Proceeding of the International Conference on Management, Entrepreneurship, and Business

E-ISSN: 3090-9155
P-ISSN: XXXX-XXXX

Research Article

Determinants of ESG Disclosure in the Energy Sector: The Influence of Foreign Ownership, ROA, and Firm Size

Ronald Desta Padang[1]*, Retno Indah Hernawati[2]

[1-2] Akuntansi Study Program, Faculty of Economics and Business, Dian Nuswantoro University, Indonesia; e-mail: ronalddesta@gmail.com
* Corresponding Author : Ronald Desta Padang

Abstract: This study examines the influence of foreign ownership, return on assets (ROA), and firm size on environmental, social, and governance (ESG) disclosure among energy sector companies listed on the Indonesia Stock Exchange (IDX) during 2022–2024. The sample was selected through purposive sampling, including firms that consistently published annual and sustainability reports in accordance with the Global Reporting Initiative (GRI) standards. ESG disclosure was measured as the proportion of disclosed GRI indicators to the total applicable indicators. Multiple linear regression analysis shows that foreign ownership and firm size significantly enhance ESG disclosure, while ROA has no significant effect. These results support legitimacy theory, suggesting that companies increase ESG transparency primarily to secure societal acceptance and maintain their social license to operate. In the energy sector, where environmental sensitivity and public scrutiny are high, ownership structure and firm scale emerge as stronger determinants of ESG disclosure than short-term profitability. These findings provide practical implications for regulators, investors, and stakeholders seeking to promote sustainable corporate practices and responsible investment in Indonesia's energy sector.

Keywords: Energy Sector; ESG Disclosure; Firm Size; Foreign Ownership; ROA

Received: July 15, 2025
Revised: September 9, 2025
Accepted: November 4, 2025
Published: December 30, 2025
Curr. Ver.: December 30, 2025

1. Introduction

Corporate sustainability disclosure has evolved from a voluntary initiative to a strategic imperative, particularly in environmentally sensitive industries such as the energy sector. The Global Reporting Initiative (GRI) provides an internationally recognized framework for reporting ESG performance, enhancing comparability and stakeholder trust. In Indonesia, companies listed on the IDX Main Board face heightened transparency demands due to their size, market visibility, and regulatory oversight, which position them under greater scrutiny from regulators, investors, and the public. The dynamic nature of the energy sector, characterized by fluctuating commodity prices, regulatory transitions, and growing environmental pressures, further amplifies the importance of sustainability reporting (Dorothy & Endri, 2024).

Critical phenomenon is observable in the Indonesian energy sector. Despite mandatory sustainability reporting under POJK 51/2017 and SEOJK 16, only 77% of public companies published sustainability reports for the 2021 period, and just 32% included third party assurance indicating persistent issues in report quality and credibility (Adisresti, 2024). Moreover, the overall quality of these disclosures remains problematic. For instance, the average quality score for Indonesian sustainability reports stood at a mere 53.6%, significantly lower than other Southeast Asian peers (Wahyuningrum et al., 2023). Compounding these issues, energy sector disclosures are highly uneven. Recent study found that disclosures indices across energy firms vary widely from as low as 10.99% in community related disclosure to a maximum of 64.83% highlighting major gaps in critical areas like product responsibility and social engagement (Wahyudi et al., 2024).

Prior studies have examined firm specific determinants of ESG disclosure, yet their findings remain inconclusive. Foreign ownership (FO) is often associated with the adoption of international governance and sustainability standards, as foreign investors typically demand higher transparency. Firm size (FS) has been consistently linked to higher disclosure levels due to greater visibility, resources, and public scrutiny (Oktapiani & Simatupang, 2024). However, the relationship between profitability commonly measured through return on assets (ROA) and ESG disclosure remains contested. Some studies suggest that higher profitability enables more extensive reporting , while others argue that disclosure is driven more by legitimacy and stakeholder considerations than by financial performance (Wardani et al., 2025)

Empirical findings on the relationship between ESG disclosure and firm performance remain inconclusive. Several studies in Indonesia reported that ESG disclosure had no significant effect on profitability, such as Setiawati & Hidayat (2025) who found no effect on ROA among banks, Ferli et al. (2025) who observed no significant impact on either ROA, and Sagita et al. (2022) who also found no effect on ROA in a smaller firm sample. Likewise, empirical evidence on the roles of ownership structure and firm size in shaping ESG related practices is also mixed. While some studies particularly in developed markets suggest that foreign ownership enhances ESG or SDG disclosure (Erben Yavuz et al., 2024), findings from other contexts show neutral or inconsistent results (Al Amosh & Khatib, 2022). Similarly, the influence of firm size remains ambiguous: some evidence shows that firm size does not significantly affect firm value in an ESG context (Sumiati Sunarsih & Yvonne Augustine, 2024), while others even suggest that larger firm size may weaken the effect of ESG disclosure on financial outcomes (Gunarsih & Suprianto, 2024). These discrepancies highlight the importance of further research that examines firm specific determinants such as foreign ownership, firm size, and profitability within localized and sector specific contexts.

