



Determinants of Corporate Carbon Emission Disclosure in the Context of Carbon Tax Implementation

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Abstract. This study arises from the urgent issue of increasing greenhouse gas emissions, which represent a major global environmental challenge. The rise in emissions has prompted governments worldwide, including Indonesia, to adopt carbon tax policies as instruments for emission control. To support the implementation of carbon tax policies, corporate disclosure of carbon emissions is a necessary starting point. Carbon emission disclosure policies are expected to enhance corporate transparency in reporting the environmental impacts of their business activities. However, the level of disclosure varies across companies and is influenced by internal corporate factors. The purpose of this study is to analyze the determinants of corporate carbon emission disclosure in supporting carbon tax implementation. The factors examined include firm characteristics such as company size, profitability, leverage and other factor is political connection. This research is expected to provide insights into the determinants of carbon emission disclosure. A quantitative methodology was adopted, relying on secondary sources obtained from the annual and sustainability reports of energy sector firms registered on the Indonesia Stock Exchange for the 2021–2025 period. The data were examined through multiple linear regression, a statistical technique used to evaluate how independent variables influence the disclosure of carbon emissions. Empirical evidence demonstrates that firm characteristics exert no significant impact, and political connections positively affect corporate carbon emission disclosure. Such involvement appears to motivate firms to safeguard their public image by increasing transparency in carbon emission reporting.

Keywords: Carbon Emission Disclosure, Company Size, Leverage, Profitability, Political Connection

1 Introduction

The accumulation of greenhouse gases has led to climate change, which poses a global threat to both economic stability and environmental sustainability. This issue has attracted the attention of many countries, including Indonesia. Based on the Nationally Determined Contribution (NDC) document published in 2022, Indonesia has set a target of reducing emissions by 43.20% by 2030. Among the sectors emphasized in the NDC is the promotion of renewable energy alongside stricter oversight of coal utilization, reflecting its role as the country's second-highest contributor to greenhouse gas emissions.

The Indonesian government's efforts to realize the emission reduction target outlined in the NDC are reflected in *UU No 7 Tahun 2021 tentang Harmonisasi Peraturan Perpajakan*. This law includes provisions establishing the legal basis for carbon taxation. Carbon tax refers to a levy imposed on carbon emissions that have negative impacts on the environment. The implementation of this policy marks a paradigm shift; whereby ecological damage costs are internalized into corporate operational expenses.

Carbon tax in Indonesia was initially implemented through a cap-and-tax mechanism, which is based on emission limits. This system restricts carbon emissions by setting a cap and imposing taxes on excess emissions as a form of environmental accountability for businesses. The system is considered advantageous due to its regulatory certainty, simple reporting mechanism, potential to increase state revenue, and support for the development of clean energy (Wijaya et al., 2025). However, the success of its implementation depends on the readiness of all stakeholders, cross-sector policy consistency, and the design of revenue mechanisms oriented toward environmental objectives (Ardini et al., 2026).

One critical aspect of stakeholder readiness is the consistency of corporate carbon emission disclosure. Previous studies have found that companies in Indonesia exhibit very low and highly varied levels of carbon emission disclosure (Jannah & Muid, 2014). Such disclosures often lack standardized frameworks, making regulatory enforcement and peer comparison difficult. Research has shown that various internal factors or corporate characteristics influence carbon emission disclosure practices (Jannah & Muid, 2014; Lasmianti et al., 2024). These characteristics include firm size, profitability, leverage and political connection.

Firm size reflects the scale of assets owned by a company. Larger firms generally possess greater resources and are more responsive to environmental issues, while also facing stronger pressure from stakeholders. Consequently, large companies are expected to disclose carbon emission information more comprehensively (Jannah & Muid, 2014; Melja et al., 2023).

