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CARBON EMISSION DISCLOSURE AND TAX MITIGATION AS DETERMINANTS OF FIRM VALUE: THE MODERATING EFFECT OF ESG DISCLOSURE ON ENERGY SECTOR COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE (2021–2024)

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ABSTRACT

This study examines the effects of carbon emission disclosure and tax mitigation on firm value and investigates the moderating role of Environmental, Social, and Governance (ESG) Disclosure in these relationships among energy sector companies listed on the Indonesia Stock Exchange during 2021–2024. A quantitative research approach was employed using secondary data obtained from companies' annual reports, sustainability reports, and market information. The sample was selected using a purposive sampling technique, resulting in 23 companies and 92 observations over the research period. The data were analyzed using panel data regression with EViews 14 and Moderated Regression Analysis (MRA). Carbon emission disclosure was measured using the Carbon Emission Disclosure index, tax mitigation was proxied by the Effective Tax Rate (ETR), ESG Disclosure was measured using an ESG disclosure index, while firm value was represented by Tobin's Q. The findings demonstrate that carbon emission disclosure has a positive and significant effect on firm value. Tax mitigation also has a positive and significant effect on firm value. Furthermore, ESG Disclosure strengthens the relationship between carbon emission disclosure and firm value and enhances the effect of tax mitigation on firm value. These findings indicate that value creation in the energy sector is not solely determined by financial and economic management but is also influenced by corporate sustainability practices and transparency. More comprehensive ESG Disclosure can enhance the credibility of corporate information and consequently strengthen investors' positive responses to the environmental and tax-related strategies implemented by companies.

Keywords : *Carbon Emission Disclosure; Tax Mitigation; ESG Disclosure; Firm Value; Energy Sector Companies.*

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh pengungkapan emisi karbon dan mitigasi pajak terhadap nilai perusahaan serta menguji peran Environmental, Social, and Governance (ESG) Disclosure sebagai variabel yang memoderasi hubungan tersebut pada perusahaan sektor energi yang terdaftar di Bursa Efek Indonesia periode 2021–2024. Penelitian ini menggunakan pendekatan kuantitatif dengan memanfaatkan data sekunder yang diperoleh dari laporan tahunan, laporan keberlanjutan, dan informasi pasar perusahaan. Pemilihan sampel dilakukan dengan metode purposive sampling, sehingga diperoleh 23 perusahaan dengan jumlah 92 observasi. Analisis data menggunakan regresi data panel dengan bantuan EViews 14 dan Moderated Regression Analysis (MRA). Pengungkapan emisi karbon diukur menggunakan indeks Carbon Emission Disclosure, mitigasi pajak diproksikan dengan Effective Tax Rate (ETR), ESG Disclosure diukur melalui indeks pengungkapan ESG, sedangkan nilai perusahaan diproksikan menggunakan Tobin's Q. Hasil penelitian menunjukkan bahwa pengungkapan emisi karbon berpengaruh positif dan signifikan terhadap nilai perusahaan. Mitigasi pajak juga terbukti memberikan pengaruh positif dan signifikan terhadap nilai perusahaan. Selain itu, ESG Disclosure terbukti memperkuat pengaruh pengungkapan emisi karbon terhadap nilai perusahaan serta memperkuat hubungan antara mitigasi pajak dan nilai perusahaan. Temuan tersebut menunjukkan bahwa peningkatan nilai perusahaan pada sektor energi tidak hanya dipengaruhi oleh pengelolaan aspek keuangan, tetapi juga oleh keterbukaan informasi dan komitmen perusahaan terhadap keberlanjutan. Pengungkapan ESG yang lebih luas dapat meningkatkan kredibilitas perusahaan di mata investor sehingga memperkuat respons pasar terhadap kebijakan lingkungan dan strategi perpajakan yang diterapkan perusahaan.

