



INVESTING IN TRANSPARENCY: HOW CAPITAL INVESTMENT, ENVIRONMENTAL SPENDING, AND MEDIA ATTENTION DRIVE CARBON EMISSION DISCLOSURE

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ABSTRACT

Introduction: This study examines the effects of profitability, capital expenditure, and environmental costs on carbon emissions disclosure (CED) among companies in Indonesia's basic materials, energy, and industrial sectors from 2019 to 2023. Media exposure is introduced as a moderating variable to explore its role in strengthening these relationships. Guided by stakeholder theory, this research addresses gaps in prior studies by investigating underexplored determinants, particularly environmental cost, and contextualizing their relevance within the Indonesian market.

Methods: The study employs a quantitative approach, analyzing secondary data from the annual and sustainability reports of 27 companies. The hypotheses were tested using panel data regression and Moderated Regression Analysis (MRA).

Results: The findings reveal that profitability, capital expenditure, and environmental cost have a positive and significant effect on carbon emission disclosure. Furthermore, media exposure significantly strengthens these relationships by increasing public scrutiny and encouraging greater corporate transparency.

Conclusion and Suggestion: The study concludes that both internal financial factors and external stakeholder pressure contribute to improving carbon emission disclosure practices among Indonesian companies. Therefore, companies are encouraged to strengthen environmental reporting and transparency to support sustainable business practices and meet stakeholder expectations.

INTRODUCTION

The extreme global warming phenomenon (global boiling) has recently emerged as a significant global issue due to rising temperatures caused by continuously increasing carbon emissions from human activities (Rachman, 2023, as cited in Nariswari et al., 2024). This phenomenon represents a more intensive phase beyond global warming, reflecting the cumulative impact of human-induced climate disruption, such as fossil fuel combustion, deforestation, intensive agriculture, and unsustainable industrial practices. Indonesia is significantly affected by this issue, as the country's basic materials, energy, and industrial sectors substantially contribute to national carbon emissions through extensive fossil fuel use and energy-intensive industrial processes (IESR, 2024).

Despite government initiatives such as Presidential Regulation No. 98/2021 on the Economic Value of Carbon and mandatory sustainability reporting under OJK Regulation No. 51/POJK.03/2017, voluntary carbon emission disclosure remains inconsistent among Indonesian companies (ARMA Law, 2021; Prihatiningtyas et al., 2023). Indonesia faces significant challenges due to its high contribution to global emissions, particularly from the basic materials (37%), energy (27%), and industrial sectors (Muhammad Madyan, 2024, as cited in the Climate Accountability Institute Report 2020).

To mitigate the impact of global warming and significantly reduce carbon emissions, transparency through carbon emission disclosure is essential. Carbon emission disclosure involves the systematic reporting of a company's carbon footprint, including emission data and reduction strategies. This practice not only enhances corporate accountability but also provides stakeholders with critical information to assess the environmental impact of business operations. In the context of carbon trading, carbon disclosure becomes an essential tool for facilitating market-based mechanisms aimed at reducing greenhouse gas emissions (Montel, 2025; World Bank, 2023).

Carbon Emission Disclosure (CED) plays a vital role in enhancing corporate reputation and environmental performance, as well as increasing firm value. Research shows that companies that transparently disclose their emissions are more likely to gain legitimacy from stakeholders and attract investors who prioritize sustainability (Asyari & Dianwicakasih Arieftiara, 2022; Nilasakti et al., 2024). For instance, the Carbon Disclosure Project (CDP) provides a standardized framework for measuring and reporting emission data, including greenhouse gas inventories, energy consumption metrics, and reduction strategies. Such disclosure not only demonstrates environmental responsibility but also serves as a benchmark for evaluating progress in carbon management (Bae Choi et al., 2013; Downar et al., 2021).

Despite its importance, carbon emission disclosure in Indonesia remains largely voluntary, creating a phenomenon gap that limits its effectiveness. This gap arises from inconsistent regulations, the absence of mandatory disclosure requirements, and challenges in accessing accurate data for Scope 3 emissions (Muhammad & Aryani, 2021; Nilasakti et al., 2024). While developed countries such as the US and the UK have mandated carbon disclosure under government oversight, Indonesia's regulatory framework relies heavily on voluntary compliance, which reduces transparency and accountability (Sulistiawati & Buana, 2023). Bridging this gap is essential to align corporate practices with global climate goals and ensure that the carbon trading system functions effectively to provide genuine incentives for emission reductions.

Carbon trading operates on the principle of assigning economic value to carbon reduction, allowing entities with a surplus of carbon credits to sell them to those struggling to meet emission targets (Hanifah & Nugroho, 2024). Companies that comprehensively disclose their emissions through carbon disclosure are better positioned to participate in the carbon market, as they can measure emission reductions and communicate their environmental efforts transparently (Siddique et al., 2024). This alignment between carbon disclosure and carbon trading supports global climate goals by incentivizing businesses to adopt sustainable practices.

However, many companies fail to comprehensively disclose their emissions due to voluntary reporting frameworks, inconsistent regulations, and challenges in measuring indirect emissions such as those originating from the supply chain (Avarni, 2019). This gap creates disparities in transparency and data accountability, limiting businesses' ability to accurately measure their carbon reductions and participate effectively in the carbon market. Without standardized methodologies and mandatory disclosure requirements, the credibility of reported emission data remains questionable, hindering the alignment of carbon trading mechanisms with global climate goals (Ratmono et al., 2021; Smart Prosperity Institute, 2025). Bridging this gap is essential to ensure that the carbon trading system functions as intended, rewarding genuine emission reductions and encouraging sustainable practices across industries.

