Analysis Of Carbon Emissions Disclosure And Firm Value: Type Of Industry As A Moderating Model

Mohammad Hardiyansah, Aisa Tri Agustini

Abstract: The aims of this study is to analyze the effect of carbon emissions disclosure on firm value and industry type as moderating variables. Carbon emissions disclosure is measured using the content analysis method adopted from a questionnaire issued by the CDP (Carbon Disclosure Project). Firm value is measured by Tobin's Q, while industry types are assessed based on company classifications namely high profile industry and low profile industry. This study uses multiple linear regression analysis, and uses 43 companies listed on the Indonesia Stock Exchange and follows the 2014-2018 company's performance rating assessment program in environmental management (PROPER). The first analysis shows that carbon emissions disclosure has a positive and significant effect on firm value. This is because carbon emissions disclosure is a form of corporate responsibility in reducing the impact of environmental damage from company activities, so this can be an attraction for investors. The second research result shows that the type of industry can increase the effect of carbon emissions disclosure on firm value. This is because companies in the high profile industry category that have a high level of sensitivity to the environment are under pressure from the public, so the company responds by conducting carbon emissions disclosure so that it can be a guarantee of the company's sustainability.

Index Term: Carbon Emissions Disclosure, Climate Change, Environment, Firm Value, PROPER, Type of Industry.

---

1. INTRODUCTION

The sustainability of a company's current life is largely determined by the company's ability to manage economic performance, social performance, and environmental performance (Juniarti, 2009). These three performances must be well collaborated by the company if the company wants to get support from various parties for the existence of the company. However, today there are still many companies that only focus on economic performance, so the company is focused on making profit. The company's orientation which is only on how the company obtains large profits will certainly have a negative impact on the environment because the company tends to exploit all available resources to make a profit. Data from the carbon disclosure project in 2013 showed that 50 out of 500 large companies in the world produced ¾ of a total of 3.6 billion metric tons of greenhouse gas emissions in the earth's atmosphere. The data shows that the company's activities have a big enough contribution to the amount of emissions that exist on earth so that it causes climate change that is so extreme that it threatens the sustainability of life on earth. The effects of climate change that are so extreme felt by the world community make the world community increasingly aware of the importance of protecting the environment. The community also demanded that various companies care about the environment due to the negative impacts arising from the company's activities. Choi (2013) explains that there are demands from many parties such as the public, the business world, and the government that pressures companies to respond to the impacts of climate change which threaten survival due to the negative impacts of company activities. Pressure from various parties directed at the company made the company start to think of ways to respond to this pressure. One way companies can do to respond to environmental issues is to conduct carbon emissions disclosure. Carbon emissions disclosure is a tangible manifestation of corporate responsibility to improve social inequality between the company and the community, and can reduce the impact of damage to the environment resulting from the company's operational activities that can produce carbon emissions. The more a company is responsible and cares for its environment, the company image will increase. This form of responsibility is expressed in carbon emission disclosure such as revealing the total energy consumed and the quantification of the use of renewable energy will provide greater benefits to the sustainability of the environmental ecosystem and ensure the survival of the current and subsequent generations.

Kelvin (2017) states that disclosure of the types of carbon emissions sources owned by the company such as equipment, vehicles or machinery will also provide benefits for management in determining the maximum asset management strategy. This management motivation for natural restoration will encourage companies to do more efficiencies such as making savings on electricity consumed and controlling emissions from burning boilers or biomass so as to reduce operating costs and bring profitability to companies that have an impact on company value. Investors will also be more inclined to invest their capital in companies that are well imaged by the public, this company's good image will make customer loyalty increase because the company cares and is responsible about the environment, so it can also increase the company's value.

About The Author

- *First Author*
  Name : Mohammad Hardiyansah
  Email : nadiyansah.97@gmail.com
  Department : Accounting
  Institution : University of Jember
- *Second Author*
  Name : Aisa Tri Agustini
  Email : aisa.agustini@gmail.com
  Department : Accounting
  Institution : University of Jember

