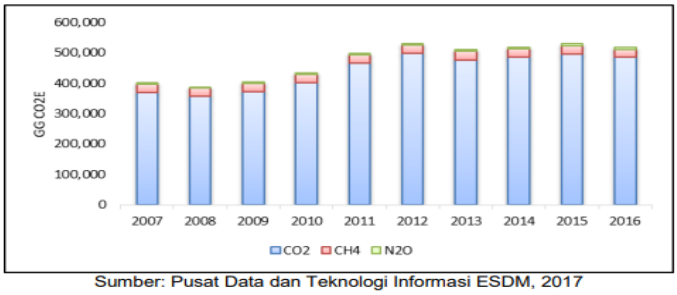
CHAPTER I

INTRODUCTION

1.1 Background of the Research

Global warming is one of the phenomena that threatens the survival of life on earth by increasing the temperature of the earth from year to year due to the effect of greenhouse gases, causing an increase in the release of harmful gas emissions and thus solar energy will be trapped in the earth's atmosphere (Anggraeni, 2015). Greenhouse gases are a collective term given to gases that can cause a greenhouse effect, including carbon dioxide (CO_2), ozone (O_3), water vapor (H_2O), methane (CH_4), chlorofluorocarbons (CFCs), nitrous oxide (N_2O). and others (Pratama, 2019).

Carbon dioxide (CO2) is the main factor causing greenhouse gases because the gas content is most commonly found in the atmosphere with a concentration of 410 ppm in 2019 (EPA, 2021; IPCC, 2021). Based on data from the Ministry of Energy and Mineral Resources (2017), in 2007-2016 GHG emissions by type of GHG indicate that carbon dioxide is the largest contributor to GHG emissions. This can be known in the image below.



Sumber: Pusat Data dan Teknologi Informasi ESDM, 2017

Figure 1. 1 GHG emissions by type of GHG

According to Global Climate Change, global warming as a result of rising levels of greenhouse gases will continue to affect the condition of the earth in the future. An increase in the earth's temperature will have an impact on rising global temperatures, rising sea levels, reducing snow cover, melting glaciers, and warming the Arctic continent. The Intergovernmental Panel on Climate Change (IPCC) in a report submitted in 2018 in Incheon (South Korea) stated that there must be courage to suppress current carbon gas emissions because in the next 12 years the fate of the earth and human life will be determined by the possibility the earth will experience an increase in temperature reaching 1.5 degrees Celsius which threatens food security and human health and triggers extreme disasters (IPCC, 2018).

In 2017, Indonesia produced carbon dioxide emissions as much as 1.3% of total global emissions and ranks 12th as a country that contributes the most carbon dioxide emissions. According to a professor of Earth Sciences from Stanford University and Chair of the Global Carbon Project named Rob Jackson (CNN Indonesia, 2019), the world's carbon dioxide emissions reached a record high peak in 2019 which reached 37 billion tons. According

to data held by the World Resources Institute (WRI) in 2020, Indonesia ranks eighth among the world's largest emitters of greenhouse gases, with annual CO_2 emissions of 965.3 Mt CO_2e.

Following up on the issue of global warming, the United Nations Climate Change Conference (UNFCCC) was established in the United States in 1992. This organization aims to regulate the stability of GHGs so that they do not reach dangerous levels for the earth's climate. The UNFCCC held the third Conference of the Parties (COP) in Kyoto, Japan in 1997 which resulted in the Kyoto Protocol. Where the leaders of countries in the world signed a protocol containing the commitments of participating countries to reduce CO_2 emissions.

The UNFCCC again produced the latest international agreement at the 21st COP, namely the Paris Agreement which contains how to deal with mitigation, adaptation, and financing of greenhouse gas emissions starting in 2020. The goal of the Paris Agreement is to prevent the increase in global temperature which is increasing every year. This agreement also has the goal of increasing transparency on the actions of developing and developed countries in reducing their carbon emissions. There are a total of 146 countries from related parties that have ratified or approved the agreement, including three of the four countries with the largest GHG emissions in the world, namely China, the United States and India, which account for about 42% of total global emissions (UNFCC, 2016).