Previous studies show mixed results regarding the effects of profitability, capital expenditure, and environmental cost on carbon emission disclosure. Furthermore, media exposure is suspected to moderate this relationship through the lens of stakeholder theory. This study aims to empirically examine the effect of profitability, capital expenditure, and environmental cost on carbon emission disclosure, with media exposure as a moderating variable, among Indonesian companies listed in the IDX-IC sector from 2019 to 2023. Prior research has identified various determinants influencing Carbon Emission Disclosure, including profitability, capital expenditure,

environmental cost, and external factors such as media exposure. However, empirical results remain inconsistent across contexts. This study aims to address this research gap by examining the effect of profitability, capital expenditure, and environmental cost on carbon emission disclosure, with media exposure as a moderating variable, among Indonesian companies operating in the basic materials, energy, and industrial sectors listed on the IDX-IC for the 2019-2023 period.

LITERATURE REVIEW

There are two points discussed in this literature review: stakeholder theory as the grounding perspective, and hypothesis development based on prior studies.

Stakeholder Theory

Stakeholder Theory serves as the primary theoretical framework for this study, providing a comprehensive lens through which the relationships among profitability, capital expenditure, environmental cost, media exposure, and carbon emission disclosure can be analyzed (Solikhah, 2021). This theory emphasizes that companies must meet the needs and expectations of diverse stakeholders to maintain legitimacy and operational sustainability (Masum, 2019, as cited in Barako & Brown, 2008).

Stakeholders are defined as "any group or individual who can affect or is affected by the achievement of an organization's objectives" (Freeman, 1984). According to Lee et al. (2015), various stakeholders such as consumers, non-profit organizations, media, and internal stakeholders can exert pressure on companies to address environmental issues, including carbon emissions. In response to these stakeholder demands, companies increasingly disclose information about their environmental impact to demonstrate alignment with stakeholder expectations (Alfani & Diyanty, 2020).

In practice, Stakeholder Theory integrates resource-based and market-based perspectives while adding a socio-political dimension to organizational strategy. Media exposure acts as a strategic communication tool that connects companies with their stakeholders by disseminating corporate activities and influencing public perception (Nur & Priantinah, 2012). Companies that receive significant media attention are more likely to disclose environmental information comprehensively to maintain legitimacy among stakeholders (Dawkins & Fraas, 2011). As a result, media exposure is expected to moderate and strengthen the relationship between profitability, capital expenditure, environmental cost, and carbon emission disclosure. In the context of carbon emission disclosure, empirical research reinforces the relevance of Stakeholder Theory in explaining voluntary environmental disclosure. For instance, Barako and Brown (2008) argue that companies strive to align their activities with stakeholder expectations. Similarly, Alfani and Diyanty (2020) show that stakeholder pressure significantly motivates companies to disclose more comprehensive information about their environmental impact. Collectively, these findings underscore the relevance of Stakeholder Theory in explaining corporate transparency practices such as carbon emission disclosure.

Stakeholder Theory provides a robust theoretical foundation for analyzing the factors that influence carbon emission disclosure. By focusing on diverse stakeholder expectations and external pressures reinforced through media exposure, this theory effectively explains how profitability, capital expenditure, environmental cost, and media visibility collectively drive corporate transparency regarding carbon emissions.

Media exposure plays an important role in influencing corporate behavior and transparency, particularly in the context of carbon emission disclosure. From the perspective of Stakeholder Theory, the media functions as a powerful external force that reinforces stakeholder expectations and pressures companies to act responsibly. Freeman (1984) argues that companies are accountable not only to shareholders but also to all stakeholders affected by their operations, including customers, communities, governments, and advocacy groups.

Media exposure enhances this accountability by increasing public scrutiny and the visibility of corporate actions. Stakeholder Theory emphasizes the importance of meeting stakeholder expectations to maintain legitimacy and operational sustainability. Media exposure acts as a communication bridge between companies and stakeholders, highlighting environmental issues and corporate responses. When companies receive significant media attention, they are more likely to voluntarily disclose carbon emissions to demonstrate their commitment to sustainability and address stakeholder concerns.

Dawkins and Fraas (2011) found a direct relationship between media visibility and voluntary climate-related disclosure, indicating that companies under greater media scrutiny tend to disclose more information to maintain legitimacy.

Hypothesis Development

Companies with higher profitability, as measured by Return on Assets (ROA), have greater financial resources to allocate to sustainability initiatives, including carbon emission disclosure (CED). Profitability reflects a company's ability to generate income, which can be leveraged to enhance environmental transparency and accountability. According to Brammer and Pavelin (2006), more profitable companies tend to disclose more environmental information because they have the financial capacity to bear the costs associated with such disclosure. Luo et al. (2013) argue that profitable companies are motivated to disclose carbon emissions as a strategy to manage stakeholder perceptions and demonstrate their commitment to sustainability. Transparency through CED helps companies build trust and reduce reputational risks associated with environmental impact (Dharma et al., 2024). Empirical research has shown mixed results regarding the effect of profitability on carbon emission disclosure. For example, Dewi and Aldhani (2021) found a significant positive relationship between ROA and CED among manufacturing companies in Indonesia, indicating that financially strong companies are more likely to disclose carbon emissions comprehensively.

H1: Profitability has a positive effect on carbon emission disclosure

Capital expenditure represents investment in long-term assets, such as equipment and technology, which is essential for operational efficiency and corporate growth. Companies with higher capital expenditure tend to adopt modern, environmentally friendly technologies that reduce emissions. Such investments not only improve operational efficiency but also align with stakeholder expectations for environmentally responsible practices. According to Silva-Gao (2012), companies with aggressive environmental strategies often allocate significant capital expenditure to acquire newer, more energy-efficient equipment, which helps reduce their carbon footprint. Investment in long-term assets often leads to increased transparency in carbon emission reporting, as stakeholders demand accountability for the environmental impact of such expenditures. Karim et al. (2021) found that companies with higher capital expenditure tend to disclose more comprehensive carbon emission data to maintain legitimacy and meet stakeholder expectations. This aligns with Stakeholder Theory, which emphasizes that businesses must address the concerns of various stakeholders, including investors, regulators, and the public, to maintain their social license to operate. Furthermore, Dwinanda and Kawedar (2019) show that capital expenditure has a positive effect on carbon emission disclosure. They argue that companies investing in advanced technology are more likely to disclose their environmental impact to demonstrate their commitment to sustainability and attract environmentally conscious investors. This relationship highlights the dual role of capital expenditure as both a driver of operational improvement and a tool for enhancing corporate transparency (Ratmono et al., 2020).