Kata Kunci : *Pengungkapan Emisi Karbon; Mitigasi Pajak; ESG Disclosure; Nilai Perusahaan; Sektor Energi.*

INTRODUCTION

Climate change has become a global issue that increasingly influences business activities and corporate economic decisions. Attention to sustainability no longer comes solely from governments but also from institutional investors, financial institutions, consumers, and other stakeholders who increasingly consider the social and environmental impacts of corporate activities. This development has encouraged companies to shift their orientation from focusing solely on financial performance toward achieving a balance among economic, social, and environmental interests. Global commitments through the *Paris Agreement*, the establishment of the *Sustainable Finance Working Group* (SFWG) by the G20, and the *Carbon Border Adjustment Mechanism* (CBAM) initiated by the European Union demonstrate the growing pressure on companies to control carbon emissions and improve sustainability transparency. This condition is particularly relevant to energy-sector companies because their operational characteristics are closely associated with energy consumption and carbon emissions.

Carbon taxation is one of the instruments used to encourage emission reductions and internalize environmental costs arising from economic activities. Globally, carbon-pricing mechanisms have continued to develop, although their effects on financial performance and firm value remain inconsistent depending on industry and firm characteristics. In Indonesia, carbon tax policy has been regulated through Law No. 7 of 2021 concerning the Harmonization of Tax Regulations. However, its implementation has been gradual and has faced various technical and regulatory challenges. This situation creates consequences for companies, particularly those in the energy sector, because emission control and compliance with environmental policies may increase operating costs. On the other hand, effective emission management and transparent environmental disclosure may provide positive signals to investors regarding a company's ability to manage climate-related risks and maintain business sustainability (Vlahinić Lenz et al., 2025).

Carbon emission disclosure represents one form of corporate transparency in communicating information concerning climate change risks and opportunities, greenhouse gas emissions, energy consumption, emission reduction efforts, environmental costs, and carbon management accountability. Based on *signaling theory*, environmental disclosure can function as a signal to investors by reducing information asymmetry between management and external parties. Meanwhile, *stakeholder theory* and *legitimacy theory* explain that such disclosure represents corporate accountability to stakeholders and an effort to obtain social legitimacy for operational activities. Nevertheless, previous studies have reported inconsistent findings regarding the relationship between carbon emission disclosure and firm value. Chen & Xie (2022) Several studies have found a positive relationship because disclosure can improve transparency and investor confidence, whereas others have reported negative or insignificant effects. These differences indicate that the relationship between carbon emission disclosure and firm value requires further investigation, particularly among energy-sector companies in Indonesia.

Friede et al., (2021) In addition to emission management, taxation is also an important component of corporate strategies for maintaining efficiency and enhancing firm value. Velte (2022); Gillan (2021) Tax mitigation through *tax planning* represents an effort by companies to optimize their tax obligations within the boundaries permitted by applicable regulations. Such strategies may involve tax burden management, energy efficiency, investment in environmentally friendly technologies, utilization of fiscal incentives, and carbon trading mechanisms. From the perspective of *trade-off theory*, companies need to balance the benefits of tax savings against potential costs and risks, including tax audit risks, penalties, and reputational risks. , Atan (2021) andBuallay, (2022) Therefore, tax mitigation may affect firm value when implemented effectively while maintaining regulatory compliance. However, previous studies have also reported inconsistent findings regarding the effect of tax mitigation or tax planning on firm value, making this relationship relevant for further examination in the energy sector.

The development of the *Environmental, Social, and Governance* (ESG) concept has further strengthened demands for corporate transparency. ESG disclosure reflects information regarding how companies manage environmental, social, and governance aspects as part of their sustainability strategies. From the perspective of *legitimacy theory*, ESG disclosure can be utilized by companies to obtain legitimacy for the impacts of their operational activities, while *signaling theory* suggests that ESG disclosure can serve as a positive signal regarding management quality and the company's sustainability prospects. Luo et al. (2013) Although several studies indicate that ESG disclosure can enhance firm value through greater transparency, reputation, and investor confidence, other studies suggest that its effect is not always significant. ESG implementation costs, disclosure quality, firm characteristics, and investor perceptions may cause the benefits of ESG disclosure to vary across companies.