Global warming caused by the increase in carbon dioxide emissions in the world is in line with the development of the industrial world in recent years. This is in line with Helda et al., (2018) which states that industrial development can cause an increase in carbon emissions. According to Saka & Oshika (2014) activities carried out by humans related to industrial and business activities can be the cause of greenhouse gas emissions that have an impact on global warming. Global warming is influenced by human unconsciousnes of the environment from industrial activities where with the growth of an increasingly advanced industry, pollution resulting from industrial activities will also increase, or industrial production process activities that not only cause air pollution but also water pollution at a dangerous level (Agustia et al., 2019). So that the growth of the industry will be positively correlated with the increase in emissions from the company's operations.

The company not only contributes to the economic cycle for suppliers of goods and services but also produces pollution and emissions to the surrounding environment. With higher emission levels, companies are receiving a lot of pressure from various parties, including the community, so that companies can respond properly to the issue of global warming due to the increasing amount of carbon dioxide emissions that come from the company. This makes the business paradigm shift, shifting from a single bottom-line (profit) to a triple bottom-line (profit, people, and planet) where in this paradigm the company's contribution to the environment will play an

important role. The change in the business paradigm to a triple bottom line will make investors pay attention to companies about how they are responsible for protecting the environment. With this kind of attention, of course, it will relate to the value of a company, because investors in assessing the company not only on financial operations but also on the company's responsibility to the environment.

Companies will try to build the impression that their company is not only focused on profit, but will also be responsible for the community and the surrounding environment. One way the company builds this impression is by disclosing information that can be presented by the company as a form of responsibility to the environment, namely carbon emission disclosure. According to Akhiroh & Kiswanto (2016), carbon emission disclosure is a form of the company's contribution to environmental change, especially global warming. This carbon emission disclosure contains a collection of quantitative and qualitative information relating to the company's past and estimated carbon emission levels, financial exposures and impacts of risks and opportunities related to climate change, and actions to address these risks and opportunities.

Carbon emission disclosure by companies can make it easier for stakeholders to make decisions about the company's carbon emission performance and pressure companies to reduce their carbon emissions, and contribute to publicly held discussions on climate change policies and regulations. This disclosure can be used as consideration by investors in

making investments where companies that provide information on carbon emissions will have a value from investors' views that company management has the ability to manage the environmental impacts of their company's operations. Where the decisions of investors in investing will certainly have an impact on firm value.

In addition to carbon emission disclosure, companies are also required to have good environmental performance for real efforts to reflect the company as a form of responsibility to the surrounding environment. Environmental performance is an assessment of the relationship between a company and its environment which includes environmental impacts on the use of resources consumed by the company, environmental impacts on company operational processes, environmental impacts on products or services produced by companies, as well as environmental restoration and processing of products that meet legal requirements.Therefore, companies that have good environmental performance will get a good reputation from their stakeholders.

Environmental performance is made in the form of a rating system by an authorized institution related to the environment and is assessed by an independent external party. The government is one of the parties that can assess, supervise, direct or impose sanctions if a company damages the environment. Indonesia through PROPER which is an environmental rating program from the Ministry of the Environment ranks companies based on the environmental performance of each company so that they can be compared

and become corrections for the company. The PROPER rating aims to invite all parties within the company to work together in terms of reducing the impact of environmental damage due to the company's operations. The PROPER rating can be described as a company's accreditation rating for environmental concerns.