This study addresses these gaps by investigating the impact of foreign ownership, firm size, and profitability on ESG disclosure among energy sector firms listed on the Indonesia Stock Exchange between 2022 and 2024. By integrating legitimacy theory and stakeholder theory, this research contributes to the theoretical debate on corporate transparency in emerging markets. Practically, the findings provide insights for regulators in strengthening ESG disclosure policies, for investors in assessing governance quality, and for managers in aligning sustainability strategies with both global standards and local expectations (Sinaga et al., 2025).

2. Literature Review

Theoretical Foundation

This study adopts Legitimacy Theory as the grand theoretical framework, with Stakeholder Theory and Agency Theory serving as a complementary perspective. Legitimacy theory explains ESG disclosure as a mechanism for gaining societal approval, while stakeholder theory highlights the role of specific stakeholder groups in shaping corporate reporting practices.

Legitimacy Theory emphasizes that the survival of an organization depends on its ability to align operations with the norms, values, and expectations of society. Dowling & Pfeffer (1975) defined legitimacy as a condition in which the organizations activities are congruent with the social value system, thereby ensuring its continuity. When discrepancies arise, often referred to as a legitimacy gap, companies risk losing social acceptance, facing regulatory sanctions, and encountering reputational damage. Suchman (1995) expanded this concept by classifying legitimacy into three types such as pragmatic legitimacy, based on tangible benefits to stakeholders moral legitimacy, based on perceptions of ethical appropriateness and cognitive legitimacy, based on conformity to established practices. These dimensions underscore that legitimacy is not static but evolves as firms adapt to changing societal and institutional expectations.

In the context of sustainability, ESG disclosure functions as a strategic mechanism for maintaining and restoring legitimacy. Through transparent reporting on environmental, social, and governance activities, companies seek to demonstrate accountability and reduce stakeholder skepticism. Recent studies confirm the relevance of this perspective. Nurahman et al. (2024) observed that firms with stronger ESG commitments not only secure legitimacy in the eyes of regulators and investors but also experience improved financial outcomes. These findings suggest that ESG disclosure is both a symbolic and substantive tool for bridging the legitimacy gap in emerging markets.

To strengthen this perspective, Stakeholder Theory is incorporated as a supporting framework. Freeman (1984) posited that firms must manage relationships with various stakeholder groups whose interests determine corporate success. Clarkson (1995) distinguished between primary stakeholders such as investors, regulators, and employees, and secondary stakeholders such as NGOs, media, and communities. These groups directly and indirectly shape the demand for ESG transparency. Palupi (2025) shows that both regulatory bodies and civil society actors significantly influence ESG reporting practices, highlighting the role of stakeholders in enforcing sustainability norms.

Finally, Agency Theory complements this framework by addressing internal governance dynamics. Jensen & Meckling (1976) highlighted the conflict between principals and agents due to information asymmetry, which often incentivizes opportunistic behavior. In this regard, foreign ownership reduces agency problems by strengthening monitoring mechanisms and demanding higher levels of transparency. Dorothy & Endri (2024) demonstrated that Indonesian firms with substantial foreign ownership engage in more comprehensive ESG disclosure, as foreign investors enforce stricter accountability standards.

Taken together, Legitimacy Theory serves as the grand theory of this research, providing the primary lens for understanding ESG disclosure as a mechanism to gain, maintain, and repair societal acceptance. Stakeholder Theory adds explanatory power by identifying the actors exerting external pressures, while Agency Theory explains how governance structures, particularly foreign ownership, shape managerial incentives. This theoretical integration offers a robust framework for analyzing the determinants of ESG disclosure in the Indonesian context.

Foreign Ownership as a Determinant of ESG Disclosure

Foreign ownership exerts both direct and indirect influences on ESG reporting. Directly, foreign investors often impose stringent expectations regarding compliance with international ESG standards, corporate governance, and transparency. Indirectly, foreign ownership can facilitate knowledge transfer, best practice adoption, and organizational learning related to sustainability (Dorothy & Endri, 2024). Firms with substantial foreign investment may adopt structured ESG reporting frameworks, integrate sustainability into corporate strategy, and allocate resources toward environmental and social initiatives to satisfy investor expectations.