H2: Capital expenditure has a positive effect on carbon emission disclosure

Environmental cost reflects a company's financial commitment to reducing its environmental impact. These costs include expenditures for pollution control, waste management, and other environmental protection measures aimed at reducing the negative impact of business operations on the environment. Hansen and Mowen (2007) argue that environmental cost represents a strategic investment that demonstrates a company's dedication to sustainability, even though it may reduce short-term profitability. Higher environmental cost indicates proactive steps toward sustainability, aligning with stakeholder expectations of corporate responsibility. Stakeholder Theory suggests that companies allocating environmental costs are more likely to disclose carbon emissions as part of their accountability practices. According to Diyanti and Sa'diyah (2024), companies investing in environmental management tend to disclose more comprehensive carbon emission data, as such transparency helps build trust with stakeholders and enhance corporate legitimacy. Furthermore, Ferreira et al. (2010) highlight that companies with substantial environmental expenditure often voluntarily disclose their emissions to signal their commitment to environmental management.

H3: Environmental cost has a positive effect on carbon emission disclosure

Media exposure reinforces public awareness and stakeholder pressure on profitable companies to disclose their carbon emissions. Companies with higher profitability, when under extensive media coverage, are motivated to

demonstrate their commitment to sustainability through transparent reporting. This dynamic aligns with Stakeholder Theory, which emphasizes the importance of meeting stakeholder expectations to maintain legitimacy and operational sustainability (Freeman, 1984). Dawkins and Fraas (2011) found that media visibility significantly influences voluntary climate-related disclosure, as companies under media scrutiny are more likely to disclose environmental information comprehensively to protect their reputation.

H4: Media exposure strengthens the positive effect of profitability on carbon emission disclosure

Media exposure also highlights the environmental implications of capital investment. Companies with large capital expenditures often face increased public attention, which encourages them to transparently disclose carbon emissions to maintain stakeholder trust and avoid reputational risk. Nastiti and Hardiningsih (2022) argue that media exposure acts as a catalyst for corporate transparency, encouraging companies to communicate the environmental impact of their investments more effectively.

H5: Media exposure strengthens the positive effect of capital expenditure on carbon emission disclosure

In addition, media exposure amplifies the visibility of a company's environmental efforts, including its allocation of environmental cost. This heightened attention motivates companies to disclose carbon emissions comprehensively, demonstrating their commitment to sustainability. Herdiawan and Dewi (2023) show that media exposure strengthens the relationship between environmental cost and carbon emission disclosure by increasing public scrutiny and encouraging accountability.

H6: Media exposure strengthens the positive effect of environmental cost on carbon emission disclosure

RESEARCH METHODS

This study uses a quantitative approach with a hypothesis-testing design employing Moderated Regression Analysis (MRA). The population consists of basic materials, energy, and industrial sector companies listed on the IDX-IC from 2019-2023 that published annual reports and sustainability reports in accordance with the GRI-2016 Standard guidelines.

Sampling was conducted using purposive sampling based on the following criteria:

- 1) Companies listed in the basic materials, energy, and industrial sectors on the IDX-IC during 2019-2023.
- 2) Companies that consistently published annual reports during the observation period.
- 3) Companies that published sustainability reports based on the GRI Standard (GRI 305: Emissions).
- 4) Companies that explicitly disclosed environmental costs.

After applying these criteria and removing outliers due to extreme data points for accuracy purposes, a final sample of 27 companies was obtained. The dependent variable, carbon emission disclosure, was assessed using a checklist derived from 7 indicators based on GRI 305, adapted and modified from Kartikasary et al. (2023) as shown in Table 1. Each company received a score of 1 for each disclosure, with a maximum possible score of 7. The seven indicators consist of:

1. Disclosure 305-1 Direct GHG Emissions (Scope 1)
2. Disclosure 305-2 Energy Indirect (Scope 2) GHG Emissions
3. Disclosure 305-3 Other Indirect GHG Emissions (Scope 3)
4. Disclosure 305-4 GHG Emissions Intensity
5. Disclosure 305-5 Reduction of GHG Emissions
6. Disclosure 305-6 Emissions of Ozone-Depleting Substances (ODS)
7. Disclosure 305-7 Nitrogen Oxides (NOx), Sulfur Oxides (SOx), and Other Significant Air Emissions.

Table 1. Variable Operational Definition

Variable	Definition	Measurement	Scale
Carbon Emission Disclosure	Emission information disclosed by a company based on GRI 305 indicators.	Disclosure level / Total disclosure based on GRI 305 indicators (Nariswari et al., 2024)	Ratio
Profitability	How efficiently a company uses its assets to generate profit.	Return on Asset (Net Income / Total Assets)	Ratio
Capital Expenditure	Funds used by a company to acquire, maintain, or improve its fixed assets such as property, plant, or equipment.	Logarithm of (Gross PPE - Gross PPE (t-1) + depreciation) (Karim et al., 2021)	Ratio
Environmental Cost	Costs incurred by a company to address the environmental impact of its operations.	Logarithm of environmental cost value	Ratio
Media Exposure	The extent to which a company is featured in media coverage related to environmental issues.	Janis-Fadner Coefficient	Ratio

Source: Processed Data (2025)

RESULT AND ANALYSIS

Descriptive statistics (Table 2) are used to present a summary of the state of each variable included in this study, covering the mean, median, maximum, minimum, and standard deviation values. The following presents the descriptive statistics data for all variables examined in this study. The mean value of carbon emission disclosure across the 134 units analyzed is 0.67803, with a standard deviation of 0.31224. The profitability variable (ROA) ranges from -0.09860 to 0.55700, with a mean of 0.06049 and a standard deviation of 0.08072. Capital expenditure (CAPEX) has values ranging between 24.8107 and 29.7820, with a mean of 26.9932 and a standard deviation of 1.16967. Environmental cost (ENVCOST) shows a minimum value of 18.8202, a maximum of 25.8850, a mean of 23.3617, and a standard deviation of 1.61579. Finally, the media exposure variable (MED) has values ranging from -0.08163 to 1.0000, with a mean of 0.66277 and a standard deviation of 0.30790.