Based on the PROPER rating issued by the ministry of the environment in 2017-2021, most of the basic and chemical industry sector companies are ranked third and fourth or also called blue and green rankings. This shows that there are no basic and chemical industry sector companies that get a rating of five or gold. In the sense that no basic and chemical industry sector company is in the best rank in PROPER performance. This makes the company strive to be the top one in the PROPER rating. Because the higher the PROPER rating level, the better the company's image will be. This will be good news for investors, so it will increase investor interest and have a positive effect on company value (Suka, 2016).

Companies in carrying out their responsibilities towards the environment must make improvements to the management and control of environmental impacts in a sustainable manner, in this case, the company can use environmental management tools, namely the ISO 14001 Environmental Management System which is an internationally recognized standard for the development of an environmentally friendly environmental management system (Ong et al., 2016). The International Organization for Standardization (ISO) is the organization that issues the international standard ISO 14001 on

Environmental Management Systems (EMS). Basically, ISO 14001 is a voluntary environmental management standard (Rahmawati, 2018).The economic benefits that can be obtained from EMS ISO 14001 include improving overall environmental performance, generating a framework for pollution prevention, increasing work efficiency and potential cost savings, and improving the company's image (Sueb & Keraf, 2014).

The implementation of ISO 14001 in companies there are several reasons for implementing ISO 14001, the main reason is to improve the company's image, increase employee participation, and reduce environmental pollution and consumer demands. By implementing ISO 14001 the company experienced a 20% reduction in environmental pollution. The overall goal of implementing the ISO 14001 Environmental Management System as an international standard is to support environmental protection and pollution prevention in balance with socio-economic needs. With a positive image obtained from the community, the company's sustainability in the future will be more guaranteed (going concern), even the company will have the opportunity to increase its profits, so as to increase firm value (Subekhi & Pujotomo, 2014). Therefore, the implementation of ISO 14001 is important for the company.

The responsibility carried out by the company towards the environment certainly requires costs in the activities it carries out. The costs incurred in carrying out these environmental activities are called environmental costs. Environmental costs include internal and external costs related to

environmental damage and one of the environmental protection and preservation efforts carried out by the company as a form of responsibility. The allocation of the company's environmental costs in the short term does seem to be a burden and reduce profits for the company. However, if viewed for the long term it can be energy saving, monitored and controlled environmental damage, continuous environmental improvement, increased company productivity, a positive image of environmentally friendly companies and ultimately can increase company profits which will have an impact on increasing firm value (Dewi, 2014).

Previous research by Toly (2019) on the impact of carbon emission disclosure and environmental performance on firm value shows that carbon emission disclosure and environmental performance has a positive impact on firm value. Consistent with this, research conducted by Hardiyansah & Agustini (2021) shows that carbon emission disclosure has a positive and significant effect on firm value, and environmental performance can increase the relationship between carbon emission disclosure and firm value. In contrast to this study, research by Izmar & Anni (2021) and Kurnia et al. (2020) shows that carbon emission disclosure has a negative impact and does not directly affect the value of the company. Sawitri & Setiawan (2017) show that environmental performance has no effect on firm value.

Based on several research results that have been mentioned previously, there are varied results that indicate a research gap. Therefore, researchers are interested in re-examining the effect of carbon emissions disclosures and environmental performance on firm value. In contrast to previous studies, in this study, the researchers added two independent variables related to the environment to test the effect of these variables on firm value, namely ISO 14001 and environmental costs. And to ensure the research variable remains constant, the researcher adds two control variables, namely firm size and firm age. Firm size or the size of a company can be measured through a company size proxy. Where the company size proxies are gross revenue, the number of employees, total assets, total sales, and market value of equity. Then the age of the company shows the beginning of the company's establishment until the company is able to operate or is still running its business activities.