Dewaelheyns, Schoubben, Struyfs, & Van Hulle (2023) Firm value is important because it reflects market perceptions of corporate performance, prospects, and the ability to create value for shareholders and other stakeholders. Energy-sector companies face more complex pressures because they must balance profitability requirements with compliance with environmental policies and growing sustainability expectations. Fluctuations in the energy-sector index during the research period also indicate dynamic market responses to industry developments and other influencing factors. Under these circumstances, carbon emission disclosure and tax mitigation strategies may constitute important management decisions that influence investor perceptions, while ESG disclosure may determine how such information is received and evaluated by the market.

Based on the above discussion, a research gap remains regarding the inconsistent findings on the effects of carbon emission disclosure and tax mitigation on firm value. Furthermore, studies that simultaneously integrate these two variables with ESG disclosure as a moderating variable, particularly among energy-sector companies in Indonesia, remain relatively limited. ESG disclosure is expected to strengthen the positive relationship between carbon emission disclosure and firm value by increasing the credibility of sustainability information communicated by companies. ESG disclosure may also influence the relationship between tax mitigation and firm value because environmental, social, and governance transparency can provide investors with greater context in assessing whether tax-efficiency strategies are implemented responsibly and consistently with stakeholder interests.

Therefore, this study aims to examine the effects of carbon emission disclosure and tax mitigation on firm value and to investigate the role of ESG disclosure in moderating these relationships among energy-sector companies listed on the Indonesia Stock Exchange during the 2021–2024 period. This study is expected to contribute to the development of literature on sustainability, taxation, and firm value, while also providing implications for corporate management, investors, and regulators in understanding the relationship between environmental transparency, tax strategies, ESG disclosure, and corporate value creation.

Literatur Review

Carbon Emission Disclosure

Carbon Emission Disclosure (CED) represents a form of corporate transparency through which companies provide information regarding carbon emissions and activities related to climate change. Such disclosure may be presented through annual reports and sustainability reports as part of the environmental information communicated by companies. From the perspective of stakeholder theory, carbon emission disclosure represents a form of corporate accountability to stakeholders regarding the environmental impacts arising from business operations. Meanwhile, signaling theory views information concerning emission management and reduction as a signal to investors regarding management quality, environmental awareness, and the company's ability to address climate-related risks. Cotter et al. (2013) explain that environmental disclosure may include greenhouse gas emission intensity, governance, climate change strategies, emission reduction targets, as well as risks and opportunities associated with climate change.

In this study, carbon emission disclosure is measured using a Carbon Emission Disclosure index based on the Carbon Disclosure Project (CDP) checklist, as adopted by Choi, Lee, and Psaros (2013). The index consists of five major categories with 18 disclosure items, namely climate change risks and opportunities, greenhouse gas emissions, energy consumption, emission reduction and costs, and carbon emission accountability. Each disclosed item is assigned a score of 1, while an undisclosed item is assigned a score of 0. This approach is used to describe the level of transparency of energy-sector companies in reporting carbon emission-related information. A broader level of disclosure indicates greater corporate attention to environmental issues, information transparency, and stakeholder expectations.

Tax Mitigation

Lee & Cho (2021) Tax mitigation is part of corporate management strategies aimed at optimizing tax obligations through actions permitted under applicable tax regulations. Tax mitigation may be implemented through tax planning and forms of tax avoidance that remain within legal boundaries. Hanlon and Heitzman (2010) explain that tax management involves various corporate activities designed to minimize tax obligations. From the perspective of trade-off theory, companies need to consider the benefits of tax savings against potential costs and risks, including tax audit risks, penalties, and reputational consequences. Therefore, tax mitigation is not solely intended to reduce tax burdens but should also consider efficiency, compliance, and corporate sustainability.