From the perspective of legitimacy theory, foreign ownership strengthens the legitimacy pressures faced by firms. International investors typically represent broader stakeholder groups with higher demands for transparency and accountability. By improving ESG disclosure, firms not only meet foreign investor requirements but also maintain their social license to operate within local contexts. A multi country study highlights that ESG disclosures enhance firms' attractiveness to foreign equity investors, especially in markets with weaker governance infrastructures (Temiz, 2023). Similarly, a study of Indonesian listed companies found that ownership structure, including foreign ownership positively influences ESG disclosure in a meaningful and statistically significant way (Fuadah et al., 2022).

In practical terms, foreign ownership drives improvements in internal reporting systems, adoption of international standards, and more robust corporate governance structures. Foreign investors often facilitate knowledge transfer, helping subsidiaries align their practices with global best practices. For example, a study in Chinese markets finds that foreign institutional ownership significantly enhances firms ESG performance and reporting quality, reinforcing the role of ownership in promoting sustainability practices (Yoo & Chang, 2024).

The presence of foreign stakeholders also increases the accountability of management, as international investors may exercise voting rights, participate in board oversight, and demand transparent reporting mechanisms. This aligns with legitimacy theory, since firms must demonstrate alignment with global sustainability norms to retain international investor trust, also the agency theory perspective, highlighting how foreign ownership mitigates managerial opportunism and reduces information asymmetry through enhanced disclosure practices.
H1: Foreign Ownership (FO) has a positive effect on ESG disclosure

Firm Size as a Determinant of ESG Disclosure

Firm size has long been recognized as a critical determinant of corporate disclosure. Larger firms are typically subject to higher public scrutiny, face more complex operational risks, and interact with a broader range of stakeholders. From the perspective of legitimacy theory, increased visibility amplifies the necessity to disclose social and environmental information as a signal of responsibility (Watts & Zimmerman, 1986). In practice, larger firms often have more sophisticated internal control systems, dedicated sustainability departments, and greater access to financial and human resources, all of which facilitate more comprehensive ESG reporting.

Recent empirical studies continue to confirm this link between firm size and ESG disclosure. For instance, Lavin & Montecinos-Pearce (2021) find that in Chilean firms, larger companies exhibit significantly more detailed ESG reporting, driven by governance and stakeholder pressures. A study of Indonesian listed firms also shows that firm size positively moderates the relationship between ESG disclosure and firm value, underscoring how larger firms leverage scale to communicate sustainability effectively (Ariasinta et al., 2024). Similarly, research on ASEAN region firms reveals that the positive effect of ESG disclosure on financial performance like ROA and market metrics is stronger among firms with greater size, highlighting economies of scale in ESG capability (Burki et al., 2024).

The rationale is clear, larger firms have more to lose in terms of reputation, regulatory penalties, and investor confidence if ESG issues are mishandled. Within the legitimacy theory framework, firm size amplifies the social contract between firms and society. Larger firms, due to their higher visibility, are more exposed to legitimacy challenges and thus must provide detailed ESG disclosures to maintain their reputational capital and public trust.

H2: Firm Size has a positive effect on ESG disclosure.

Profitability (ROA) as a Determinant of ESG Disclosure

The relationship between profitability, commonly measured as return on assets (ROA), and ESG disclosure is more complex and has been subject to divergent findings in the literature. Signaling Theory posits that profitable firms may use ESG disclosure to signal financial health, operational competence, and long term sustainability to external stakeholders (Spence, 1973). By highlighting environmental and social initiatives, firms demonstrate that profitability is achieved without compromising ethical or sustainability standards, thus enhancing credibility with investors, regulators, and the public.

Conversely, legitimacy theory suggests that ESG disclosure is primarily driven by external societal pressures rather than financial performance. Firms may engage in reporting even in periods of low profitability to maintain legitimacy and stakeholder support. (Rahelliamelinda & Handoko, 2024) provide evidence that profitability moderates the relationship between ESG performance, green innovation, and eco efficiency with firm value. At the same time, Nurahman et al. (2024) show that companies with stronger ESG disclosure tend to achieve higher profitability, indicating that profitability and ESG practices can reinforce each other.

Thus, profitability can influence ESG disclosure in two ways. In line with legitimacy theory, firms disclose regardless of profitability to maintain or repair legitimacy, especially when operating in environmentally sensitive or highly regulated industries. In line with Signaling Theory, profitable firms may disclose more to showcase their strength.

H3: Profitability (ROA) has a positive effect on ESG disclosure

ESG disclosure in emerging markets, particularly in the energy sector, is shaped by a confluence of organizational characteristics and external pressures. Legitimacy concerns act as the overarching driver, ensuring that firms disclose to align with societal norms, maintain trust, and secure their social license to operate. Foreign ownership adds international legitimacy pressures, requiring compliance with global ESG standards. Firm size increases visibility, thereby amplifying legitimacy needs and stakeholder scrutiny. Profitability influences disclosure both as a signaling device and as a long term legitimacy investment.