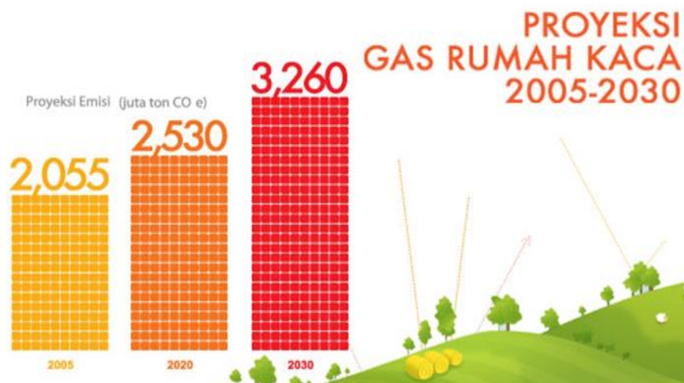

***Figure 1.1**: Projected Emissions in Indonesia (Source: Institute for Essential Services Reform)*

The figure above shows that the amount of carbon emissions produced in Indonesia, even in 2030, is predicted to reach 3,260,000 tons of emissions. Other data released by WRI (World Resource Institute) has placed Indonesia in the top six in the world as the largest carbon emitter producing country with an emission level of 1.981 billion tons annually. The amount of emissions that is so high in Indonesia makes the government make various efforts to reduce the amount of emissions, one of the efforts undertaken by the government is to issue government efforts related to reducing carbon emissions regulated in Presidential Regulation No. 61 of 2011 was also strengthened by the enactment of Presidential Regulation No. 71 of 2011 related to the implementation of a national greenhouse gas (GHG) inventory. Article 63 paragraph 1 point F explains the main purpose of disclosing information related to trends in emissions and absorption of greenhouse gases and carbon levels, including carbon storage at the district city, provincial, and national levels. The implementation of carbon emission disclosures in Indonesia at this time is only limited to voluntary disclosure which means that, in the stage of disclosure of carbon emissions is still voluntary and not binding, where the provision of information made by the company management related to carbon emissions is outside the requirements such as generally accepted accounting principles. This is also the reason why carbon emissions in Indonesia are quite high because there is no obligation for companies to disclose carbon emissions produced by companies. Although disclosure of carbon emissions is still voluntary, but with the pressure from the public to the company to respond to the issue of climate change due to the amount of emissions in the earth's atmosphere makes disclosure of carbon emissions an appropriate way for companies to respond to public pressure. Companies that can respond to public pressure by disclosing carbon emissions will certainly get some benefits such as a good image in the eyes of the public as a company that cares about the environment, so this can be an attraction for investors in the eyes of investors to invest in the company so that the company's value increases. Other benefits that can be obtained by companies that disclose the results of their carbon emissions are gaining legitimacy or recognition from the company's stakeholders, and can avoid for reduced operating costs, decreased demand from customers or markets, risk of bad image, legal process due to environmental damage, and fines, so that the value of a company that discloses carbon emissions can be optimal. Firm value reflects investors' perceptions of the company's management performance in managing the company. Delmas et al (2011) show that increased disclosure of carbon emissions has a positive influence relationship with company operational performance. Hobart (2006) shows that ROA has a positive and significant relationship to the value of the company which is assessed using the Tobins'Q ratio. The SRI-HAYATI Index puts 25 companies that disclosed carbon emissions in 2013 into the SRI-HAYATI index. The 25 companies were declared to have a share value of 10% higher than other companies listed on the IDX in 2013. Companies that have only focused on advancing their economic fields have made companies negligent, so that in the process of advancing their economic fields they tend to be out of balance with the company's willingness to care about the balance of the natural surroundings. The company seems to only exploit and extract natural resources in a wrong and uncontrolled way so that it impacts on natural damage which is quite severe. Therefore, in order to support the preservation of the environment carried out by the company, the Indonesian government held a program called PROPER (Program for Rating the Performance of Companies in Environmental Management). The existence of this program makes companies are required to be able to present special reports that can reveal and explain the company's contribution in managing and protecting the natural environment as a form of corporate social and environmental responsibility. PROPER is a program used by the government to assess the company's responsibility efforts in the company's business or activities in controlling environmental damage and pollution, as well as assessing the management of hazardous and toxic waste produced by the company. Companies that have a high level of sensitivity to the environment are companies in the high profile industry category. Roberts (1992) classifies companies with high-profile industrial types including food and beverage product companies, media and communications, energy (electricity), engineering, health, and transportation and tourism, other oil and mining companies, chemical, forest, paper, automotive, aviation, agribusiness, tobacco and cigarettes. Companies in this category will certainly receive special attention from stakeholders both government, society, and investors because the products they produce will have a direct impact that can damage the environment around the company. Therefore companies that enter into the type of high profile industry will be required to try to reduce the effects arising from their operational activities so that companies in this category are required to conduct carbon emissions disclosure. This is also reinforced by Choi's research (2013) which explains that voluntary disclosure of carbon emissions will be mostly done by companies that intensively in their operations produce emissions and the company is included in the high profile category, so that the type of industry can be a reference which companies actually have to carry out carbon emissions disclosure, as well as the disclosure of carbon

emissions done by the company will be captured as good news by investors and corporate stakeholders so that they will assess the company's performance is good in managing the company, investors will not hesitate to invest their capital so that the value the company will also increase. This research is expected to be a consideration for companies to conduct carbon emissions disclosure in response to environmental issues that are highlighted by the world today. Carbon emissions disclosure can be a tool for companies to communicate environmental concerns and responsibilities to the public so that carbon emissions disclosure can improve the company's image in the community. Carbon emissions disclosure can also be a material consideration for stakeholders in seeing the sustainability of the company. Companies that conduct carbon emissions disclosure will certainly avoid companies from lawsuits for damages caused by the company because this disclosure also requires companies to disclose the amount of emissions produced and the company's plans to reduce emissions. The government itself can also make the carbon emissions disclosure as a monitoring tool to companies related to emissions produced by the company so that the government can act on companies that produce very high emissions, so that the government's goal in controlling the amount of emissions in Indonesia can be achieved. Once the magnitude of public pressure on the threat of survival due to climate change can be a consideration for the government that carbon emissions disclosure which is still voluntary, policies can be made to require carbon emissions disclosure, especially for companies in the classification of high profile industries that have a high level of sensitivity to environment.