Benkraiem et al. (2022) In energy-sector companies, tax mitigation can be associated with efforts to manage tax burdens and environmental policies, including carbon tax policies. Such strategies may include green investment, the adoption of low-emission technologies, energy efficiency, the utilization of fiscal incentives, carbon trading or carbon offsets, and the substitution of fossil fuels with renewable energy. Chen et al. (2022) suggest that tax mitigation strategies may not only reduce tax burdens but may also improve efficiency and firm value. In this study, tax mitigation is proxied by the Effective Tax Rate (ETR), calculated as the ratio of tax expense to pre-tax income. A lower ETR indicates a higher level of tax mitigation

ESG Disclosure

Chen et al. (2022), Environmental, Social, and Governance (ESG) Disclosure refers to corporate information disclosure covering three major dimensions: environmental, social, and governance aspects. ESG disclosure serves as a means of demonstrating corporate responsibility, transparency, and accountability to stakeholders. From the perspective of legitimacy theory, ESG disclosure may assist companies in obtaining and maintaining social legitimacy for their business activities. Meanwhile, signaling theory views ESG disclosure as a signal that provides additional information to investors concerning corporate management quality and commitment to sustainability. Therefore, ESG disclosure functions not only as a reporting mechanism but may also influence stakeholder perceptions of corporate performance and future prospects.

ESG disclosure is particularly relevant to energy-sector companies because the sector is closely associated with environmental issues, resource utilization, and carbon emissions. Comprehensive disclosure can demonstrate that companies consider not only economic interests but also environmental impacts, social interests, and governance quality. In this study, ESG disclosure is measured using a disclosure index based on the Global Reporting Initiative (GRI), calculated by comparing the number of ESG items disclosed by a company with the total number of items in the GRI 2021 indicators. ESG disclosure is subsequently employed as a moderating variable to examine whether the level of ESG transparency strengthens or weakens the relationships between carbon emission disclosure and tax mitigation and firm value

Firm Value

Firm value reflects the market's assessment of a company's condition, performance, prospects, and ability to create value for shareholders and other stakeholders. Firm value does not merely represent past financial performance but also reflects investors' expectations regarding the company's ability to generate economic benefits in the future. From the perspective of signaling theory, both financial and non-financial information disclosed by a company can serve as signals for investors when making investment decisions. Information concerning environmental performance, sustainability policies, risk management, and ESG practices can influence market perceptions of corporate prospects. Accordingly, more favorable investor perceptions of corporate quality and sustainability may contribute to an increase in firm value (Lumoly et al., 2018).

In this study, firm value is measured using Tobin's Q, following Chung and Pruitt (1994). Tobin's Q is selected because it reflects market valuation of corporate assets and prospects and has a forward-looking characteristic. A Tobin's Q value greater than one indicates that the market values the company at a level higher than the replacement value of its assets. In addition, Tobin's Q is relatively less affected by accounting practices than accounting-based measures such as ROA and ROE, making it widely applicable in studies examining ESG, carbon disclosure, and firm value. Therefore, Tobin's Q is considered relevant for representing how the market evaluates energy-sector companies based on available economic, environmental, social, and governance information (Dewaelheyns et al. 2023).