In this study, researchers used the basic and chemical industrial sectors. Where the Minister of Industry (Menperin) Hidayat (2010) said that the industry itself has 3 sources of greenhouse gas emissions, namely the use of energy about 40%, and the rest comes from process technology and industrial waste. Several industries that are classified as energy-hungry consume more than 6,000 TOE of energy and absorb 80% of the total energy of the industrial sector, including the cement industry, steel industry, pulp & paper industry, industrial textiles, ceramics industry, fertilizer industry, petrochemical industry, certain food, and beverage industry. This is in line with Saleh (2016) who stated that the cement, steel, fertilizer/petrochemical, pulp &

paper, ceramics, textile, food and beverage industries are energy-hungry industries.

Based on the report on energy needs in the Indonesian pulp and paper industry (2019), around 70% of energy in the industrial sector is used by the eight industries that use the most energy, namel y the steel industry, cement industry, fertilizer industry, ceramics, and glass industry, pulp and paper industry, textile industry, chemical industry, and food and beverage industry. Based on Indonesia's energy outlook report (2019), there are 6 (six) industrial sub-sectors that consume the most energy, namely the cement, metal, food and beverage, fertilizer, ceramics and paper industries. The total energy demand in these six industries will reach 87% of the total energy use in the industrial sector. The development of energy demand in the six major industrial sub-sectors is shown in the figure below.

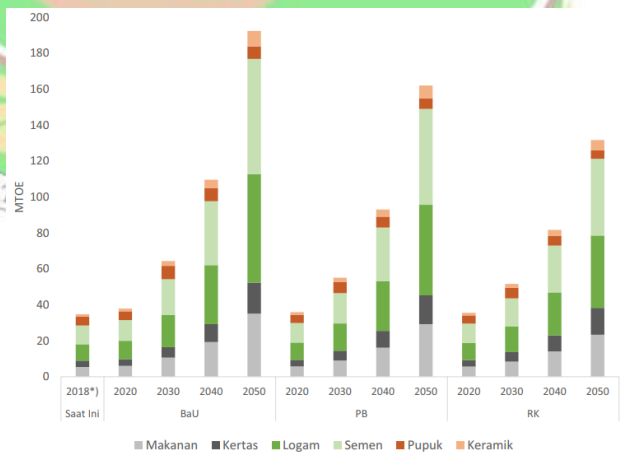


Figure 1. 2 The development of energy demand in the six major industrial sub-sectors

Source: Laporan Outlook Energi Indonesia (2019)

Energy demand in Indonesia is dominated as fuel for power generation which is dominated by coal use and is expected to increase driven by economic development and a fast-growing population. This is in line with the report on Energy Demand in the Indonesian Pulp and Paper Industry from the Data and Information Center of the Ministry of Industry (Pusdatin Kemenperin) in 2019, the use of fossil energy is dominated by coal, which is 76.5% or around 6.577.804 tons per year (for low rank coal). Meanwhile, natural gas is around 20% or 32.619.994 mmbtu.

The use of coal in the basic and chemical industrial sectors is used to fuel boiler processes, kilns, smelters and as raw materials and as fuel for power plants. The high demand for coal for fuel and raw materials is what causes an increase in the level of carbon emissions that cause global warming. Where carbon dioxide (CO_2) produced from the coal combustion process, accumulates in the earth's atmosphere, causing the greenhouse effect, which leads to global warming. This is in line with Djamaluddin (2021), Director General of Mineral and Coal of the Ministry of Energy and Mineral Resources (ESDM) who revealed that of the total 1,262 Giga Tons of CO2 emissions produced in Indonesia, as much as 35% came from coal power plants. With such a large number of emissions, emission management must be immediately boosted, where currently 80% of coal is for power generation.

Emissions produced by coal that go through the combustion process for power generation are very large. However, the use of coal is still unavoidable because the price is still considered the cheapest to produce electricityWe can

known in the table detailing the realization of DMO coal consumption in 2019 below that coal demand is very high.