2. LITERATURE REVIEW

2.1 Tripple Bottom Line Theory

This theory was introduced by Elkington (1998) in which he revealed that the size of a company's success is not only seen from how good the company's financial performance is, but the size of the company's success must also be seen from the side of the economy at large which is also from the environmental and community aspects in which the company operates. This theory uses three elements of performance measurement namely Economic, Environmental, And Social (EES), or better known as Profit, Planet, And People (Tripple P).

2.2 Legitimacy Theory

Legitimacy theory focuses on the relationship of companies with the community that can be seen through policies issued by the government. This theory reveals that when viewed from the perspective of the organizational system, disclosure has an important role in facilitating the relationship between the company and the community (Gray et al, 1995). Legitimacy theory can clearly explain the purpose of disclosure of carbon emissions implemented by companies. Disclosure related to environmental performance is a form of corporate social responsibility to be able to obtain legitimacy from a group of communities that are around the company is located, and another goal is that the company can optimize the company's long-term potential in financial aspects. Recognition or legitimacy that companies expect from community groups is recognition that the company's operational activities are in line with values, norms, and social restrictions that apply in society (Deegan et al, 2006).

2.3 Carbon Emissions Disclosure

Information related to carbon emissions in Indonesia must be presented in the company's environmental responsibility report without considering monetary information related to costs and the acquisition of financing for the company's efforts to reduce carbon emissions. Statement of Financial Accounting Standards (PSAK) No. 1 in paragraph 9 states that: "companies can also provide additional reports such as about the environment and value added reports, especially for industries where environmental factors play an important role". In a broader context, the presentation of carbon emissions disclosures. Hendriksen (2001) can be divided into several types, namely adequate disclosure, fair value, and full disclosure.

2.4 Firm Value

Company value can be interpreted as a sum of money that buyers are willing to pay if at any time the company is sold. The value of the company can also be interpreted as an investor's view of the company's success in managing the company which is much associated with the profitability of the company and the company's share price. The value of the company can be perceived as having a high value if the share price is also high, as well as profitability which is one of the benchmarks for investors to invest.

2.5 Type of Industry

Robert (1992) classifies the types of company industries into 2 types namely high profile industry and low profile industry. The first type of industry that is high profile is a company that has high consumer visibility, high political risk, and a strong level of competition. Campbell, et al (2012) describe companies that enter into the type of high profile industry, namely when the company has a main product that can be dangerous or quite risky to health and has a negative impact on society. Companies that are classified as high profile industries are companies such as automotive, aviation, media and communications, energy (electricity), engineering, health, and transportation and tourism, oil and other mining, chemical, forest, paper, agribusiness, tobacco and cigarettes, food and beverage products. For low profile industry types are companies with low consumer veasibility and political veasibility. Companies that are classified as low profile include textile and textile products, personal products, and household products, building companies, finance and banking, medical equipment suppliers, property, retail companies.

2.6 Hypothesis

Tripple bottom line theory explains that a company must be able to collaborate with three basic pillars in the business world, namely profit, people, and planet. Carbon emissions disclosure can be said as one of the company's efforts to be able to collaborate the three pillars. The first pillar is profit, carbon emissions disclosure can be the company's efforts to prevent costs due to lawsuits because the company damages the environment. Carbon emissions disclosure can be a tool for companies to communicate their environmental responsibilities to the public so that the public will be interested in using company goods and services so that the company's profitability will also increase. The second pillar is people, it is clear that carbon emissions disclosure is part of

the company's response to public pressure exerted on companies to go down and reduce the impact of environmental damage. The third pillar is the planet, carbon emissions disclosure is a form of corporate concern in protecting the environment, where companies are also required to disclose the company's participation in reducing emissions produced by the company so that it does not have a negative impact on the environment. The main purpose of companies to conduct carbon emissions disclosure based on the theory of legitimacy is so that the company gets legitimacy from stakeholders. Stakeholders will certainly provide support for the establishment of companies that are able to be responsible and care for the environment by conducting carbon emissions disclosure. This support makes the company able to maintain the sustainability of the company's business. This is what is captured by investors as their consideration in investing. Of course, investors will choose a safe investment place, which is a company that prospects for business continuity will continue because it has the support of stakeholders because the company cares about the environment. Kelvin et al (2017) in his study of the company's financial statements in 2013 to 2015 showed that there was a positive influence of carbon emissions disclosure on financial performance and financial performance had a positive effect on firm value.