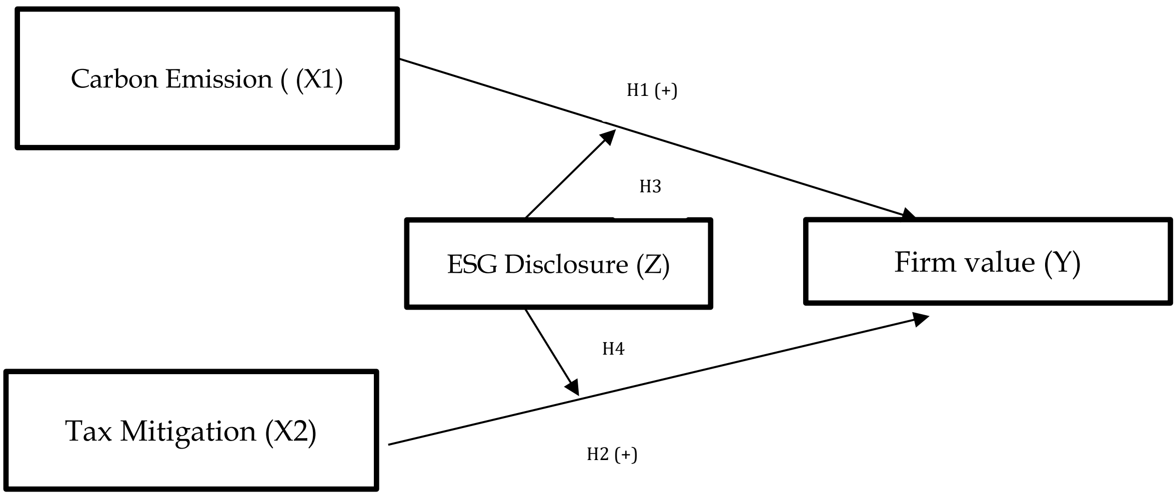

Figure 1. Framework

Hyphothesis

H1: Carbon Emission Disclosure has a positive and significant effect on Firm Value.

H2: Tax Mitigation has a positive and significant effect on Firm Value.

H3: ESG Disclosure strengthens the effect of Carbon Emission Disclosure on Firm Value.

H4: ESG Disclosure strengthens the effect of Tax Mitigation on Firm Value.

RESEARCH METHODOLOGY

This study employed a quantitative approach with a causal research design to examine the effects of carbon emission disclosure and tax mitigation on firm value, with ESG disclosure serving as a moderating variable. The research focused on energy-sector companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2024 period. The study utilized secondary data obtained from annual reports, sustainability reports, financial statements, company websites, and other official sources. The population consisted of energy-sector companies consistently listed on the IDX throughout the observation period. Samples were selected using purposive sampling based on predetermined criteria, resulting in 23 companies with four years of observation and a total of 92 firm-year observations. The data were analyzed using panel data regression with EViews 14.

The study consisted of two independent variables, namely carbon emission disclosure (X1) and tax mitigation (X2), firm value (Y) as the dependent variable, and ESG disclosure (Z) as the moderating variable. Carbon emission disclosure was measured using the Carbon Emission Disclosure (CED) Index based on the Carbon Disclosure Project (CDP) checklist developed by Choi, Lee, and Psaros (2013). The index comprises 18 items covering five categories: climate change risks and opportunities, greenhouse gas emissions, energy consumption, emission reduction and costs, and carbon emission accountability. Tax mitigation was measured using the Effective Tax Rate (ETR), calculated by comparing tax expense with pre-tax income. ESG disclosure was measured using an index based on the Global Reporting Initiative (GRI) 2021 standards, calculated as the proportion of ESG items disclosed by the company relative to the total applicable GRI indicators. Firm value was measured using Tobin's Q, which incorporates market value of equity, liabilities, and total assets.

Data analysis involved descriptive statistical analysis, panel data model selection, classical assumption testing, hypothesis testing, and Moderated Regression Analysis (MRA). The appropriate panel regression model was determined through the Chow, Hausman, and Lagrange Multiplier tests to select among the Common Effect Model, Fixed Effect Model, and Random Effect Model. The moderating effect of ESG disclosure was examined through interaction terms between carbon emission disclosure and ESG disclosure, as well as between tax mitigation and ESG disclosure. Hypothesis testing was conducted using the t-test to assess partial effects, the F-test to evaluate simultaneous effects, and the coefficient of determination (Adjusted R^2) to assess the explanatory power of the regression model.