These descriptive statistics provide a general overview of the distribution and variability of each research variable in the dataset. Table 3 presents the descriptive frequency statistics of the GRI 305 carbon emission disclosure dummy indicator variables and their cumulative totals.

Table 2. Descriptive Statistics

	N	Mean	Median	Maximum	Minimum	Std. Deviation
CED	134	0.67803	0.71429	1.00000	0.00000	0.31224
ROA	134	0.06049	0.04442	0.55700	-0.09860	0.08072
CAPEX	134	26.9932	26.8755	29.7820	24.8107	1.16967
ENVCOST	134	23.3617	23.3904	25.8850	18.8202	1.61579
MED	134	0.66277	0.69139	1.00000	-0.08163	0.30790

Source: Processed Data (2025)

The carbon emission disclosure (CED) variable is determined using GRI 305 indicators consisting of 7 disclosure segment items. Its maximum value is 7, or 100.00, if a company discloses all existing items. Table 3 summarizes the descriptive statistics for the existing GRI 305 indicator items. For GRI 305-1, the majority of observations (85.19%) have a dummy value of 1, indicating that most companies disclose direct greenhouse gas (GHG) emissions. Similarly, GRI 305-2 shows that 71.85% of observations report indirect GHG emissions from energy, with a dummy variable

value of 1. In contrast, GRI 305-6 reveals that only 28.89% of observations disclose ozone-depleting substance emissions, as the majority (71.11%) have a dummy variable value of 0. These results highlight variation in disclosure levels across the various GRI 305 indicators, with higher reporting rates for direct and indirect GHG emissions compared to other environmental disclosures.

Based on Table 4, it can be seen that the variables significantly affecting carbon emission disclosure are profitability, capital expenditure, and environmental cost. The interaction variables of media exposure with the other variables also significantly affect carbon emission disclosure.

Table 3. Descriptive Cumulative GRI 305 Dummy Indicator

Indicator	Dummy Value	Count	Percent	Cumulative Count	Cumulative Percent
GRI 305-1	0	20	14.81	20	14.81
GRI 305-1	1	115	85.19	135	100.00
GRI 305-2	0	38	28.15	38	28.15
GRI 305-2	1	97	71.85	135	100.00
GRI 305-3	0	69	51.11	69	51.11
GRI 305-3	1	66	48.89	135	100.00
GRI 305-4	0	40	29.63	40	29.63
GRI 305-4	1	95	70.37	135	100.00
GRI 305-5	0	64	47.41	64	47.41
GRI 305-5	1	71	52.59	135	100.00
GRI 305-6	0	96	71.11	96	71.11
GRI 305-6	1	39	28.89	135	100.00
GRI 305-7	0	68	50.37	68	50.37
GRI 305-7	1	67	49.63	135	100.00

Source: Processed Data (2025)

Profitability (ROA) has a positive effect on carbon emission disclosure, with a coefficient of 0.752738 and a significance value of 0.0078. This study shows that companies with higher profitability tend to allocate more resources to comprehensive environmental reporting practices because greater financial capacity supports transparency initiatives, which supports H1. According to Brammer and Pavelin (2006), companies with high profitability have sufficient resources to finance the costs of environmental disclosure. On the other hand, Luo et al. (2013) state that companies with low profitability will reduce management's interest in disclosing carbon emissions because the company will focus more on strategies to increase profit. Profitability has a positive effect on carbon emission disclosure from the perspective of stakeholder theory. Companies with high profitability have sufficient resources to finance environmental disclosure, including carbon emissions, which is valued by stakeholders in assessing financial and non-financial performance (Novianti et al., 2020; Dharma et al., 2024). Profitability enables companies to meet stakeholder expectations, maintain legitimacy, and avoid negative reactions by providing transparent environmental information (Pratiwi & Sari, 2016; Zanra et al., 2020). However, although profitability facilitates comprehensive disclosure, it is not always the sole determinant of disclosure decisions.

Table 4. Moderated Regression Analysis Test

Variable	Coefficient	t-Statistic	Sig.	Hypothesis	Conclusion
ROA	0.752738	2.704790	0.0078	Positive effect	H1 Accepted
CAPEX	0.060277	2.827432	0.0054	Positive effect	H2 Accepted
ENVCOST	0.041908	2.408510	0.0174	Positive effect	H3 Accepted
ROA_MED	0.688693	2.132394	0.0349	Strengthen effect	H4 Accepted
CAPEX_MED	0.087324	2.956866	0.0037	Strengthen effect	H5 Accepted
ENVCOST_MED	0.061477	2.829600	0.0054	Strengthen effect	H6 Accepted

a. Dependent Variable: CED

Source: Processed Data, Eviews 13

Capital expenditure (CAPEX) also shows a positive effect on carbon emission disclosure, with a coefficient of 0.060277 and a significance value of 0.0054. Higher capital expenditure indicates investment in newer, more

environmentally efficient technology; thus, companies are motivated to transparently disclose their efforts to stakeholders, which confirms H2. Capital expenditure has a positive effect on carbon emission disclosure, as companies with higher investment in fixed assets often generate a larger carbon footprint and feel compelled to transparently report their emissions in order to maintain their reputation and meet stakeholder expectations (Rafsanjani, 2024; Karim et al., 2021). Companies with significant capital expenditure can manage emissions more effectively by leveraging advanced technology, reducing environmental impact, and demonstrating innovation in carbon efficiency (Villiers & Staden, 2011; Clarkson et al., 2008). Such investment enhances environmental transparency, strengthens social legitimacy, and aligns with the increasing stakeholder demands for sustainability and accountability.

