistent with research conducted Maulidiavitasari and Yanthi (2021) prove it that commissioner independent No influential to spread emission carbon.

CONCLUSION

The purpose of this research is to influence performance environment, size companies and commissioners independently to spread emission carbon in the company sector energy and sectors goods standard. Based on testing that has been done against 29 samples, company results study show that sevcara simultaneously performance environment, size companies and commissioners independently influential to spread emission carbon. Environmental performance and size are influential to spread carbon emission. Meanwhile, the Commissioner independent does not give influence to spread carbon emission.

Limitations

- Selected samples also a little so that not enough describe actual situation.
- A number of companies do spread carbon emission every year.

Suggestion

- Expected company more notice problem environment with make policy company for do spread emission carbon.
- Required control from the government for making regulations and standards in arranging practice spread emission carbon in Indonesia.
- To public I hope you come too supervise activity company so that the company more realize problem environment as well as implementation spread emission carbon.

- Study furthermore should add other variables into suspected testing that can influence spread emission carbon as well as can expand study with distance time research and use different samples in research spread emission carbon.

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