RESULTS AND DISCUSSION

The Effect of Carbon Emission Disclosure on Firm Value

The test results indicate that carbon emission disclosure (CED) has a significant effect on firm value. This is evidenced by the *p-value* of 0.0010, which is below the 0.05 significance level; therefore, H1 is accepted. The finding indicates that the broader the information disclosed by energy-sector companies regarding their carbon emissions, the stronger its influence on market valuation, as reflected by Tobin's Q. This finding can be explained through *signaling theory*, *legitimacy theory*, and *stakeholder theory*. Carbon emission disclosure can serve as a signal to investors regarding corporate transparency, management quality, and sustainability prospects. At the same time, such disclosure enables companies to obtain social legitimacy and demonstrate accountability to stakeholders, including investors, regulators, communities, and the environment.

This finding indicates that the market pays attention to corporate transparency in managing environmental risks, particularly in the energy sector, which has relatively high exposure to carbon emissions. More comprehensive emission disclosure may strengthen investors' perceptions of management's responsibility and ability to anticipate regulatory, technological, and reputational risks. This result is consistent with Maharani et al. (2024), who found that carbon emission disclosure affects firm value. Furthermore, investors' attention to carbon-related risks is also relevant to the perspective of Bolton and Kacperczyk (2021) regarding the importance of carbon risk in market decisions. Therefore, greater transparency in carbon emission disclosure may generate a more favorable market response toward the firm value of energy-sector companies listed on the IDX.

The Effect of Tax Mitigation on Firm Value

The empirical results demonstrate that tax mitigation, as measured by the *Effective Tax Rate* (ETR), has a significant effect on firm value. The *p-value* of 0.000 is below the 0.05 significance level, indicating that H2 is accepted. This finding suggests that corporate tax management policies are associated with market perceptions of firm value. The relationship can be understood through *agency theory* and *signaling theory*. From an agency perspective, tax mitigation strategies may provide benefits through the reduction of corporate tax burdens but may also create risks when implemented aggressively. Meanwhile, from a signaling perspective, an appropriately managed effective tax burden may provide investors with information regarding the quality of corporate governance, compliance, and managerial integrity.

This result is consistent with Firdaus (2025), who found an effect of *tax planning* and *carbon emission disclosure* on firm value. The relationship can also be explained through the *tax efficiency view*, which suggests that tax savings may increase available cash flows and ultimately generate benefits for shareholders. However, the effect of tax mitigation on firm value remains dependent on the quality of corporate governance. Companies with strong governance are more likely to have their tax strategies perceived as legitimate efficiency measures, whereas weak governance may increase concerns regarding regulatory and reputational risks, as suggested by Wilson (2009) and Wahab and Holland (2012). Therefore, the effect of tax mitigation on firm value should be interpreted by considering the direction of the ETR coefficient and the corporate governance context

The Moderating Role of ESG Disclosure in the Relationship between Carbon Emission Disclosure and Firm Value

The results demonstrate that ESG disclosure, as measured by the ESGI, moderates and strengthens the effect of carbon emission disclosure on firm value. This finding indicates that more comprehensive ESG disclosure can enhance the relationship between carbon emission transparency and market valuation. From the perspective of *signaling theory*, information regarding carbon emissions becomes more credible when supported by consistent sustainability information covering environmental, social, and governance aspects. Thus, ESG disclosure not only expands the information available to investors but also provides a more comprehensive context regarding the company’s commitment to sustainability. This condition reduces the likelihood that carbon emission disclosure will be perceived as selective information.

This finding is consistent with Dhaliwal et al. (2011), who demonstrated that more comprehensive corporate social responsibility reporting can provide benefits to companies, including through lower costs of equity capital, particularly when companies demonstrate strong sustainability performance. The strengthening effect can also be explained through the concept of *complementarity*, whereby carbon emission disclosure has greater credibility when accompanied by comprehensive ESG disclosure. Conversely, environmental disclosure presented in isolation may be perceived as *greenwashing* if it is not supported by broader sustainability commitments (Lyon & Maxwell, 2011; Marquis et al., 2016). Therefore, a higher level of ESG disclosure strengthens the effect of carbon emission disclosure on firm value

