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CARBON EMISSIONS DISCLOSURE: A CONCEPTUAL STUDY

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Abstract

Long-term changes in local, regional, and global weather patterns brought on by human activity are referred to as climate change. Since the early 20th century, observations of climate change have been conducted, and the findings show that human activity—specifically, the combustion of fossil fuels—is the primary factor accelerating climate change. The purpose of this study is to demonstrate how gender diversity on the board of directors, firm size, and independent commissioners affects the disclosure of carbon emissions. Potential and existing investors can utilise the information from this study to help them make decisions about the disclosure of carbon emissions in light of environmental change.

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Keywords: *gender diversity, company size, independent commisioners, disclosure.*

Abstrak

Perubahan iklim merupakan perubahan pola cuaca pada iklim lokal, regional, dan global dalam jangka panjang sebagai akibat dari aktivitas manusia. Pengamatan terhadap perubahan iklim telah dilakukan sejak awal abad ke-20, dan hasil pengamatan yang dilakukan mengungkapkan bahwa aktivitas manusia, khususnya pembakaran bahan bakar fosil, merupakan aktivitas utama yang mengintensifkan perubahan iklim. Penelitian ini bertujuan untuk membuktikan pengaruh keberagaman gender pada dewan direksi, ukuran perusahaan, dan komisaris independen terhadap pengungkapan emisi karbon. Penelitian ini memberikan informasi yang dapat digunakan oleh investor potensial dan investor saat ini untuk membantu dalam pengambilan keputusan mengenai pengungkapan emisi karbon dalam konteks perubahan lingkungan.

Kata Kunci: *keberagaman gender, ukuran perusahaan, komisaris independen, pengungkapan.*

INTRODUCTION

The United Nations Framework Convention on Climate Change (UNFCCC) was signed in Rio de Janeiro, Brazil, in 1992, marking the start of the global community's efforts to reduce GHG emissions in real terms (Kardono, 2010). The world community established this convention in an attempt to stabilise the earth's atmosphere by reducing the concentration of greenhouse gases to a level that does not constitute a threat to the climate system (Ditjenppi.menlhk, 2017). The Conference of the Parties (COP), which was formed by the UNFCCC as the highest decision-making body to assess and oversee the Convention's implementation and the Parties' commitments, will meet annually to debate advancements and worldwide GHG emission reduction initiatives. The Kyoto Protocol, which calls for Anx 1 countries to legally commit to reducing their combined GHG emissions by at least 5% from 1990 emission levels by 2012,

was adopted by the UN Framework Convention on Climate Change at its COP-3 (third) session in 1997.

According to Luthfi et al. (2009), the Kyoto Protocol aims to reduce the following greenhouse gases: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulphur hexafluoride (SF6). Since carbon dioxide (CO2) is constantly accumulating in significant amounts in the earth's atmosphere, it is the most significant of these six GHGs in terms of climate change (Nurdiawansyah, Lindrianasari, & Komalasari, 2018). According to the UNFCCC's statement at the 13th COP-13 summit, carbon dioxide (CO2) is currently the primary cause of climate change; between the pre-industrial era and 2005, the atmospheric concentration of carbon rose from 278 parts per million (ppm) to 379 ppm.

Additionally, the Paris Protocol, which aims to reduce the increase in global average temperature by 1.5 to 2 degrees Celsius, was adopted at the COP-21 (twenty-one) session in place of the Kyoto Protocol. The Nationally Determined Contribution (NDC), which is created by each party, shall outline and publish each party's contributions and promises (ditjenppi.menlhk, 2017). Based on Nawacita, which outlines Indonesia's nine strategic development goals that align with the country's commitment to low-carbon development and climate resilience, Indonesia submitted its first NDC to the UNFCCC in November 2016. According to Nurdiawansyah, Lindrianasari, and Komalasari (2018), the Indonesian government has also issued Law No. 16 of 2016 concerning the Ratification of the Paris Agreement, indicating that Indonesia is prepared to ratify the agreement and fulfil its obligations, which include reducing GHG emissions by 29% without international assistance and 41% with international assistance until 2030. The following sectors account for the majority of emissions: forestry (17.2%), energy (11%), agriculture (0.32%), industry (0.10%), and waste (0.38%) (INDC RI, 2016).