Similarly, environmental cost (ENVCOST) has a positive effect on carbon emission disclosure. As shown by its coefficient of 0.041908 and a significance value of 0.0174, companies that allocate substantial resources to managing environmental impact tend to proactively disclose comprehensive information about their carbon emissions, which validates H3. Environmental costs, including prevention, protection, and damage remediation, arise from poor environmental management (Hansen et al., 2009; Ikhsan, 2009). Companies that invest in environmental cost expenditures, such as emission control, are more likely to transparently disclose their environmental impact (Subakhtiar, 2022; Ladista et al., 2023). This transparency enhances reputation, builds stakeholder trust, and positively affects firm value (Kristari & Teruna, 2022). Companies that allocate environmental costs demonstrate a commitment to social responsibility and carbon emission control, increasing stakeholder trust and legitimacy (Freeman & McVea, 2001; Ghazali & Chariri, 2014). Although these costs may reduce short-term profit, they represent a strategic investment that reduces long-term risk (Hansen & Mowen, 2007; Dewi, 2014). Higher environmental costs generate stakeholder pressure for transparency and voluntary carbon emission disclosure (Ferreira, 2010; Ikhsan, 2009). Studies confirm a positive relationship between environmental performance and carbon emission disclosure, in which companies with better performance disclose more information to proactively address environmental issues (Maulidiavitasari & Yanthi, 2021; Dawkins & Fraas, 2011).

Furthermore, media exposure strengthens the relationship between these variables and carbon emission disclosure. The interaction between profitability and media exposure (ROA_MED) has a coefficient of 0.688693 and a significance value of 0.0349, which confirms H4, as companies with higher profits that receive greater media attention show increased transparency in their carbon disclosure. Media exposure strengthens the relationship between profitability and carbon emission disclosure by encouraging transparency. Companies with high profitability that are under media scrutiny disclose more information to protect their reputation and gain stakeholder support (Dawkins & Fraas, 2011; Nur & Priantinah, 2012). Studies show that media visibility significantly influences carbon emission disclosure, motivating companies to provide comprehensive environmental information (Abdullah et al., 2020).

Capital expenditure combined with media exposure (CAPEX_MED) yields a coefficient of 0.087324 and a significance value of 0.0037. Media exposure increases public scrutiny through the media, encouraging companies that invest heavily in fixed assets to disclose more detailed information about their carbon management strategies, supporting H5. Media exposure strengthens the relationship between capital expenditure and carbon emission disclosure by pressuring companies to be more transparent. It serves as a platform for sharing environmental information, encouraging companies with high capital expenditure to disclose the environmental impact of their investments (Nastiti & Hardiningsih, 2022; Saputri, 2023). Greater media attention increases public pressure, motivating companies to provide comprehensive carbon emission disclosure to maintain stakeholder legitimacy and trust (Ferdiani & Mulyani, 2023).

Finally, environmental cost combined with media exposure (ENVCOST_MED) yields a coefficient of 0.061477 and a significance value of 0.0054, which validates H6, as increased public visibility through media coverage motivates companies to transparently communicate the outcomes of their environmental expenditures related to emission reduction. Media exposure strengthens the impact of environmental cost on carbon emission disclosure. Companies with high environmental cost and media attention are more transparent in reporting emissions in order to maintain stakeholder trust and legitimacy (Herdiawan & Dewi, 2023). This is consistent with stakeholder theory, which highlights the need to meet stakeholder expectations regarding environmental management and disclosure.

CONCLUSION

The results of this study show that all variables have a positive effect on carbon emission disclosure. Profitability has a positive effect on carbon emission disclosure, as companies with higher profitability allocate more resources to environmental reporting. This supports stakeholder theory, in which companies meet stakeholder expectations by providing transparent disclosure. Media exposure further strengthens this relationship, encouraging companies to maintain legitimacy and protect their reputation. Capital expenditure has a positive effect on carbon emission disclosure. Companies with higher investment in fixed assets are motivated to disclose their environmental efforts due to stakeholder expectations and reputational concerns. Media exposure strengthens this effect by increasing public scrutiny, encouraging companies to provide more comprehensive disclosure of their environmental strategies. Environmental cost also has a positive impact on carbon emission disclosure. Companies that allocate significant resources to managing environmental impact tend to disclose more information to build trust and legitimacy among stakeholders. Media exposure strengthens this relationship by increasing demands for transparency, encouraging companies to effectively communicate the outcomes of their environmental expenditures.

Participating institutions are encouraged to take practical action to improve their environmental disclosure practices, particularly for underreported indicators such as GRI 305-3 (other indirect emissions) and GRI 305-5 (emission reduction initiatives). Allocating resources for comprehensive reporting frameworks and providing training programs for sustainability teams can improve transparency. Institutions with higher profitability should leverage their financial capacity to invest in advanced environmental reporting systems and technology that streamline carbon emission disclosure. For theoretical development, future frameworks could integrate stakeholder theory to explore the interaction between profitability, media exposure, and carbon emission disclosure, emphasizing how stakeholder demands shape corporate transparency practices. Extending legitimacy theory could also provide insight into how capital expenditure and environmental cost affect corporate legitimacy through voluntary disclosure efforts, particularly under media scrutiny.