Hypothesis 1: Carbon emissions disclosure has a positive and significant effect on firm value.

Robert (1992) classifies the types of company industries into two types namely high profile industry and low profile industry. The first type of industry namely high profile is a company that has high consumer visibility, high political risk, and a strong level of competition. Companies with high profile industry type, are companies that have main products that can be dangerous and risk to health and have a negative impact on society. Different from the type of high profile industry that is described as getting high attention from the community because generally the company overrides security during the production process and has a significant impact on public safety and health. For the low profile industry type is a company that has low consumer veasibility and political veasibility. Industry types are predicted to strengthen the relationship between carbon emissions disclosure and company value. Tripple bottom line theory explains that companies do not stand alone and run their business for their own sake, namely to generate high profits, but the company must also provide benefits for the people (people) and protect the environment (planet). This is also reinforced by the theory of legitimacy which reveals that disclosure of carbon emissions is used by companies to get legitimacy from their stakeholders. The survival of a company will be largely determined by the support of corporate stakeholders, so that support must be sought and treated as part of the company's operational activities. Choi et al (2013) in their research showed that the level of disclosure of carbon emissions that is still voluntary tends to be greater disclosed by companies that intensively emit emissions such as energy into the high profile category, so that the type of industry has a positive influence on carbon emissions disclosure and companies that implementing carbon emissions disclosure.

Hypothesis 2: Type of industry can strengthen the relationship of the influence of carbon emissions disclosure on firm value.

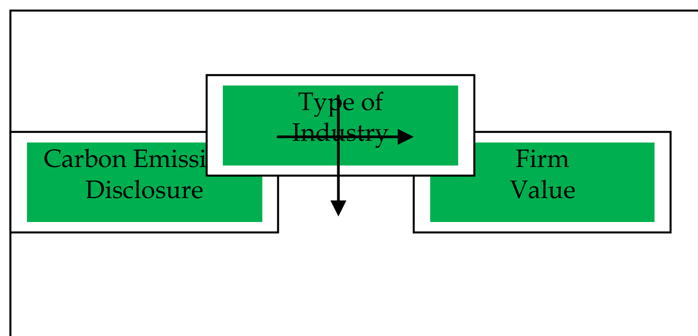

***Figure 2.1**: Conceptual Framework*

3. RESEARCH METHODS

3.1 Research Sample Criteria

Table 3.1
Sample Criteria

No.	Criteria
1	Companies listed on the Indonesia Stock Exchange (IDX) starting in January 2014.
2	Listed on the IDX until the end of December 2018, so it has published financial statements for the end of 2018.
3	Issued complete financial statements with an annual reporting period ending on December 31.
4	The company publishes a full annual report or sustainability report from 2014 to 2018.
5	The company explicitly carries out carbon emissions disclosure (covers at least one policy on carbon / greenhouse gas emissions or discloses at least one carbon emission disclosure item).
6	Companies are registered annually in environmental performance assessment with PROPER conducted by the Ministry of Environment from 2014 to 2018.

3.2 Research Variables

1) Independent variable

The independent variable in this study is carbon emissions disclosure. The measurement of carbon emissions disclosure in this study was conducted by means of content analysis. In order to know the extent of the disclosure of carbon emissions carried out by companies, the measurement parameters of carbon emission disclosure items are using an index adopted from the research of Choi et al (2013).

Table 3.2
Carbon Emissons Check List

Item	Category	Description
CC-1	Climate Change (CC): Risk and Opportunities	Assessments or descriptions of risks (rules or regulations either specific or general) related to climate change and the actions taken to manage those risks.
CC-2		Current (and future) assessments of the financial, business and opportunities implications of climate change.
GHG-1	Greenhouse Gas Emissions (GHG)	Description of the methodology used to calculate greenhouse gas emissions (e.g. GHG or ISO protocol).
GHG-2		Existence of external verification of the calculation of GHG emission quantities by whom and on what basis.
GHG-3		Total greenhouse gas emissions

		(metric tons of CO2-e) generated.
GHG-4		Scope disclosure 1 and 2, or 3 direct GHG emissions.
GHG-5		GHG emissions disclosure based on its origin or source.
GHG-6		Disclosure of GHG emissions by facility or segment level.
GHG-7		Comparison of GHG emissions with previous years.
EC-1	Energy Consumption (EC)	The amount of energy consumed (such as impression-joules).
EC-2		Calculation of energy used from renewable resources.
EC-3		Disclosure by type, facility or segment.
RC-1	Reduction and Cost (RC)	Details of plans or strategies for reducing GHG emissions.
RC-2		Details of current GHG emissions reduction target levels and emissions reduction targets.
RC-3		The reduction of emissions and the costs or savings that are currently being achieved as a result of the reduction plan.
RC-4		The costs of future emissions are considered in capital expenditure planning.
AEC-1	Accountability of Emission Carbon (AEC)	Indication that the board (or other executive body) is responsible for climate change-related actions.
AEC-2		A description of the mechanism by which the board (or other executive body) reviews the development of the related company.