Indonesia's involvement and transparency in lowering GHG emissions are critically needed, as the country is among the top 8 in the world in terms of GHG emissions production, accounting for two thirds of worldwide GHG emissions (World Research Institute, 2016). According to Climate Transperacy's (2018) Brown to Green Report, Indonesia's greenhouse gas emissions have nearly tripled (196%) between 1990 and 2015 and are predicted to rise until 2030, which is against the Paris Agreement's aim. Indonesia's sectoral policies are thought to be in odds with the Paris Agreement's pledges. According to Climate Transperacy (2018), the largest sources of greenhouse gas emissions in Indonesia are the energy and forestry sectors, particularly the transportation, industrial, and electricity generation sectors, which are responsible for the majority of carbon (CO2) emissions. The operations of these sectors caused Indonesia's carbon (CO2) emissions to rise by 18% between 2012 and 2017. However, according to the most recent data, Indonesia, which currently has diplomatic cooperation with Norway in reducing GHG emissions (Setkab.go.id), received results-based payments from the Green Climate Fund (GCF) on 6 July

2020, as a result of Indonesia's achievement in reducing GHG emissions originating from deforestation and forest degradation (cnnindonesia.com) in the amount of 11.2 million tonnes of CO2eq.

Stakeholders now demand accountability from businesses for their social and environmental effects in addition to their financial performance (Bui, Houqe, & Zaman, 2019). The use of Corporate societal Responsibility (CSR) reports is one way businesses can convey their societal effect. The amount of greenhouse gas emissions from business operations is a component of corporate social responsibility (CSR) (Velte, Stawinoga & Lueg, 2020). To solve this problem, the accounting treatment known as Carbon Emission Disclosure (CED) was created. Companies can attempt to lower and prevent the carbon emissions they produce by presenting and disclosing the carbon emissions from their operational operations in the annual report (Pratiwi, 2016). Through the disclosure of carbon emissions, stakeholders can evaluate the company's environmental concern based on its involvement in lowering its greenhouse gas emissions, particularly carbon emissions. By definition, there are two types of carbon emissions disclosure: mandatory (like the EU Emissions Trading Scheme [ETS], the Japanese GHG system, and the Integrated Database of Emissions & Resources. Generation [eGRID]) and voluntary (like the Greenhouse Gas [GHG] and CDP protocols) (Velte, Stawinoga & Lueg, 2020). Only a small number of corporations disclose carbon emissions in their reports since carbon emissions reporting is currently discretionary in Indonesia.

The gender diversity of a company's board of directors may have an impact on good carbon emissions disclosure (Liao et al. 2015). This is because a diverse board of directors is thought to represent more parties and interests, including environmental activity, and will also bring a variety of different perspectives. The company's viewpoint will be impacted by the growing proportion of women compared to men, particularly with regard to environmental issues. According to Huse and Solberg (2006), women are more dedicated, caring, intelligent, and capable of creating a positive environment on the board of directors.