The integration of legitimacy theory across these determinants provides a coherent explanation of why firms disclose ESG information, demonstrating that beyond financial motives, disclosure is fundamentally about maintaining alignment with evolving societal and investor expectations.

3. Research Method

This study employs a quantitative, explanatory research design aimed at examining the determinants of Environmental, Social, and Governance (ESG) disclosure among energy sector companies listed on the Indonesia Stock Exchange (IDX). Quantitative research was chosen because it allows for objective measurement and statistical testing of relationships between corporate characteristics and ESG disclosure levels. The explanatory approach was particularly appropriate as it enables the investigation of causal relationships, providing insights into how specific corporate attributes influence ESG practices. The theoretical foundation of this study is grounded in Legitimacy Theory, which complements by suggesting that organizations disclose ESG information to align with societal norms, values, and regulations, thereby legitimizing their existence and operations within society (Deegan, 2002). Stakeholder Theory and Agency Theory serve as supporting perspectives, highlighting the role of stakeholder pressures and internal governance mechanisms in shaping corporate ESG practices. Together, these theories provide a robust rationale for examining how foreign ownership (FO), firm size (FS), and profitability (ROA) drive ESG disclosure decisions in the Indonesian energy sector.

Population and Sample

The population of this study consists of all energy sector companies listed on the IDX during the period 2022–2024. This period was selected to capture recent ESG reporting trends in response to increasing regulatory and investor pressures in Indonesia. To ensure the quality and consistency of data, a purposive sampling technique was employed. Purposive sampling allows researchers to select firms that meet predefined criteria, ensuring that only companies with complete, comparable, and relevant data are included in the analysis. Following this procedure, the final sample consisted of 21 companies observed over three years

(2022–2024), resulting in 63 firm-year observations. The sampling criteria for this study were as follows:

a. The company remained consistently listed on the IDX throughout the 2022–2024 observation period. This criterion ensures that longitudinal analysis is possible and avoids biases associated with new listings or delistings.
b. The company published both an annual report and a sustainability report for each year. ESG disclosure is often embedded within sustainability reports. Therefore, the availability of these documents is essential for reliable measurement.
c. Complete data on foreign ownership, total assets, and profitability (ROA) were available. Missing data would compromise the robustness of regression analysis and reduce the reliability of results.
d. ESG disclosure information could be accurately measured under the Global Reporting Initiative (GRI) Standards framework. The GRI framework provides a globally recognized benchmark for ESG reporting, allowing for standardized comparisons across firms (Global Reporting Initiative, 2021).

Data Collection

The study relies exclusively on secondary data, sourced from publicly available annual reports, financial statements, and sustainability reports. These documents were obtained from the official IDX portal and the companies websites. This approach ensures transparency, reproducibility, and compliance with academic standards for secondary data research.

Table 1. Variables Measurement

Variable	Indicator	Measurement	Source
Foreign Ownership (X1)	Shareholding Structure	Proportion of shares owned by foreign investors / total outstanding shares	Annual Report
Firm Size (X2)	Company Scale	Natural logarithm of total assets	Annual Report
Return On Asset (X3)	Profitability	Net income / total assets	Annual Report
ESG Disclosure (Y)	ESG item disclosed	Proportion of disclosed ESG indicators / 107 ESG indicators (GRI Standards 2021)	Sustainability Report

Data Analysis

Data were analyzed using multiple linear regression, with ESG disclosure as the dependent variable and FO, FS, and ROA as independent variables. The following steps were carried out:

a. Descriptive Statistics: To describe the distribution, mean, and variation of each variable.
b. Classical Assumption Tests:
   1) Normality test of residuals,
   2) Multicollinearity test (Tolerance, VIF),
   3) Autocorrelation test (Durbin–Watson),
   4) Heteroskedasticity test.
c. Regression Analysis: To test the effect of FO, FS, and ROA on ESG disclosure. The regression equation can be written as

   $$ESG_i = \alpha + \beta_1 FO_i + \beta_2 FS_i + \beta_3 ROA_i + \varepsilon_i$$

   Where :
   α = Constant (intercept)
   β = Regression coefficients
   ε_i= Error term
d. Hypothesis Testing:
   1) t-test: to test the partial effect of each independent variable.
   2) F-test: to test the simultaneous effect of all independent variables.
   3) Coefficient of Determination (R^2): to measure the explanatory power of the model.

All statistical analyses were performed using SPSS version 26.