Another factor is profitability, which measures a company's financial performance. Firms with higher profitability typically have more adequate resources, both financial and human, enabling them to prepare voluntary reports and disclose carbon emissions more optimally. With stronger financial capacity, such companies are also better positioned to respond to external pressures by providing more detailed information on their carbon emissions (Ferdinand et al., 2021; Setiawan et al., 2022).

The other internal factor is leverage. Voluntary carbon emission disclosure often incurs additional costs. Therefore, firms with high leverage tend to reduce or delay such disclosures to maintain cost efficiency. Moreover, creditor pressure may lead companies to prioritize fulfilling financial obligations over voluntary environmental disclosure (M. K. Suhardi, 2025).

Political connections represent a significant factor influencing corporate decisions to disclose carbon emission levels. Firms with politically connected top management frequently seek to preserve a favorable public image, especially in relation to environmental concerns. Such connections also heighten external expectations for companies to exhibit greater accountability and environmental responsibility (Saraswati et al., 2020).

1.1 Theoretical Study

This study adopts Legitimacy Theory as its primary theoretical foundation and Stakeholder Theory as supporting theory to explain companies' carbon emission disclosure. Based on this theory, the study examines whether firm size, profitability, leverage, and political connections influence the carbon emission disclosure.

Legitimacy Theory. In environmental contexts, carbon emission disclosure in reports serves as a key strategy to demonstrate sustainability, especially for high-impact firms, thereby reducing the gap between corporate practices and public perception (Dowling & Pfeffer, 1975). Stakeholder Theory emphasizes that firms are accountable to a broad range of stakeholders beyond shareholders, making carbon emission disclosure a key form of accountability. Corporate characteristics shape the intensity of stakeholder pressure, influencing the extent of environmental disclosure (Freeman, 2015).

Carbon emission disclosure. The extent of carbon emission disclosure is generally measured using the Carbon Disclosure Index (CDI), which is constructed based on the Carbon Disclosure Project (CDP) guidelines or adapted from the checklist developed by (Choi et al., 2013). Larger firms, with greater environmental impact and visibility, are expected—under legitimacy and stakeholder theory—to disclose carbon emissions more extensively (Setyastrini et al., 2021). Highly profitable firms have greater capacity to pursue environmental initiatives and, consistent with legitimacy theory, use carbon emission disclosure to signal managerial quality and commitment to sustainability. (Lasmia et al., 2024).

Leverage, indicates the extent of borrowed funds in a firm's capital structure. Highly leveraged firms may face creditor pressure that limits environmental initiatives, yet under stakeholder theory they may expand disclosures to signal transparency (Lasmia et al., 2024). Political Connection, often reflected in state ownership or the presence of former officials and party elites on boards, provide firms privileged access to information and regulatory concessions. Consistent with legitimacy theory, such firms disclose carbon emissions more extensively to align with environmental policies and safeguard institutional reputation (Nurdin & Nadia, 2022).

1.2 Hypothesis Development

Firm Size and Carbon Emission Disclosure. Firm size, proxied by total assets, reflects operational scale and resource capacity. Larger firms typically generate greater environmental impact and face heightened scrutiny from regulators, investors, and communities (Jannah & Muid, 2014). Under legitimacy theory, they use carbon disclosure to align with societal expectations and preserve legitimacy (Freeman, 2015). Stakeholder theory further suggests that as firms expand, denser stakeholder networks amplify demands for transparency, which larger firms can meet through superior resources. Consequently, larger firms possess both the institutional pressure and the resource capacity to provide comprehensive environmental reporting, leading to the formulation of the first hypothesis in this research is firm size has a positive effect on carbon emission disclosure.

Profitability and Carbon Emission Disclosure. Profitability reflects financial efficiency, with highly profitable firms possessing greater slack to support environmental initiatives and reporting (Ferdinand et al., 2021). Stakeholder theory suggests that successful firms face stronger demands to disclose environmental performance, while legitimacy theory posits that they use transparency to justify economic gains and maintain a favourable image (Setiawan et al., 2022). Therefore, financially robust firms actively leverage transparency to safeguard market trust and institutional standing, resulting the second hypothesis in this research is profitability has a positive effect on carbon emission disclosure.