Source : Choi et al (2013)

2) Dependent variable

The dependent variable used in this study is firm value. To assess the company's value variable is to use the Tobin's Q ratio. The following is Tobin's Q formula which was developed by Chung et al (1994) adjusted to companies on the IDX in measuring company value:

$$Q = \frac{(EMV + D)}{(TA)}$$

Information:

Q = Firm v[alue]
EMV = Marke[t value]
TA = Total assets
D = Total liabilities

The EMV value is obtained from the multiplication of the stock price at the end of the year (closing price) with the number of shares outstanding at the end of the year.

3) Moderating variable

The type of industry in this study is used as a moderating variable. The type of industry is measured based on the classification of industry types namely high profile industry and low profile industry and is assessed using dummy variables. Dummy variable is an indicator used to assess the type of industry in this study, namely by giving a score of 2 to companies that are categorized as high profile, and giving a score of 1 to companies that are categorized as low profile.

Table 3.3

Value of Industrial Type

Information	Skor Variabel	
	a) High Profile Industry	b) Low Profile Industry
If the company falls into the category:	2	1

4) Control Variable

This study uses two control variables namely profitability and leverage. The first control variable is profitability, Irwanhantoko (2016) explained that the higher the level of profitability, the better the company's financial performance. The better the company's financial performance, it can be said that the company has good financial ability to be able to implement carbon emission reduction strategies. For the profitability control variable in this study measured using the Return On Asset (ROA) ratio. The second control variable is leverage, which is a number of obligations that are used in funding or obtaining company assets to support the company's operations. Therefore companies that have a high level of leverage will tend to pay their obligations first compared to carrying out carbon emissions disclosures. This is because voluntary disclosure of carbon emissions will be considered as a burden on the company (Luo et al, 2013).

3.3 Analysis model

To test the research hypothesis that has been built, multiple linear regression analysis is used, ie the analysis is used to measure the strength of the relationship between two or more variables, and shows the direction of the relationship between the dependent variable and the independent variable. The following regression models used in this study:

1) The First Regression Model

$$FV = \alpha + \beta 1CED + \beta 2TI + \beta 3Pro + \beta 4Lev + e$$

2) The Second Regression Model

$$FV = \alpha + \beta 1CED + \beta 2TI + \beta 3Pro + \beta 4Lev + e$$

FV = Firm Value (Tobin's Q)
α = A Constant
CED = Carbon Emissions Disclosure
TI = Type of Industry
Pro = Profitability
Lev = Leverage
β = Value of the Coefficient Variable
e = Error Term

4. Empirical Results and Analysis

4.1 First Model Multiple Linear Regression Analysis Results

Table 4.1

First Model Analysis Results

Coefficients[a]

First Model	Unstand. Coefficients		Std. Coef.	t	Sig.
	B	Std. Error	Beta		
(Constant)	2,684	,177		15,126	,000
Carbon Emissions Disclosure	,122	,047	,131	2,571	,011
Type of Industry	,130	,178	,037	,727	,468
Profitability	,719	,052	,717	13,919	,000
Leverage	,206	,057	,180	3,622	,000