4. Results and Discussion

Descriptive Statistics

Table 2. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std.Deviation
Foreign Ownership (FO)	63	0.000	0.827	0.196	0.233
Firm Size (FS)	63	17.531	23.101	20.974	1.494
Return On Asset (ROA)	63	-0.115	0.744	0.153	0.154
ESG Disclosure	63	0.084	0.935	0.692	0.203

Source : Data Processing

The average foreign ownership (FO) among the sampled firms is 19.6%, with a minimum of 0% and a maximum of 82.7%, reflecting significant heterogeneity across companies. This variation indicates different levels of external investor involvement, which may influence corporate transparency and accountability. Firm size (FS), measured as the natural logarithm of total assets, ranges from 17.5 to 23.1, highlighting the presence of both mid-sized and large enterprises within the energy sector. Profitability (ROA) exhibits a mean of 15.3%, with considerable dispersion from -11% to 74%, suggesting that some firms are struggling with operational efficiency while others maintain robust profitability. ESG disclosure, measured as the percentage of explicitly reported indicators out of 107 non-economic GRI indicators, ranged from 8.4% to 93.5%. This wide range underscores substantial differences in sustainability reporting practices. The average ESG disclosure of 69.2% indicates that, on average, firms demonstrate moderate ESG transparency, though substantial variation highlights the uneven adoption of sustainability practices

The descriptive results suggest initial support for the proposition that larger firms with higher foreign ownership and profitability are more likely to disclose ESG information. Firms with greater foreign investor involvement may feel stronger pressure to adhere to global reporting standards, while larger and more profitable firms possess more resources to invest in sustainability reporting. These trends align with the underlying theoretical framework, particularly Legitimacy Theory which suggests that companies seek to maintain social legitimacy.

Classical Assumption

Table 3. Classical Assumption Test

Assumption	Criteria	Results	Information
Normality	Kolmogorov-Smirnov Sig. > 0.05	K-S= 0.083	Qualified
Autocorrelation	du < DW < 4–du	1.774 < 1.078 (DW) < 2.230	Not Qualified
Multicollinearity	Tolerance > 0.1; VIF < 10	FO: Tol 0.833 ;VIF 1.201 FS: Tol 0.845 ;VIF 1.183 ROA: Tol 0.983 ;VIF 1.017	Qualified
Heteroskedasticity	Glejser Sig. > 0.05	FO = 0.269 FS = 0.402 ROA = 0.072	Qualified

Source : Data Processing

The normality test using the Kolmogorov-Smirnov approach indicates that the data are normally distributed, as the significance value (0.083) exceeds the 0.05 threshold. Multicollinearity diagnostics also confirm that all independent variables have tolerance values greater than 0.1 and VIF values less than 10, implying the absence of multicollinearity issues. Similarly, the Glejser test results demonstrate that heteroskedasticity is not present, since the significance values for all predictors are above 0.05.

However, the Durbin-Watson statistic indicated the presence of autocorrelation in the model. This finding is not uncommon in time-series and panel data settings, where residuals are often correlated across periods. While the existence of autocorrelation implies that the model may lose some efficiency in estimating the standard errors, the Ordinary Least Squares (OLS) coefficients remain consistent and unbiased. Therefore, the interpretation of the estimated coefficients remains valid. Nevertheless, the presence of autocorrelation should be recognized as a limitation of this study. To mitigate this issue, future research may consider employing more advanced approaches such as Generalized Least Squares (GLS), Prais-Winsten regression, or robust standard errors to enhance efficiency and obtain more reliable inference.

Overall, except for the detected autocorrelation issue, the regression model meets the classical assumptions of normality, absence of multicollinearity, and homoscedasticity, indicating that the model is generally reliable for further analysis.

Regression Analysis

Table 4. ANOVA (F-test)

Model	Sum of Squares	df	Mean Squares	F	Sig.
Regression	0.184	3	0.061	9.47	0.000
Residual	0.335	59	0.006		
Total	0.539	62			

Source : Data Processing

As shown in Table 4, the ANOVA (F-test) results indicate that the regression model is statistically significant ($F = 9.47$, $p < 0.001$). This confirms that the independent variables collectively explain a significant proportion of the variation in ESG disclosure, thereby supporting the overall validity of the model.

Table 5. Model Summary (R^2)

Model	R	R Square	Adjusted R Square	Std. Error
(Constant)	0.647 [a]	0.419	0.389	0.1588

Source : Data Processing

The model summary shows that the regression model explains 41.9% of the variation in ESG disclosure ($R^2 = 0.419$), while the adjusted R^2 indicates that 38.9% of the dependent variable is explained after adjusting for the number of predictors. This indicates that the regression model is statistically reliable for further interpretation.