Leverage and Carbon Emission Disclosure. Leverage reflects debt financing, with high debt ratios signalling heavy obligations that may restrict discretionary resources (Jannah & Muid, 2014). Stakeholder theory views creditors as key stakeholders, encouraging leveraged firms to disclose more to reduce information asymmetry. Conversely, legitimacy theory suggests they may limit reporting to prioritize debt servicing, explaining the mixed empirical findings (Lasmiasi et al., 2024). This study posits that corporations will prioritize transparency to maintain vital relationships with capital providers, leading to formulation of the third hypothesis in this research that leverage has a positive effect on carbon emission disclosure.

Political Connections and Carbon Emission Disclosure. Political connections, established through state ownership or board ties with elites, grant firms privileged regulatory access and heightened visibility (Boubakri et al., 2012). Under legitimacy theory, such firms face intense scrutiny, driving them to disclose carbon metrics to safeguard legitimacy. Stakeholder theory further suggests that proximity to state power amplifies expectations for accountability and environmental stewardship, leading connected firms to provide more extensive disclosures (Mardiana et al., 2024). Based on this explanation, the fourth hypothesis in this research is political connections has a positive effect on carbon emission disclosure.

2 Methodology

This research is a quantitative-associative study that examines the influence of firm size, profitability, leverage, and political connections on the extent of carbon emission disclosure. The data for this research were secondary data sourced from the annual reports and sustainability report of public companies listed on the Indonesia Stock Exchange (IDX). The sample in this study is energy sector companies listed on the Indonesia Stock Exchange for the period 2021–2025. Data collection for this study concluded on June 30, 2026. According to the data gathered, the number of observations in this study is presented below.

The measurement of variables in this study was conducted as follows: Carbon emission disclosure refers to the carbon disclosure index developed by Bae Choi (2013), which comprises 18 disclosure indicators. A score of 1 is assigned if a company discloses an item, and 0 otherwise. The total carbon disclosure index disclosed by the

company is then divided by 18. Firm size is measured using the natural logarithm of the company’s size. Profitability is measured by dividing total net income after tax by total sales. Leverage is measured by dividing total debt by total equity. Political connections are assigned a value of 1 if State-Owned Enterprise or any of the company’s major shareholders, board of commissioners, or board of directors: (a) currently serve or have previously served as members of parliament, (b) currently serve or have previously served as ministers or heads of local government, or (c) have close ties with politicians or political parties; and 0 otherwise.

Table 1. Number of Observations

Research Criteria	Qty
Companies listed on the Indonesia Stock Exchange consecutively from 2021 to 2025	19
Companies that did not publish sustainability reports and annual reports consecutively from 2021 to 2025	(6)
Companies that did not disclose carbon emissions consecutively from 2021 to 2025	(0)
Total sample	13
Number of observations (total sample multiplied by five years)	85

Data analysis will use the Statistical Package for the Social Sciences (SPSS). The analysis began by classical assumption tests including normality, multicollinearity, heteroscedasticity. Further, multiple regression analysis performed with the following regression model (1).

$$CED = \alpha + \beta_1SIZE + \beta_2PROF + \beta_3LEV + \beta_4PC + \varepsilon \quad (1)$$

Note:

CED= Carbon Emission Disclosure; α = Constant; β = Coefficient; SIZE = Firm Size; PROF = Profitability; LEV = Leverage; PC = Political Connection; ε = Error

3 Result and Discussion

3.1 Result

The descriptive statistical findings of this study are summarized as follows.

Table 2. Descriptive Statistical Result

Variable	N	Mean	SD	Min	Max
CED	65	0.72	0.26	0.11	1.00
SIZE	65	29.24	2.60	23.88	32.57
PROF	65	0.12	0.13	0.01	0.62
LEV	65	1.22	0.72	0.13	3.62
PC	65	0.80	0.40	0	1

According to the classical assumption tests, the study fulfills the assumptions of normality (Figure 1), heteroscedasticity (Figure 2), and multicollinearity (Table 3).