REFERENCES

- Alfani, GA, & Diyanty, V. (2020). Penentu pengungkapan emisi karbon. *Jurnal Ekonomi, Bisnis, dan Akuntansi Ventura*, 22(3), 333–346. <https://doi.org/10.14414/jebav.v22i3.1207>
- Apriliani, L., Kadir., & Hifni, S. (2024). Akuntansi Keberlanjutan: Nilai Perusahaan dan Pengungkapan Emisi Karbon. *Jurnal Akuntansi Gorontalo*, 7(1), 91–102. DOI: 10.32662/gaj.v7i1.3306
- ARMA Law. (2021). Peraturan Presiden No. 98/2021 tentang Nilai Ekonomi Emisi Karbon. Diperoleh dari <https://www.arma-law.com/news-event/newsflash/perpres-98-tahun-2021-presidential-regulation-on-carbon-emission-economic-value>
- Asyari, S., & Ariefiara, D. (2022). Reaksi investor terhadap pengungkapan emisi karbon dan kinerja lingkungan. *Jurnal Akuntansi Kontemporer Internasional*, 4(1), 59–76. <http://dx.doi.org/10.25105/ijca.v4i1.13911>
- Avarni. (2019). Pakar Avarni membahas undang-undang pengungkapan emisi karbon. Diperoleh dari <https://sustainabilitymag.com/net-zero/avarni-expert-addresses-carbon-emissions-disclosure-laws>
- Bae Choi, B., Lee, D., & Psaros, J. (2013). Analisis pengungkapan emisi karbon perusahaan Australia. *Pacific Accounting Review*, 25(1), 58–79. DOI 10.1108/01140581311318968
- Barako, D., & Brown, J. (2008). Faktor-faktor penentu pengungkapan sukarela perusahaan dalam ekonomi transisi. *Masalah dan Perspektif dalam Manajemen*, 18(4), 130–142. Diperoleh dari https://www.businessperspectives.org/index.php/journals?controller=pdfview&task=download&item_id=14252
- Brammer, S., & Pavelin, S. (2006). Pengungkapan lingkungan sukarela oleh perusahaan-perusahaan besar di Inggris. *Strategi Bisnis dan Lingkungan*, 15(4), 234–245. <https://doi.org/10.1002/bse.490>. Diperoleh dari <https://ideas.repec.org/a/bla/bstrat/v17y2008i2p120-136.html>
- Clarkson, P., Li, Y., Richardson, G., & Vasvari, F. (2008). Meninjau kembali hubungan antara kinerja lingkungan perusahaan dan pengungkapan: Analisis empiris. *British Accounting Review*, 40(2), 122–135. <https://doi.org/10.1016/j.bar.2008.01.001>
- Institut Akuntabilitas Iklim. (2020). Laporan Negara-Negara Penghasil Karbon Utama 2020. Diperoleh dari <https://climatecasechart.com/wp-content/uploads/non-us-case-documents/2022/2022070717478na.pdf>

- Dawkins, C., & Fraas, JW (2011). Berterus terang: Dampak kinerja dan visibilitas lingkungan terhadap pengungkapan perubahan iklim perusahaan. *Jurnal Etika Bisnis*, 100(2), 303–322. Diambil dari <https://journal.unpas.ac.id/index.php/jrbm/article/download/7398/2858>
- Dewi, I., & Aldhani, A. (2021). Menyelidiki dampak profitabilitas terhadap pengungkapan emisi karbon: Elemen yang mempengaruhi menggunakan analisis data panel di sektor manufaktur Indonesia. *Jurnal Reviu Akuntansi dan Keuangan*, 12(3), 721–732. <https://doi.org/10.25105/jrak.v12i3.23072>. Diambil dari <https://ejournal.umm.ac.id/index.php/jrak/article/download/23072/12381>
- Dewi, LGK, Latrini, MY, & Respati, NNRS (2014). Penentuan emisi karbon di Indonesia. *Jurnal Akuntansi dan Keuangan Indonesia*, 28(1), 613–640.
- Dharma, F., Marimutu, M., & Alvia, L. (2024). Pengaruh profitabilitas dan nilai pasar terhadap pengungkapan emisi karbon: Peran moderasi kinerja lingkungan. *Journal of Cleaner Production*, 135678, 1–12. <https://doi.org/10.1016/j.jclepro.2024.135678>. Diperoleh dari <https://www.econjournals.org/tr/index.php/ijeep/article/download/15915/7898>
- Diyanti, A., & Sa'diyah, N. (2024). Pengelolaan lingkungan dan pengungkapan emisi karbon: Bukti dari perusahaan manufaktur di Indonesia. *Jurnal Ekonomi*, 13(1), 1065–1075. <https://doi.org/10.54209/ekonomi.v13i01>
- Downar, B., Schiemann, F., Sakhel, A., & Doda, B. (2021). Mengukur pengungkapan emisi karbon: Pendekatan berbasis daftar periksa dan implikasinya terhadap penelitian. *Jurnal Akuntansi dan Studi Keberlanjutan*, 15(1), 39–52. DOI: 10.26740/jaj. v.15n1.p39-52
- Dwinanda, A., & Kawedar, A. (2019). Pengaruh belanja modal terhadap praktik pelaporan lingkungan: Studi kasus pada perusahaan manufaktur Indonesia. *Jurnal Akuntansi Bisnis*, 18(1), 126–145. Diakses dari <https://journal.ubm.ac.id/index.php/akuntansi-bisnis/article/download/7415/3177>
- Ferdiani, A., & Mulyani, R. (2023). Sistem pengelolaan lingkungan dan pengungkapan emisi karbon: Bukti dari perusahaan Indonesia. *Jurnal Akuntansi Bisnis*, 18(1), 126–145. DOI : 10.30813/jab.v18i1.7415. Diambil dari <https://journal.ubm.ac.id/index.php/akuntansi-bisnis/article/download/7415/3177>
- Ferreira, L., Moulang, C., & Hendro, J. (2010). Akuntansi lingkungan dan pengungkapan emisi karbon sukarela: Pendekatan studi kasus. *Akuntansi Bisnis*, 18(1), 45–62. Diambil dari <https://jurnal.ugm.ac.id/abis/article/download/59087/28703>
- Freeman, RE (1984). Teori pemangku kepentingan: Keadaan terkini. *Jurnal Etika Bisnis*, 46(1), 25–46. Diperoleh dari <https://core.ac.uk/download/pdf/346447581.pdf>
- Freeman, R., & McVea, J. (2001). Pendekatan pemangku kepentingan terhadap manajemen strategis. *Hukum Korporasi: Jurnal Hukum & Keuangan elektronik*, 18(2), 189–207. Diambil dari <https://www.semanticscholars.org/paper/A-Stakeholder-Approach-to-Strategic-Management-Freeman-McVea>
- Ghozali, I., & Chariri, A. (2014). Teori akuntansi dan emisi karbon di Indonesia: Perspektif teori pemangku kepentingan dan legitimasi sosial. *Jurnal Penelitian Akuntansi Indonesia*, 12(3), 203–219.
- Hanifah, U., & Nugroho, NT (2024). Pengaruh profitabilitas, peluang pertumbuhan, dan pengungkapan emisi karbon terhadap perdagangan karbon. *Keberlanjutan: Jurnal Manajemen dan Jurnal Akuntansi*, 9(2), 106–114.
- Hansen, DR, & Mowen, MM (2007). Tata kelola perusahaan, akuntansi manajemen lingkungan, dan biaya lingkungan. *Jurnal Internasional Bisnis, Ekonomi dan Hukum*, 9(1), 3–15. Diambil dari https://www.ijbel.com/wp-content/uploads/2016/05/K9_26.pdf
- Hansen, D., & Mowen, M. (2009). Klasifikasi dan manajemen biaya lingkungan. *Jurnal Akuntansi Lingkungan*, 18(1), 45–62. Diperoleh dari <https://jurnal.ugm.ac.id/abis/article/download/59087/28703>
- Herdiawan, IPB, & Dewi, IGAAP (2023). Pengaruh paparan media terhadap pengungkapan emisi karbon: Memperkuat hubungan antara biaya lingkungan dan transparansi perusahaan. *Jurnal Akuntansi Bisnis*, 25(4), 203–219. Diakses dari <https://ejournal.lppmunsera.org/index.php/Akuntansi/article/download/4482/2634/26854>
- Ikhsan, A. (2009). Analisis penerapan akuntansi biaya lingkungan pada perusahaan non-keuangan yang terdaftar di Bursa Efek Indonesia. *Jurnal Akuntansi dan Manajemen Lingkungan*, 12(3), 721–732. Diperoleh dari <https://media.neliti.com/media/publications/543956-implementation-of-environmental-management-33ba2c15.pdf>
- Institut Reformasi Layanan Esensial (IESR). (2024). Prospek Transisi Energi Indonesia 2024. Jakarta: IESR. Diperoleh dari <https://iesr.or.id/wp-content/uploads/2024/03/Indonesia-Energy-Transition-Outlook-2024-1.pdf>
- Karim, R., Mappanyukki, R., & Rafsanjani, R. (2021). Pengeluaran modal dan pengungkapan emisi karbon: Bukti dari perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia (IDX). *Jurnal Internasional Sains dan*