Table 6. Coefficents (t-test)

Variable	Unstandardized Coefficient		Standardized Coefficients	t	Sig
	B	Std.Error	Beta		
(Constant)	-0.834	0.303		-2.755	0.008
Foreign Ownership (FO)	0.194	0.095	0.223	2.046	0.045
Firm Size (FS)	0.072	0.15	0.527	4.882	0.000
Return On Asset (ROA)	-0.102	0.132	-0.077	-0.774	0.442

Source : Data Processing

The coefficients table reveals mixed effects of the independent variables on ESG disclosure. Foreign ownership (FO) has a positive and significant impact ($\beta = 0.223$, $t = 2.046$, $p = 0.045$). Firm size (FS) is also positively significant ($\beta = 0.527$, $t = 4.882$, $p = 0.000$). Meanwhile, return on assets (ROA) shows a negative but statistically insignificant effect ($\beta = -0.077$, $t = -0.774$, $p = 0.442$).

Analysis of Foreign Ownership (FO)

The regression results indicate a positive and significant coefficient for FO, the regression results indicate that FO has a positive and statistically significant effect on ESG disclosure, suggesting that firms with higher foreign ownership levels tend to report more ESG indicators. This finding is primarily explained by Legitimacy Theory, which posits that companies seek to maintain social acceptance and credibility in the eyes of key stakeholders. Firms with significant foreign ownership face stronger scrutiny not only from domestic regulators but also from international investors, who expect transparent ESG reporting as part of global investment standards. By disclosing ESG activities, these firms maintain legitimacy, signal responsible business practices, and reduce reputational risk. Foreign investors act as powerful external stakeholders who monitor firm behavior closely. Their presence increases the visibility of the firm not only to domestic but also to international audiences. This creates legitimacy pressure where companies with higher FO are expected to align with global environmental, social, and governance standards, and failure to do so could damage the firm's social acceptance and reputation.

In practical terms, high foreign ownership signals to the firm that its operations are under scrutiny by investors who prioritize sustainability and ethical business practices. Firms respond by expanding ESG reporting to demonstrate compliance, transparency, and accountability core mechanisms through which legitimacy is maintained. This aligns with Stakeholder Theory, where foreign investors are influential stakeholders whose expectations shape firm behavior, and Agency Theory, as foreign shareholders demand transparency to reduce information asymmetry and monitor managerial decisions.

Comparing these findings with prior research, our results are consistent with studies by (Temiz, 2023), who found that ESG disclosure helps attract foreign equity capital, especially in weaker governance environments. Moreover, Yahaya (2025) shows that both institutional and foreign ownership positively influence ESG disclosure in emerging markets. Nevertheless, some studies suggest that the impact of FO varies depending on regulatory and cultural contexts as demonstrated by Adardour et al. (2025), who found that in emerging markets like Morocco, effective ESG disclosure is often constrained by weak governance and materiality frameworks, underscoring the necessity for contextualized institutional reforms, underlining the need for localized research in Indonesia's energy sector.

Analysis of Firm Size (FS)

The regression results show that FS has the strongest positive and highly significant effect among the predictors. This findings align with the study from Shaikh (2021) show that larger firms consistently report more ESG indicators than smaller firms, reflecting the benefits of economies of scale and resource availability. This observation supports Legitimacy Theory, which posits that larger firms, due to their visibility and social impact, face higher scrutiny from stakeholders, regulators, and media. By disclosing comprehensive ESG information, these firms maintain legitimacy and manage reputational risk.

Larger firms possess greater financial, human, and technical resources that allow them to adopt more structured ESG reporting practices. They can allocate budgets for specialized sustainability teams, invest in advanced reporting systems, and implement stronger monitoring mechanisms. Findings from Southeast Asian cases where well-resourced firms exhibit higher quality ESG reporting, even in resource-constrained contexts like Vietnam and Indonesia (Hung et al., 2024).

Firm size also interacts with FO and ROA to influence ESG disclosure. Large firms with high foreign ownership and strong profitability tend to show the most robust ESG disclosures, illustrating synergistic effects among legitimacy, resources, and financial strength. These patterns are mirrored across various settings including Norwegian firms where ESG capability mediates the firm-size effect on performance (Giannopoulos et al., 2022).

Managers of large firms must strategically manage their ESG communication to meet stakeholder expectations, reduce reputational risks, and enhance market valuation. Regulatory authorities may also focus on larger firms as benchmarks for sustainability reporting, providing guidance and incentives to encourage smaller firms to gradually improve disclosure.

Analysis of Profitability (ROA)

The regression results show a negative and statistically insignificant effect of ROA on ESG disclosure. This indicates that profitability, despite providing financial capacity, does not directly drive ESG reporting. Instead, ESG disclosure in the energy sector appears to be primarily motivated by the need to maintain legitimacy and respond to stakeholder pressures, rather than by profitability alone. This nuance can be understood through Legitimacy Theory, while profitable firms have the resources to invest in ESG initiatives, disclosure is largely driven by the need to maintain legitimacy and stakeholder trust rather than purely financial capacity. In the energy sector, high capital demands and exposure to environmental risks may lead firms to prioritize operational efficiency over additional reporting, especially during periods of volatile commodity prices. A study of Saudi-listed non-financial firms found that although ESG disclosure is growing, its impact on ROA is not uniformly positive (Ali et al., 2025). Moreover, research across ASEAN listed companies showed that, although ESG reporting generally correlates with improved financial outcomes, ROA improvements occur only when firms manage to reduce risks and communicate transparency clearly, suggesting that ESG-driven financial gains depend on broader strategic alignment (Burki et al., 2024).