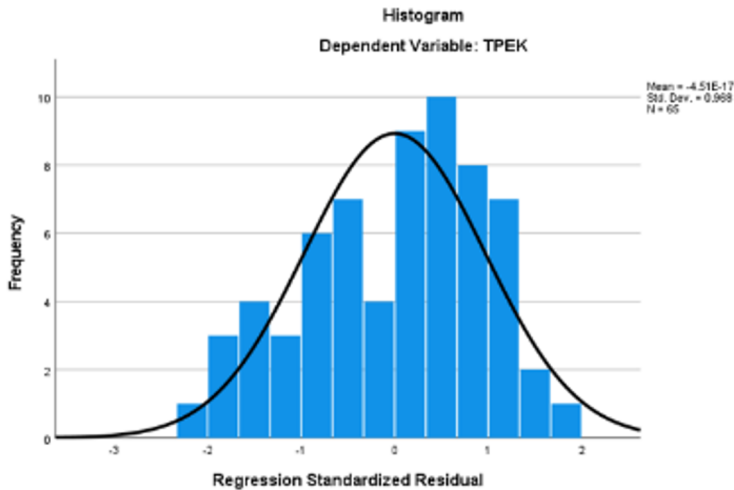


Figure 1. Normality Test Result

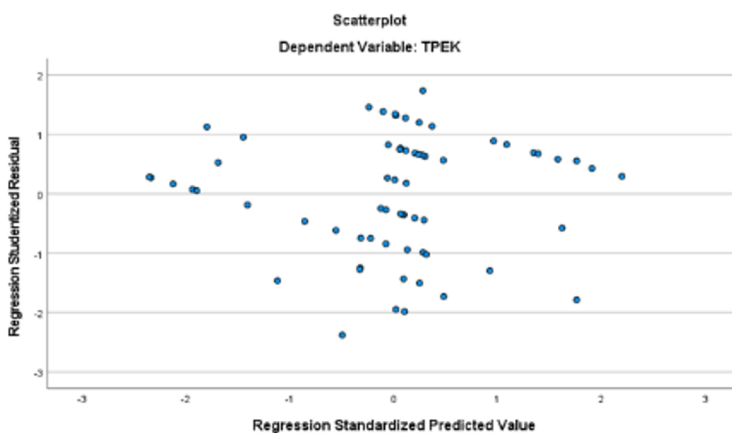


Figure 2. Heteroscedasticity Test Result

Table 3. Multicollinearity Test Result

Variable	VIF	Threshold	Remark
SIZE	1.393	<10.0	Satisfied
PROF	1.141	<10.0	Satisfied
LEV	1.242	<10.0	Satisfied
PC	1.287	<10.0	Satisfied

Linear regression serves as a statistical tool to evaluate the extent to which independent variables influence a dependent variable. Within this study, the technique is employed to investigate the impact of firm size, profitability, leverage, and political connection on carbon emissions disclosure. Regarding the overall model fit, the F-statistic is 3.527

with a significance value (p) of 0.012, confirming that all independent variables simultaneously exert a statistically significant effect on carbon emission disclosure (CED). Furthermore, the coefficient of determination test results indicating an R-squared value of 0.190. This demonstrates that 19.0% of the variance in carbon emission disclosure (CED) can be explained by firm size (SIZE), profitability (PROF), leverage (LEV), and political connections (PC), while the remaining 81.0% is explained by other factors outside the scope of this study.