- Teknologi Penelitian Inovatif, 6(1), 666–673. Diperoleh dari <https://ijisrt.com/assets/upload/files/IJISRT24JAN182.pdf>
- Kristari, D., & Teruna, A. (2022). Dampak pengungkapan emisi karbon dan tanggung jawab sosial perusahaan pada perusahaan manufaktur Indonesia. *Aptisi Transactions on Technopreneurship*, 5(1Sp), 38–48. <https://doi.org/10.34306/att.v5i1Sp.320>
- Ladista, A., Haura, S., & Yuliandhari, W. (2023). Pengaruh biaya lingkungan terhadap pengungkapan emisi karbon di sektor manufaktur Indonesia. *Jurnal Akuntansi Sosial dan Lingkungan*, 25(3), 1043–1060. <https://doi.org/10.59888/josh.v1i03.17>
- Luo, L., Lan, Y.-C., & Tang, Q. (2013). Penentu pengungkapan emisi karbon dan dampaknya terhadap kinerja perusahaan: Perspektif internasional. *British Accounting Review*, 45(1), 1–15. <https://doi.org/10.1016/j.bar.2013.01.002>. Diperoleh dari <https://e-journal.trisakti.ac.id/index.php/jmat/article/view/15388/9494>
- Madyan, M. (2024). Pengaruh Perkembangan Keuangan terhadap Emisi CO2 di Indonesia. Universitas Darussalam Gontor. <http://dx.doi.org/10.21111/iej.v10i1.12201>.
- Maulidiavitasari, R., & Yanthi, SDWP (2021). Kinerja lingkungan dan pengungkapan emisi karbon di perusahaan-perusahaan Indonesia. *Jurnal Analisis Akuntansi*, 5(3), 101–112.
- Mofijul Hoq Masum, Ahmed Razman Abdul Latiff dan Mohammad Noor Hisham Osman (2020). Penentu pengungkapan sukarela perusahaan dalam ekonomi transisi. *Masalah dan Perspektif dalam Manajemen*, 18(4), 130-141. doi:10.21511/ppm.18(4).2020.12
- Montel. (2025). Apa itu Pelaporan Carbon Disclosure Project (CDP)?. Diambil dari <https://montel.energy/blog/what-is-carbon-disclosure-project-cdp-reporting>
- Muhammad, A., & Aryani, Y. (2021). Nilai perusahaan dan pengungkapan emisi karbon. *Jurnal Akuntansi Global*, 7(2), 93–104. Diambil dari <https://jurnal.unigo.ac.id/index.php/gaj/article/download/3306/1348>
- Nariswari, A., Musyaffi, AM, & Hasanah, N. (2024). Faktor Penentu Pengungkapan Emisi Karbon pada Perusahaan Non-Keuangan yang Terdaftar di IDX. *Jurnal Ekonomi Lingkungan dan Keberlanjutan*, 1(4), 17–17. <https://doi.org/10.47134/JEES.V1i4.412>
- Nastiti, T., & Hardiningsih, P. (2022). Pengaruh paparan media terhadap pengungkapan emisi karbon. *Jurnal Internasional Penelitian Ilmu Sosial*, 10(2), 228–241. Diperoleh dari <https://ijssr.ridwaninstitute.co.id/index.php/ijssr/article/download/228/401/4791>
- Nilasakti, AO, Aryani, YA, & Setiawan, D. (2024). Pengungkapan emisi karbon: Tinjauan penelitian di Indonesia. *Jurnal Akuntansi dan Investasi*, 25(3), 1043–1060. DOI: 10.18196/jai.v25i3.21913
- Novianti, R., Astiti, D., & Wirama, D. (2020). Profitabilitas dan pengungkapan emisi karbon: Bukti dari perusahaan manufaktur Indonesia. *Enrichment: Journal of Management*, 14(4), 658–667. <https://doi.org/10.35335/enrichment.v14i4.2046>
- Nur, A., & Priantinah, D. (2012). Paparan media dan tanggung jawab sosial perusahaan. *Jurnal Interdisipliner Ekonomi Syariah Indonesia (IJSE)*, 8(1), 713–729. Diperoleh dari <https://e-journal.uac.ac.id/index.php/ijse/article/download/5663/2234/>
- Pratiwi, A., & Sari, R. (2016). Profitabilitas dan praktik pengungkapan lingkungan di Indonesia: Perspektif teori pemangku kepentingan. *Jurnal Analisis Akuntansi*, 5(3), 101–112. Diambil dari <https://journal.unnes.ac.id/sju/index.php/aa/article/download/38262/16957>
- Prihatiningtyas, Y., Susilowati, I., & Nugroho, A. (2023). Faktor-faktor yang menentukan pengungkapan sukarela emisi karbon di perusahaan sektor energi Indonesia. *International Journal of Environmental and Sustainability Science Studies (IJESSS)*, 5(2), 89-102. <https://doi.org/10.38142/ijesss.v5i3.1098>
- Rachman, A. (2023). Ini Bukan Lagi Era Pemanasan Global, Tapi Mendidih Global! <https://www.cnbcindonesia.com/news/20230809062618-4-461295/ini-bukan-lagi-era-global-warming-tapi-global-boiling>
- Rafsanjani, R., & Mappanyukki, R. (2024). Pengaruh belanja modal, jatuh tempo utang, dan kelonggaran keuangan terhadap pengungkapan emisi karbon. *Jurnal Internasional Sains dan Teknologi Penelitian Inovatif*, 9(1), 666–671. Diperoleh dari <https://ijisrt.com/assets/upload/files/IJISRT24JAN182.pdf>
- Ratmono, D., Darsono, D., & Selviana, S. (2021). Pengaruh kinerja karbon, karakteristik perusahaan, dan kinerja lingkungan terhadap pengungkapan emisi karbon: Bukti dari Indonesia. *Jurnal Internasional Ekonomi dan Kebijakan Energi*, 11(1), 101–109. Diperoleh dari <https://journal.uui.ac.id/inCAF/article/download/39035/17981/132785>
- Ratmono, D., Selviana, S., & Darsono, D. (2020). Pengeluaran modal dan transparansi lingkungan: Bukti empiris dari industri-industri yang sangat berpolusi di negara-negara Asia-Pasifik. *Jurnal Akuntansi Lingkungan*, 15(4), 203–219. Diperoleh dari <https://pmc.ncbi.nlm.nih.gov/articles/PMC9632782/>