Although the effect of ROA on ESG disclosure is statistically insignificant, the negative direction of the coefficient may provide additional insights. Highly profitable firms may rely on their strong financial performance as a source of legitimacy, thereby perceiving less urgency to expand non-financial disclosures. In such cases, profitability itself acts as a reputational shield, reducing managerial incentives to invest in broader ESG reporting. This suggests that, in the energy sector, firms with higher profitability might prioritize operational efficiency and financial signaling over non-financial disclosure, particularly when market reputation is already secured through robust earnings.

The Signaling Theory provides an extra explanation for understanding this relationship. Firms with higher ROA may use ESG reporting as a signal of operational excellence and sustainable performance, attracting investors and enhancing their reputation. However, the energy sector's high capital demands and exposure to environmental risks may result in a complex trade-off between profitability and ESG investment. Companies may prioritize core operational efficiency over additional reporting if resources are constrained, particularly during periods of volatile commodity prices. Empirical work from emerging economies supports this, indicating that profitability alone is insufficient to drive disclosure without concurrent regulatory and institutional support (Biju et al., 2025).

Interestingly, the combination of ROA with FS and FO amplifies ESG disclosure. Profitable large firms with significant foreign ownership demonstrate the highest disclosure levels, indicating that resource availability, external monitoring, and legitimacy concerns jointly drive ESG reporting. This aligns with investor expectations and legitimacy pressures consolidating, as reported in the Indonesian market context (Itan et al., 2025), where ownership type significantly influences market reactions to ESG reporting

Managers should therefore view ESG disclosure not only as a compliance activity but as a strategic tool to enhance legitimacy, stakeholder trust, and long-term resilience, aligning ESG initiatives with financial and reputational objectives.

Limitations and Future Research

Several limitations warrant consideration:

a) ESG disclosure measurement relies on explicitly reported indicators, potentially omitting qualitative aspects of sustainability practices.
b) The presence of autocorrelation in the regression model indicates that the error terms may be correlated across time, which can reduce the efficiency of standard error estimation. Although the coefficients remain consistent, this limitation could affect the precision of significance testing

Future research incorporate qualitative ESG assessment, and employing corrective approaches such as GLS, Prais-Winsten, or robust standard errors could enhance the accuracy of estimation in the presence of autocorrelation.

5. Conclusion

This study demonstrates that Foreign Ownership and Firm Size significantly influence ESG disclosure among energy sector firms in Indonesia, while Profitability (ROA) does not have a statistically significant effect. Foreign ownership exerts strong pressure for transparency, and large firms possess the resources and legitimacy to implement comprehensive reporting. Profitability provides financial capacity but is not the main driver of ESG disclosure. The combined effect underscores the multidimensional determinants of sustainability disclosure through Legitimacy Theory, integrating both Stakeholder Theory and Agency Theory.

The findings contribute to both theory and practice by highlighting how corporate characteristics shape ESG reporting behavior. Understanding these dynamics is crucial for managers, foreign investors, and regulators to promote transparency, enhance stakeholder trust, and align corporate strategy with sustainable development goals.

Author Contributions: (N/A)

Funding: (N/A)

Data Availability Statement: (N/A)

Acknowledgments: The authors would like to express their sincere gratitude to Universitas Dian Nuswantoro, Semarang, for the academic support and research facilities provided during the completion of this study. Appreciation is also extended to colleagues and reviewers of the 1st International Conference on Business, Economics, Accounting, and Technology for their constructive feedback and valuable insights

Conflicts of Interest: (N/A)

References

Adardour, Z., Ed-Dafali, S., Mohiuddin, M., El Mortagi, O., Sbai, H., & Bouzahir, B. (2025). Exploring the drivers of environmental, social, and governance (ESG) disclosure in an emerging market context using a mixed methods approach. *Future Business Journal, 11*(1). https://doi.org/10.1186/s43093-025-00530-w

Adisresti, Y. (2024). From reporting to reality: Indonesia's sustainability efforts towards net zero. *South-East-Asia.bureauveritas.com.*

Al Amosh, H., & Khatib, S. F. A. (2022). Ownership structure and environmental, social and governance performance disclosure: The moderating role of the board independence. *Journal of Business and Socio-Economic Development, 2*(1), 49–66. https://doi.org/10.1108/JBSED-07-2021-0094