a. Dependent Variable: Firm Value

The statistical results above show that carbon emissions

disclosure has a positive t value of 2.571 which means carbon emissions disclosure has a positive effect on firm value with a coefficient value of 0.122. For the significance value of carbon emissions disclosure has a significance value of 0.011 so it can be concluded that carbon emissions disclosure has a significant effect on company value because the significance value is less than 0.05. Based on the results of these statistics it can be concluded that the first hypothesis namely carbon emissions disclosure has a positive and significant effect on firm value that is supported. The results of this study indicate that currently investors in investing in a company not only consider the level of profitability, but also see the extent to which companies care about the environment and are responsible for negative impacts on the environment due to company activities. The results of this study also support the tripple bottom line theory regarding the three basic pillars in business that companies must collaborate with, namely profit, people, and planet. The first pillar is profit refers to the company's ability to generate profits. Profit becomes an important pillar because the company seeks to gain profits to increase the company's resources in order to run the company's activities. Carbon emissions disclosure for companies must be seen as an opportunity and no longer a burden. Carbon emissions disclosure can be used as a tool for companies to improve the image in the community. A positive image of the company in the community will certainly make it easier for companies to market goods or services produced by the company because people will not hesitate to use the company's products or services that have a good image as a company that cares and is responsible for the environment by carrying out carbon emissions disclosure. Therefore, carbon emissions disclosure is an opportunity for companies to expand the market so that their income will also increase. The second pillar is people, carbon emissions disclosure is one way for companies to be able to respond to pressure from the community regarding the impact of environmental damage caused by the company. Companies that conduct carbon emissions disclosure will align goals with the public who want all parties to participate in reducing the impact of environmental damage that causes climate change that is quite extreme at this time. When the company and the community have the same goal to reduce the impact of environmental damage, surely the community will support the company's activities so that this will also be an advantage for the company to continue to run its activities as long as they protect the environment and receive support from the community. The third pillar is the planet, the term planet here is referring to the earth, the environment or nature. The relationship between the company and alah is a reciprocal relationship, where if the company maintains and does not damage nature, nature will provide benefits to the company in the form of resources and a stable business ecosystem because natural disasters will rarely occur if nature is truly preserved. Conversely, if companies damage nature, nature will have a negative impact on the company in the form of natural disasters that can damage the company's business ecosystem because it can destroy all the resources owned by the company. Therefore, the three basic pillars of profit, people, and the planet are the key to the company's business sustainability, when companies are able to collaborate with these three pillars, the company's business sustainability can be guaranteed. The legitimacy theory also strengthens the results of this study, explained in this theory that the main purpose of companies doing carbon emissions disclosure is to obtain legitimacy from stakeholders. This legitimacy can be interpreted as a recognition that the company in addition to standing for its own interests, but also meeting the interests of stakeholders to be able to reduce the impact of environmental damage. Companies that have already obtained legitimacy will certainly receive support from stakeholders for the company's existence as long as it does not damage the environment because the company has revealed its environmental responsibilities through carbon emissions disclosure. This is what makes companies that conduct carbon emissions disclosure have high company value. This is because the value of the company which is seen from the company's stock price which means it is related to investors, then carbon emissions disclosure can be an attraction for investors to invest in the company. Investors assume that the company cares about the environment, responds to pressure from the public, and obtains support from stakeholders for conducting carbon emissions disclosure. This is what affects investors' perceptions because what companies do with carbon emissions disclosure can guarantee the sustainability of the company's business, so investors assume that the company is a safe place to invest. The results of this study are also in line with the results of research conducted by Kelvin et al (2017), in his research on the company's financial statements in 2013 to 2015 showed that there was a positive effect of disclosure of carbon emissions on financial performance and financial performance had a positive effect on firm value . This is because the community realizes that it is important to protect the environment, so that the community will encourage every company's efforts to reduce the impact of environmental damage. This effort will certainly be reflected in the carbon emissions disclosure made by the company, so that the public will also not hesitate to use the company's products. This is what is captured by investors as positive information because the company is able to be responsible for the environment and has a good image in the community so that people provide support to the company.

4.2 Second Model Multiple Linear Regression Analysis Results

Table 4.2

Second Model Analysis Results

Coefficients[a]

Second Model	Uns. Coef.		Std. Coef.	t	Sig.
	B	S. Error	Beta		
(Constant)	2,688	,147		18,284	,000
CED*TI	,276	,100	,138	2,759	,006
Profitability	,719	,050	,717	14,266	,000
Leverage	,206	,057	,180	3,638	,000

a. Dependent Variable: Firm Value

The statistical results above show that the carbon emissions disclosure variable after multiplied by the type of industry as a moderating variable has a positive t value of 2.759 which means it has a positive effect. The significance value also shows a value of 0.006 which means it has a significant effect because the value is below 0.05. The coefficient of variable carbon emissions disclosure after multiplied by the type of industry to be 0.276 while in the results of the first analysis in table 4.1 when the variable carbon emissions disclosure has not been multiplied by the variable industry type only has a coefficient value of 0.122 so that an increase in the coefficient

of 0.154 after multiplied by the variable the moderator is the industrial type. The increase in the coefficient value indicates that the moderating variable has an influence to further strengthen the relationship of the influence of carbon emissions disclosure on firm value. Therefore based on the results of the second model of multiple linear regression test shows that the second hypothesis, namely the type of industry can strengthen the relationship of the influence of carbon emissions disclosure on company value that is supported.

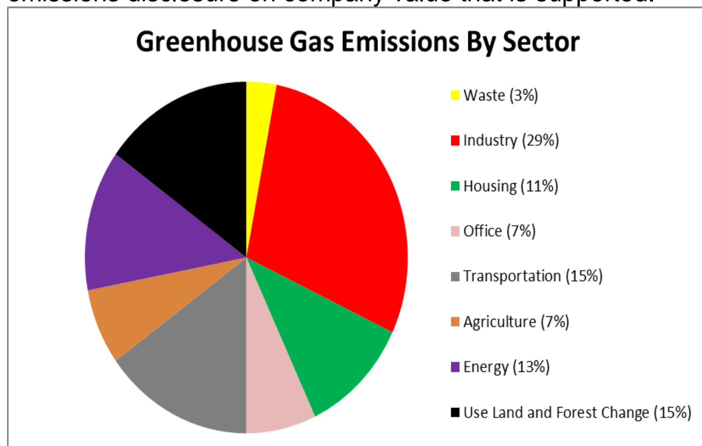

Figure 4.1: *Grenhouse Gas Emissions by Sector (Source: Johanesburg Renewable Energy Coalition, 2012)*