Table 1. 1 DMO Coal Consumption Realization

No	Industry/Company	Amount (Ton)
1	Electricity	98.55
2	Briquettes	0.01
3	Paper	1.07
4	Metallurgy/Smelters	10.06
5	Fertilizer	0.91
6	Cement	3.33
7	Textile	0.38
8	Etc	3.97
9	The user industry has not been identified	20.14
Total		138.42

Source: Laporan Kinerja Tahun Direktorat Jenderal Mineral Dan Batubara (2020)

Based on this explanation, we can known that industries belonging to the basic and chemical industrial sectors such as the cement, ceramics and glass, as well as pulp and paper industries are energy-consuming industries that use coal as fuel for power generation.

Based on the explanation and description above, the researcher is interested in conducting research with the title "**The Influence Of Environmental Aspects On Firm Value (Study of Basic And Chemical Industrial Sectors Companies listed on the Indonesia Stock Exchange For The 2017-2021 Period)**"

1.2 Problem Statement

Based on the above background, the authors formulate the main problems in this study are:

1. How does Carbon Emissions Disclosure effect firm value in basic and chemical industrial sectors companies listed on the IDX for the period 2017-2021?
2. How does Environmental Performance effect firm value in basic and chemical industrial sectors companies listed on the IDX for the period 2017-2021?
3. How does ISO 14001 effect firm value in basic and chemical industrial sectors companies listed on the IDX for the period 2017-2021?
4. How do Environmental Costs effect firm value in basic and chemical industrial sectors companies listed on the IDX for the period 2017-2021?

1.3 Objective of the Research

Based on the background and problem formulation that have been stated previously, the objectives of this research are as follows:

1. To examine the effect of carbon emission disclosure on firm value in basic and chemical industrial sectors companies listed on the IDX for the period 2017-2021.
2. To examine the effect of environmental performance on firm value in basic and chemical industrial sectors companies listed on the IDX for the period 2017-2021.

3. To examine the effect of ISO 14001 on firm value in basic and chemical industrial sectors companies listed on the IDX for the period 2017-2021.
4. To examine the effect of environmental costs on firm value in basic and chemical industrial sectors companies listed on the IDX for the period 2017-2021.

1.4 Contributions of the Research

This research is predicted to provide the following benefits:

1. For Researchers

   This research is a place to apply the knowledge and theory that has been gained during lectures and to add insight and knowledge regarding carbon emission disclosure, environmental performance, ISO 14001, and environmental costs and their impact on firm value.

2. For Companies

   The results of this research can be used as a material for consideration and reference for determining the policies that will be taken by the company and making decisions regarding the carbon emission disclosure, environmental performance, ISO 14001 and environmental cost their impact on firm Value.

3. For Investors

   The results of the study can be used as consideration by investors to make investment decisions for the company

4. For Further

   The results of this study can be used as a reference in conducting research related to the topic of the effect of carbon emission disclosure, environmental performance, ISO 14001, and environmental costs on firm value, so that future research can be carried out.

1.5 Scope of the Research.

The scope of the problem in this study examines the effect of carbon emission disclosure, environmental performance, ISO 14001, and environmental cost on firm value in basic and chemical industrial sectors companies listed on IDX. In this study, the period used is 2017 - 2021.

1.6 Systematic Writing

This research is divided into five chapters to make it easier and moderate the forwarding of content. They are as follows:

CHAPTER I INTRODUCTION

This chapter consists of an explanation of the research background, problem formulation, objectives, benefits of research, and systematic writing

CHAPTER II: LITERATURE REVIEW

This chapter consists of theories related to the problems raised in this study, a review of previous research, research frameworks, and research hypothesis development.

CHAPTER III: RESEARCH METHODS

This chapter covers the types of research, research locations, research subjects and objects, data collection methods and sources, data processing and analysis methods.

CHAPTER IV: RESULTS AND DISCUSSION

This chapter will explain the analysis and results of hypothesis testing and discuss the results obtained.

CHAPTER V: CONCLUSION

This chapter discusses the conclusions that can be drawn from the outcomes of the study, their implications, limitations of the study and suggestions.