Table 4. Linear Regression Test

Variabel	Coef.	t	p	Result
(Constant)	0.512	1.901	0.062	Not Significant
SIZE	0.006	0.591	0.556	Not Significant
PROF	0.150	1.373	0.175	Not Significant
LEV	0.040	1.983	0.052	Not Significant
PC	0.078	2.128	0.037	Significant
F = 3.527; p = 0.012; R-square = 0.190				

3.2 Discussion

Firm Size and Carbon Emission Disclosure. Empirical results indicate that firm size does not significantly influence carbon emission disclosure. Large firms with substantial assets are not necessarily more transparent than smaller ones, suggesting that disclosure in Indonesia remains largely voluntary. Decisions to report environmental data are shaped more by managerial commitment, industry characteristics, governance, and stakeholder or regulatory pressure than by corporate scale. Under legitimacy and stakeholder theory, disclosure is driven by social and institutional demands rather than asset size, consistent with prior findings. This finding aligns with Kholmi et al. (2020), as well as supplementary literature showing that large enterprises do not necessarily exhibit superior carbon disclosure levels in the absence of stringent regulatory frameworks or powerful stakeholder demands.

Profitability and Carbon Emission Disclosure. Results show that profitability does not significantly affect carbon emission disclosure, meaning earning capacity is not a decisive factor. Although profitable firms theoretically have more resources for environmental initiatives, they do not necessarily allocate them toward transparency. Less profitable firms may still disclose extensively if driven by sustainability commitments or external scrutiny. From legitimacy and stakeholder perspectives, disclosure is shaped more by governance, institutional pressures, and industry exposure than by financial success This outcome is consistent with Widianingsih (2025), who investigated the Indonesian energy sector and found that profitability had no effect on carbon emission disclosure, a conclusion further corroborated by Koeswandini and Kusumadewi (2019), and Simamora and Mulyani (2023).

Leverage and Carbon Emission Disclosure. Statistical analysis shows that leverage has no significant effect on carbon emission disclosure, meaning debt-to-equity structure does not drive reporting decisions. While stakeholder theory suggests highly

leveraged firms might disclose more to reassure creditors, results indicate that creditors focus on debt-servicing capacity rather than environmental transparency. Thus, disclosure remains voluntary in Indonesia, with both high- and low-leverage firms reporting carbon data based on internal policies, sustainability commitments, and stakeholder expectations rather than capital structure. This finding is concurrent with Suhardi and Purwanto (2015), and is strongly supported by Widianingsih (2025), and Trilestari and Murwanto (2022), who collectively demonstrate that leverage is not a determinant of corporate carbon emission disclosure.

Political Connections and Carbon Emission Disclosure. Empirical findings show that political connections significantly increase carbon emission disclosure, with connected firms reporting more extensively than non-connected ones. The presence of individuals with governmental or political ties in governance structures enhances environmental transparency, as such firms operate under greater public and regulatory scrutiny. Grounded in legitimacy theory, they use detailed reporting to align with societal norms and secure institutional legitimacy. From a stakeholder perspective, the state acts as a powerful regulator, compelling connected firms to disclose carbon data to meet expectations, mitigate political risks, and preserve reputation. This finding is consistent with the empirical evidence presented by Luo and Tang (2014), who documented that firms with closer ties to state authorities expand their carbon reporting to counter regulatory pressures and fulfill legitimacy mandates. Haque and Ntim (2020) show that proximity to government bodies strengthens corporate accountability and voluntary transparency. In emerging markets like Indonesia, political connections not only grant access to resources but also heighten firms' obligation to align with state sustainability agendas through robust carbon emission disclosure

4 Conclusion

This study highlights a theoretical shift in emerging markets, showing that carbon disclosure on the Indonesia Stock Exchange is shaped more by socio-political dynamics than by financial determinants. Firm size, profitability, and leverage have no significant impact, indicating that economic success does not automatically drive transparency. Instead, disclosure operates as a strategic response to state visibility and institutional oversight. Political connections play a decisive role, elevating public exposure and transforming carbon reporting into a mechanism for legitimacy, compliance, and risk mitigation. Overall, stakeholder pressures and legitimacy mandates are amplified by government linkages rather than financial architecture. Research on carbon emission disclosure remains an open frontier, particularly with Indonesia's forthcoming carbon tax policy set to drive stronger commitments to emission reduction