From Figure 4.1, it shows that 29% of greenhouse gas emissions on earth come from industrial sectors which are classified based on two types of industries namely high profile industry and low profile industry (Robert, 1992). High profile industry types are companies that have high consumer visibility, high political risk, and a high level of competition. Campbell, et al (2012) describe companies that enter into the type of high profile industry that is when the company has a main product that can be dangerous or quite risky to health and has a negative impact on society and the environment. Companies that are classified as high profile industries are companies such as automotive, aviation, media and communications, energy (electricity), engineering, health, and transportation and tourism, oil and other mining, chemical, forest, paper, agribusiness, tobacco and cigarettes, food and beverage products. Campbell, et al (2012) explained that if a company produces its main product which has a bad image, as well as the cigarette company, legitimacy will be difficult to obtain for the company in the eyes of its stakeholders. For the type of high profile industry type has a strong goal to be able to show social responsibility as a form of compensation or company compensation for failure to realize the wishes and expectations of the community that can result in the loss of social contracts between the company and surrounding communities. The high profile industry also has a very high political risk, and therefore the company will receive a big spotlight from the government regarding the wealth transfer process. The wealth transfer process in question is a process of social and environmental responsibility carried out by the company. Based on the theory of legitimacy, companies in the high profile category that conduct carbon emissions disclosure have the aim to meet the pressure from stakeholders to care about environmental issues so that they get legitimacy from stakeholders as companies that care about the environment. This is because carbon emissions disclosure is a tool for companies to communicate their environmental responsibilities to stakeholders. Tripple bottom line theory also explains that corporate social responsibility must be based on three main principles namely Economic, Environmental, And Social (EES) or other terms are Profit, Planet, And People (Tripple P). Choi et al (2013) showed that the level of carbon emissions disclosure which is still voluntary tends to be greater disclosed by companies that intensively emit emissions such as energy that fall into the high profile category, so that the type of industry has a positive influence on carbon emissions disclosure and companies that implement carbon emissions disclosure. The industrial sector which accounts for 29% of total world emissions will certainly make the public pay more attention to companies, especially companies in the high profile industry category because they have a high level of sensitivity to the environment. Therefore, companies in that category are under pressure to be responsible for the amount of emissions produced and the company realizes that the public pressure on companies is so strong and makes the image of the company in the eyes of the public quite low because according to the data available companies in this category have actually been responsible for a large amount of carbon emissions in the earth's atmosphere. Therefore companies in the high profile category are trying to improve that image by responding to various pressures from the public to reduce the impact of environmental damage caused by company activities and how to respond is to do carbon emissions disclosure. This will be good news for investors because investors will assume that the company is aware of the enormous environmental impact, but the company is also trying to reduce the environmental impact and be responsible by carrying out carbon emissions disclosure, so investors will be interested in investing because the company has responded to pressure the public in the right way, so that the public instead turns around giving a positive response and gives the impression that the company has a good image because it cares about the environment. Another thing that makes stakeholders pay high attention to companies in the high profile category is the possibility of companies being entangled in lawsuits which is quite high because companies in this category have a high level of sensitivity to environmental damage. Therefore the motivation of companies in the high profile category to conduct carbon emissions disclosure in addition to improving the company's image, is to avoid applicable lawsuits. The company strives to avoid such large fines that will have an impact on the company's financial stability. Other penalties that can be received by the company are administrative sanctions in the form of revoking the company's business license. This shows that carbon emissions disclosure will be seen by company stakeholders as the company's seriousness in contributing to reduce the impact of environmental damage. Carbon emissions disclosure in it demanding companies to map risks and corporate strategies in making efficient use of energy, so it can be concluded that carbon emissions disclosure is the company's efforts to maintain sustainability that will be responded well by stakeholders, especially investors to be more confident in investing their funds in the company. The results of this study are in line with the research of Choi et al (2013) which shows that the level of disclosure of carbon emissions that is still voluntary tends to be greater disclosed by companies that intensively emit such as energy that is included in the high profile category, so that the type of

industry has a positive influence on carbon emissions disclosure and companies that carry out carbon emissions disclosures. This is because companies in the high profile category which are the types of companies that have a high level of sensitivity to environmental damage are under high pressure from stakeholders to care about the environment by conducting carbon emissions disclosure. This is inversely proportional to companies in the low profile category because the company's activities do not directly have a major impact on the environment so that it does not get too much pressure from stakeholders.