The Development of Hypothesis and Conceptual Scheme: Stakeholder theory states that the presence of women on boards of directors demonstrates the gender diversity of these boards. These women can better assess the needs of different stakeholders, allowing businesses to make better decisions (Bear et al., 2010) and raise awareness of environmental issues (Bear et al., 2010; Ben-Amar et al., 2017; Coffey & Wang, 1998). Companies with female board directors are more likely to monitor and communicate to stakeholders the GHG emissions and climate change resulting from corporate operations (Hollindale et al., 2019). Therefore, it is reasonable to believe that the gender diversity of the board of directors will improve disclosure of carbon emissions. The findings of a study by Liao et al. (2015) that looked at how company council characteristics affected GHG emission disclosures in the form of carbon emission disclosure reports lend

credence to this assumption. The study found a tendency between reports of carbon emission disclosure and gender diversity. Research by Hollindale et al. (2019) indicated that companies with a high proportion of female board directors had a good number and quality of Carbon Emission Disclosure reports, which is consistent with research by Liao et al. (2015). However, Kılıç & Kuzey (2019) deny the link between gender diversity on the board of directors and carbon emission disclosures. This study demonstrates that having a diverse mix of genders on the board of directors does not ensure that companies will disclose carbon emissions more broadly and responsively. Thus, the following hypothesis can be put forth:

H1: Carbon Emission Disclosure is positively and significantly impacted by the gender diversity of the board of directors.

Stakeholder theory is also supported by the fact that independent commissioners take sustainability into account and are less subject to internal pressure from stakeholders than internal (non-independent) directors (Kılıç & Kuzey, 2019). According to the legitimacy theory, independent commissioners who typically act as supervisors will be more inclined to reveal environmental facts, such as carbon emissions, in order to gain community legitimacy. As a result, the independent commissioners are more receptive to sustainability report disclosures, especially those pertaining to carbon gas emissions. The disclosure of carbon gas emissions is negatively impacted by independent commissioners, according to Farida & Sofyani (2018) and Ben Amar et al. (2017). This is because the growing number of independent commissioners in businesses will make it more difficult for them to coordinate and communicate with management, including how management discloses environmental information. In contrast, Trufvisa & Ardiyanto (2019) and Jannah & Muid (2014) discovered a favourable correlation between carbon emission disclosure and independent commissioners. There are, however, conflicting findings as well. For example, Liao et al. (2015) found no connection between disclosure of carbon emissions and independent commissioners. Thus, the following hypothesis might be put forth:

H2: Independent commissioners significantly and favourably impact carbon emission disclosure.

One of the elements that may influence the disclosure of environmental information, such as carbon gas emissions, is the size of the business. They are required to reveal any information they can to the public, including the company's environmental contribution, in order to build a positive reputation for the business (Farida & Sofyani, 2018). The study's findings indicate that a company's size significantly influences its declaration of carbon gas emissions (Nurdiawansyah et al., 2018). This lends credence to the idea that larger businesses are under more pressure to address environmental issues, which implies that they are better at communicating their environmental performance, particularly their carbon emissions. Consequently, it may be hypothesised that:

H3: Company Size has a beneficial effect on Carbon Emission Disclosure since large companies are more likely to respond to these issues.

METHOD

The study's population consists of all companies that are listed on the Indonesia Stock Exchange between 2020 and 2024. Since every company in every industry has the capacity to produce carbon emissions, all companies listed on the Indonesia Stock Exchange were chosen. According to Syahrum and Salim (2012), a sample is a study object drawn from a subset of the population. Purposive sampling, which is a sampling technique in which the sample unit is adjusted to the criteria that have been determined in accordance with the criteria for the study population to be more precise on the target, will be used by researchers to accomplish the study objectives (Syahrum & Salim, 2012). The documentation approach, which involves reading through each company's annual report and sustainability report, was employed to acquire data for this study.

CONCLUSIONS

Determining whether gender-diverse boards of directors, the number of independent commissioners, and large or small corporations can encourage companies to disclose carbon gas emissions is an essential goal of this research. By examining the gender diversity of the board, the number of independent commissioners, and the size of the company, the study's conclusions are suggested to help improve the disclosure of carbon emissions. It is anticipated that the goals of this study will be met in order to support decision-making and help the business foresee further elements that influence the disclosure of carbon emissions. It is hoped that the conceptual research's findings would offer significant insights into the disclosure of carbon emissions in some countries and serve as a guide for future studies.

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