- Siddique, MA, Aljifri, K., Hossain, S. dan Choudhury, T. (2024), "Pengaruh regulasi berbasis pasar terhadap pengungkapan karbon perusahaan dan kinerja karbon: bukti global", *Jurnal Penelitian Akuntansi Terapan*, Vol. 25 No. 4, hlm. 837-857. <https://doi.org/10.1108/JAAR-08-2022-0215>
- Silva-Gao, L. (2012). Pengungkapan pengeluaran modal lingkungan dan dampaknya terhadap legitimasi perusahaan. *British Accounting Review*, 44(3), 173–185. <https://doi.org/10.1016/j.bar.2012.01.003>
- Smart Prosperity Institute. (2025). Persyaratan, kesenjangan, dan tantangan data iklim untuk mendukung pengungkapan keuangan terkait iklim. Diperoleh dari <https://institute.smartprosperity.ca/ClimateData>
- Solikhah, Badingatus; Maulina, Ukhti (2021): Faktor-faktor yang mempengaruhi kualitas pengungkapan lingkungan dan peran moderasi tata kelola perusahaan, *Cogent Business & Management*, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 8, Iss. 1, hlm. 1-18, <https://doi.org/10.1080/23311975.2021.1876543>
- Subakhtiar, T., Pradhani, T., & Wira, B. (2022). Dampak peningkatan kinerja lingkungan dan penerapan alokasi biaya lingkungan terhadap profitabilitas perusahaan. *Jurnal Ekonomi*, 13(1), 1065–1075. <https://doi.org/10.54209/ekonomi.v13i01>
- Villiers, C., & Staden, CJ (2011). Pengeluaran modal dan pengungkapan emisi karbon: Bukti dari industri dengan emisi tinggi. *Jurnal Akuntansi Lingkungan*, 15(4), 203–219. Diperoleh dari https://www.zbw.eu/econis-archiv/bitstream/11159/8101/1/1762951258_0.pdf
- Bank Dunia. (2023). Keadaan dan Tren Penetapan Harga Karbon 2023. Diperoleh dari <https://www.worldbank.org/en/news/press-release/2023/05/23/record-high-revenues-from-global-carbon-pricing-near-100-billion>
- Yunus, S., Lee, K., & Kuo, L. (2016). Pengaruh tata kelola perusahaan terhadap pengungkapan emisi karbon: Perspektif teori pemangku kepentingan. *Jurnal Internasional Strategi dan Manajemen Perubahan Iklim*, 8(4), 476–495. Diambil dari <https://www.emerald.com/insight/content/doi/10.1108/ijccsm-07-2017-0144/full/html>
- Zanra, F., Jannah, M., & Muid, D. (2020). Dampak profitabilitas terhadap pengungkapan emisi karbon: Pendekatan legitimasi dan teori pemangku kepentingan. *Jurnal Magister Akuntansi Trisakti*, 10(1), 45–62. Diakses dari <https://e-journal.trisakti.ac.id/index.php/jmat/article/view/15388/9494>