5. CONCLUSSIONS, LIMITATIONS, AND SUGGESTIONS

The aims of this study was to analyze the effect of carbon emissions disclosure on company value and industry type as moderating variables. The results of this study indicate that carbon emissions disclosure has a positive and significant effect on firm value. This is because based on the tripple bottom line theory which explains that companies must be able to collaborate with three basic pillars in business namely profit, people, and planet. Carbon emissions disclosure is one way for companies to collaborate with these three basic pillars, because carbon emissions disclosure is a form of corporate responsibility to the environment in responding to public pressure that the company will get a good image and with this image the company can easily expand the market. The results also show that the type of industry can strengthen the relationship of the influence of carbon emissions disclosure on firm value. This is because based on the theory of legitimacy, companies that conduct carbon emissions disclosure are to get legitimacy from stakeholders. This legitimacy is difficult for companies to obtain because the industrial sector is one of the largest emitter producing sectors in the world, so companies especially in the high profile industry category get a lot of attention and pressure from stakeholders because companies in this category have a high level of sensitivity to the environment. The limitation of this study is the tendency of a high level of objectivity from researchers in assessing the carbon emissions disclosure variable. This is because carbon emissions disclosure in Indonesia is still voluntary disclosure so there is no definite reference. Therefore, researchers will have difficulty determining whether or not a paragraph expressed by the company is included as carbon emissions disclosure. Suggestions for further research is to reduce the high level of objectivity of researchers in assessing carbon emissions disclosure should be more careful and thorough in understanding each paragraph expressed. Another thing that can be done to reduce the level of objectivity of researchers is to be assisted by research assistants or request reviews from people who are experts on carbon emissions disclosure.

REFERENCES

(1) Campbell, N.A., Reece, J.N., Urry, L.A., Cain, M.L., Wasserman, S.A., Minorsky, P.V., Jackson R.B. (2012). Biology Eighth Edition Volume 3 (Translation by Damaring Tyas Wulanday). Jakarta: Erlangga.

(2) Choi, B. B., Lee, D., dan Psaros, J. (2013). An analysis of Australian Company Carbon Emission Disclosures. Pacific Accounting Review. Vol. 25. No. 1. Pp. 58-79.

(3) Chung K. H. and Pruitt S. 1994. A Simple approximation of Tobin's Q, Financial Management. Vol. 23-3. Pp. 70-74.

(4) Deegan, & Unerman. (2006). Financial Accounting Theory. McGraw-Hill.

(5) Delmas, M. A. dan Nairn-Birch, N. S. (2011). Is the Tail Wagging the Dog? An Empirical Analysis of Corporate Carbon Footprints and Financial Performance. Working Paper Series. UC Los Angeles: UCLA Institute of the Environment and Sustainability.

(6) Elkington, J. (1997). Cannibals with Forks The Triple Bottom Line of 21st Century Business. Oxford: Capstone Publishing Limited.

(7) Gray, R., Kouhy, R., and Lavers, S. (1995). Corporate Social and Environmental Reporting. Accounting, Auditing & Accountability Journal. Vol.8. No.2. Pp. 47-77.

(8) Hendriksen, Eldon S. 2001. Accounting Theory. Edition 5. Translation of Nugroho W of Accounting Theory. Jakarta: Penerbit Erlangga.

(9) Hobart, L. L. (2006). Modeling the Relationship Between Financial Indicators and Company Performance - An empirical study for US listed companies. Dissertation. France: Vienna University of Economics And Business Adminis tration.

(10) Irwanhantoko. (2016). Carbon Emission Disclosure: Studi Kasus Pada Perusahaan Manufaktur Indonesia. Surabaya: Univesitas Airlangga.

(11) Juniarti dan Sentosa, A. A. (2009). Pengaruh Good Corporate Governance, Voluntary Disclosure terhadap Biaya Hutang (Costs of Debt). Jurnal Akuntansi Dan Keuangan. Vol. 11. No. 2. Pp. 88-100.

(12) Kelvin, C., Fransiskus E.D., dan Suwandi N.G. (2017), Pengungkapan Emisi Karbon Sebagai Mekanisme Peningkatan Kinerja Untuk Menciptakan Nilai Perusahaan. Jurnal Keuangan dan Perbankan. Vol. 6. No. 1. Pp. 1-18.

(13) Luo, Le, Qingliang Tang, Yi-Chen Lan. (2013). Comparison of Prospensity for Carbon Disclosure between Developing and Developed Countries. Accounting Research Journal. Vol. 26. No. 1. Pp. 6-34.

(14) Presidential Regulation of the Republic of Indonesia Number 71 Year 2011: Regarding the Implementation of the National Greenhouse Gas Inventory.PSAK Number 01 (Revision 2009).

(15) Roberts, R.W. (1992). Determinants Of Corporate Social Responsibility Disclosure: An Application Of Stakeholder Theory. Accounting Organisations and Society. Vol. 17. No. 6. Pp. 595-612.