References

- Ardini, D., Husnul Khotimah, A., Handayani, S., Ekonomi, F., & Sriwijaya, U. (2026). Harmonisasi Kebijakan Fiskal dan Lingkungan: Tinjauan Yuridis Skema "Cap and Tax"

- dalam Pajak Karbon 2026. *Ekopedia: Jurnal Ilmiah Ekonomi*, 2. <https://doi.org/10.63822/37rtqb71>
- Boubakri, N., Guedhami, O., Mishra, D., & Saffar, W. (2012). Political Connections and The Cost of Equity Capital. *Journal of Corporate Finance*, 18(3), 541–559. <https://doi.org/10.1016/j.jcorpfin.2012.02.005>
- Choi, B. B., Lee, D., & Psaros, J. (2013). An Analysis of Australian Company Carbon Emission Disclosures. *Pacific Accounting Review*, 25(1), 58–79. <https://doi.org/10.1108/01140581311318968>
- Dowling, J., & Pfeffer, J. (1975). Organizational Legitimacy: Social Values and Organizational Behavior. *The Pacific Sociological Review*, 18(1), 122–136. <https://doi.org/10.2307/1388226>
- Ferdinand, H., Tana, P., Diana, B., Widya, U., & Surabaya, M. (2021). *Pengaruh Tipe Industri, Tingkat Utang dan Profitabilitas Terhadap Pengungkapan Emisi Karbon*. 10(2). <https://doi.org/10.33508/jima.v10i2.3567>
- Freeman, R. E. (2015). Stakeholder Theory. *Wiley Encyclopedia of Management*, 1–6. <https://doi.org/10.1002/9781118785317.weom020179>
- Haque, F., & Ntim, C. G. (2020). Executive Compensation, Sustainable Compensation Policy, Carbon Performance and Market Value. *British Journal of Management*, 31(3), 525–546. <https://doi.org/10.1111/1467-8551.12395>
- Jannah, R., & Muid, D. (2014). Analisis Faktor-Faktor Yang Mempengaruhi Carbon Emission Disclosure Pada Perusahaan Di Indonesia. *Diponegoro Journal of Accounting*, 3.
- Kholmi, M., Karsono, A. D. S., & Syam, D. (2020). Environmental Performance, Company Size, Profitability, And Carbon Emission Disclosure. *Jurnal Reviu Akuntansi Dan Keuangan*, 10(2), 349–358. <https://doi.org/10.22219/jrak.v10i2.11811>
- Koeswandini, I. T., & Kusumadewi, Rr. K. A. (2019). Pengaruh Tipe Industri, Visibilitas Perusahaan, Profitabilitas dan Leverage Terhadap Pengungkapan Emisi Karbon (Studi Empiris pada Perusahaan Non Keuangan yang Terdaftar di Bursa Efek Indonesia Tahun 2015-2017). *Diponegoro Journal of Accounting*, 8(2), 1–10.
- Lasmia, Pahala, I., & Khairunnisa, H. (2024). Analisis Faktor-Faktor Yang Mempengaruhi Pengungkapan Emisi Karbon Pada Perusahaan BUMN. *Jurnal Akuntansi, Perpajakan Dan Auditing*, 5(3), 586–612. <https://journal.unj.ac.id/unj/index.php/japa>
- Luo, L., & Tang, Q. (2014). Does voluntary carbon disclosure reflect underlying carbon performance? *Journal of Contemporary Accounting & Economics*, 10(3), 191–205. <https://doi.org/10.1016/j.jcae.2014.08.003>
- Mardiana, F., Suprayoga, S., & Pratiwi, L. I. (2024). Koneksi Politik dan Pengungkapan Corporate Social Responsibility: Tinjauan Literatur dari Berbagai Negara. *Owner*, 8(2), 1073–1084. <https://doi.org/10.33395/owner.v8i2.2131>
- Melja, A., Murhaban, M., Mursidah, M., & Yusra, M. (2023). Pengaruh Profitabilitas, Ukuran Perusahaan dan Kinerja Lingkungan Terhadap Pengungkapan Emisi Karbon Pada Perusahaan Pertambangan Subsektor Batu Bara yang Terdaftar di Bursa Efek Indonesia Tahun 2018-2021. *Jurnal Akuntansi Malikussaleh (JAM)*, 1(3), 332. <https://doi.org/10.29103/jam.v1i3.8722>
- Nurdin, F., & Nadia, N. (2022). Factors Influencing Tax Avoidance : An Empirical Study on the Indonesian Stock Exchange. *Journal of Accounting Auditing and Business*, 5(2), 57–67. <https://doi.org/10.24198/jaab.v5i2.39512>
- Saraswati, E., Sagitaputri, A., & Rahadian, Y. (2020). Political Connections and CSR Disclosures in Indonesia. *Journal of Asian Finance, Economics and Business*, 7(11), 1097–1104. <https://doi.org/10.13106/jafeb.2020.vol7.no11.1097>
- Setiawan, I., Gunawan, A., & Djunaidy, D. (2022). Analisis Pengungkapan Emisi Gas Karbon ditinjau dari Profitabilitas, Ukuran Perusahaan dan Proporsi Komisaris Independen. *Jurnal Bisnis, Logistik Dan Supply Chain (BLOGCHAIN)*, 2(1), 9–16. <https://doi.org/10.55122/blogchain.v2i1.401>