The Moderating Role of ESG Disclosure in the Relationship between Tax Mitigation and Firm Value

The empirical results demonstrate that ESG disclosure strengthens the relationship between tax mitigation and firm value. This is evidenced by a *p-value* of 0.0099, which is below the 0.05 significance level, indicating that the moderating effect of ESG disclosure is significant. The finding suggests that comprehensive ESG disclosure can increase market confidence in corporate tax management strategies. From the perspective of *agency theory*, tax mitigation activities may generate conflicts of interest because managers may use such strategies for purposes that are not always aligned with shareholders' interests. However, ESG disclosure, particularly governance-related information, can provide evidence regarding monitoring mechanisms, board independence, internal controls, and managerial accountability, thereby limiting opportunities for opportunistic behavior.

This result is consistent with Alomair and Metwally (2025), who found that the effect of *tax avoidance* on firm value can be strengthened by ESG disclosure. A high level of ESG disclosure may increase investors' confidence that tax efficiency strategies are implemented within an adequate governance and compliance framework rather than merely to avoid tax obligations. From the perspective of *legitimacy theory*, ESG disclosure may also function as a *legitimacy buffer* that helps maintain stakeholder trust when companies implement tax efficiency strategies. This is consistent with Lanis and Richardson (2012, 2015), who emphasized the relationship between corporate social responsibility performance and corporate tax behavior. Therefore, stronger ESG disclosure can reinforce positive market perceptions of the economic benefits generated through tax mitigatio.

CONCLUSION

The findings indicate that both carbon emission disclosure and tax mitigation have a significant influence on firm value among energy-sector companies listed on the Indonesia Stock Exchange. Furthermore, ESG disclosure strengthens the relationship between carbon emission disclosure and firm value, as well as the relationship between tax mitigation and firm value. These results suggest that value creation within Indonesia's energy sector is not solely determined by financial management capabilities but is also shaped by the extent to which companies integrate sustainability considerations into their business practices. In this context, comprehensive ESG disclosure serves as an important strategic element that can enhance corporate credibility, strengthen stakeholder confidence, and generate favorable market responses. Therefore, integrating financial strategies with transparent environmental, social, and governance practices can contribute to sustainable value creation and improve the market perception of energy-sector companies.

SUGGESTION

1. Suggestions for Future Researchers
   Future researchers are encouraged to extend the observation period and consider additional variables that may influence firm value and financial performance, particularly profitability. Further studies may also incorporate accounting-based indicators, including liquidity, solvency, and activity ratios, alongside market-based measures such as Tobin's Q to provide a more comprehensive understanding of value creation. In addition, expanding the research sample to other sectors, such as manufacturing, mining, transportation, and financial services, may provide broader empirical perspectives and enrich the existing literature.
2. Suggestions for Investors
   Investors are encouraged to consider the quality of carbon emission and ESG disclosures as part of their fundamental analysis, particularly when evaluating companies operating in carbon-intensive sectors. Sustainability Reports should also be examined as an additional source of information regarding a company's environmental, social, and governance commitments. Furthermore, tax mitigation practices may be considered when assessing corporate prospects to support more comprehensive and sustainable investment decisions.
3. Suggestions for Regulators
   Regulators are encouraged to accelerate the issuance of implementing regulations related to the 2021 Harmonized Tax Law (HPP Law), particularly concerning carbon taxation. Effective implementation should cover companies with varying levels of carbon emissions, while tax mitigation practices should be monitored to prevent excessive strategies that may lead to tax avoidance. Regulators should also strengthen ESG disclosure standards so that sustainability information is more credible, transparent, and capable of providing positive signals to investors and the market.
4. Suggestions for Academics
   For academics, this study can serve as a reference for further research in sustainability accounting and taxation, particularly in the capital market context. Future studies may develop a more comprehensive analytical framework by integrating signaling theory, stakeholder theory, and agency theory of tax avoidance, while incorporating additional variables, broader research objects, or alternative methodological approaches.

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