- Setyastrini, N. L. P., Subekti, I., & Prastiwi, A. (2021). Corporate governance and political connection towards the tax aggressiveness of manufacturing companies in Indonesia. *International Research Journal of Management, IT and Social Sciences*, 8(1), 102–109. <https://doi.org/10.21744/irjmis.v8n1.1118>
- Simamora, N. F., & Mulyani, S. (2023). Determinants of Carbon Emissions Disclosure in Basic And Chemical Industry Companies: A moderating role of Board of Commissioners Size. *Journal of Accounting Auditing and Business*, 6(2), 45–53. <https://doi.org/10.24198/jaab.v6i2.48054>
- Suhardi, M. K. (2025). Pengaruh Kinerja Lingkungan, Ukuran Perusahaan, Leverage dan Sales Growth terhadap Pengungkapan Emisi Karbon. *AKADEMIK: Jurnal Mahasiswa Ekonomi & Bisnis*, 5(2), 786–798. <https://doi.org/10.37481/jmab.v5i2.1348>
- Suhardi, R. P., & Purwanto, A. (2015). Analisis Faktor-Faktor yang Mempengaruhi Pengungkapan Emisi Karbon di Indonesia (Studi Pada Perusahaan Yang Terdaftar di Bursa efek Indonesia Periode 2010-2013). *Diponegoro Journal of Accounting*, 4. <http://ejournal-s1.undip.ac.id/index.php/accounting>
- Trilestari, Rr. D. I., & Murwanto, H. (2022). Impact of Industry Type, Company Size, Profitability and Leverage to Carbon Emission Disclosure. *International Journal of Social and Management Studies (IJOSMAS)*, 3(4).
- Widianingsih, L. P. (2025). Determinants of carbon emission disclosure of energy sector companies in Indonesia. *Jurnal Ekonomi Dan Bisnis*, 28(1), 21–38. <https://doi.org/10.24914/jeb.v28i1.10639>
- Wijaya, C., Kristinatan, H. G., Kurniawan, M., & Syahleindra, M. R. (2025). Sinergitas Cap and Tax sebagai Wujud Aktualisasi Pemerintah dalam Menanggulangi Emisi Karbon di Indonesia. *RIGGS: Journal of Artificial Intelligence and Digital Business*, 4(4), 2705–2710. <https://doi.org/10.31004/riggs.v4i4.3865>

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