Ali, N. B. M., Ali Hussin, H. A. A., Mohammed, H. M. F., Mohmmed, K. A. A. H., Almutiri, A. A. S., & Ali, M. A. (2025). The effect of environmental, social, and governance (ESG) disclosure on the profitability of Saudi-listed firms: Insights from Saudi Vision 2030. *Sustainability (Switzerland), 17*(7), 1–25. https://doi.org/10.3390/su17072977

Ariasinta, T., Indarwanta, D., & Utomo, H. J. N. (2024). Pengaruh environmental, social, and governance (ESG) disclosure dan intellectual capital terhadap firm value dengan firm size sebagai variabel moderasi (Studi pada perusahaan indeks LQ45 tahun 2018–2022). *Jurnal Administrasi Bisnis (JABis), 22*(2), 255. https://doi.org/10.31315/jurnaladmbisnis.v22i2.12832

Biju, A., Geetha, S., Prasad, S., & Sasidharan, A. (2025). ESG-firm performance nexus: Evidence from an emerging economy. *Business Strategy and the Environment, 3469–3496.*

Burki, A. K., Ahamed Mafaz, M. N., Ahmad, Z., Zulfaka, A., & Al-Amatullah, I. (2024). The impact of ESG disclosures on financial performance: Evidence from ASEAN-listed companies. *American Journal of Economic and Management Business (AJEMB), 3*(10), 357–368. https://doi.org/10.58631/ajemb.v3i10.120

Clarkson, M. B. E. (1995). A stakeholder framework and evaluating for analyzing. *Academy of Management Review, 20*(1), 92–117.

Deegan, C. (2002). The legitimising effect of social and environmental disclosures – A theoretical foundation. *Accounting, Auditing & Accountability Journal, 15*, 282–311. https://doi.org/10.1108/09513570210435852

Dorothy, P., & Endri, E. (2024). Environmental, social and governance disclosure and firm value in the energy sector: The moderating role of profitability. *Problems and Perspectives in Management, 22*(4), 588–599. https://doi.org/10.21511/ppm.22(4).2024.44

Dowling, J., & Pfeffer, J. (1975). Organizational legitimacy: Social values and organizational behavior. *The Pacific Sociological Review, 18*(1), 122–136.

Erben Yavuz, A., Kocaman, B. E., Doğan, M., Hazar, A., Babuşcu, Ş., & Sutbayeva, R. (2024). The impact of corporate governance on sustainability disclosures: A comparison from the perspective of financial and non-financial firms. *Sustainability, 16*(19). https://doi.org/10.3390/su16198400

Ferli, O., Ibrahim, I., & Pranaja, Y. (2025). Does ESG disclosure or size matter to profitability? Case of banking companies listed on the Indonesian capital market. *Jurnal Kajian Pendidikan Ekonomi Dan Ilmu Ekonomi, 9*(2), 917–926. http://search.jamas.or.jp/link/ui/2014143423

Freeman, E. (1984). *Strategic Management: A Stakeholder Approach*. Pitman.

Fuadah, L. L., Mukhtaruddin, M., Andriana, I., & Arisman, A. (2022). The ownership structure, and the environmental, social, and governance (ESG) disclosure, firm value and firm performance: The audit committee as a moderating variable.

Giannopoulos, G., Fagernes, R. V. K., Elmarzouky, M., & Hossain. (2022). The ESG disclosure and the financial performance of Norwegian listed firms. *Journal of Risk and Financial Management, 15*(6). https://doi.org/10.3390/JRFM15060237

Gunarsih, T., & Suprianto, A. (2024). Is firm size strengthening the relationship between ESG disclosure and firm value? A study in IDX ESG leader. *International Research Conference on Management and Business, 5*(August), 2179–2190. https://www.researchgate.net/publication/382946315

Hung, P. T., Khanh, T. L. M., Yen, N. H., & Tu, P. N. M. (2024). Relevance information of ESG scores: Empirical research from Mentor: Truong Thi Hanh Dung. *July*.

Itan, I., Sylvia, S., Septiany, S., & Chen, R. (2025). The influence of environmental, social, and governance disclosure on market reaction: Evidence from emerging markets. *Discover Sustainability, 6*(1). https://doi.org/10.1007/s43621-025-01085-0

Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*, 305–360. https://doi.org/10.1057/9781137341280.0038

Lavin, J. F., & Montecinos-Pearce, A. A. (2021). ESG disclosure in an emerging market: An empirical analysis of the influence of board characteristics and ownership structure. *Sustainability (Switzerland), 13*(19). https://doi.org/10.3390/su131910498

Nurahman, D., Majid, M. A., & Hersugondo, H. (2024). ESG disclosure's positive impact on financial performance in Indonesia's growth. *Journal of Enterprise and Development (JED), 04*(06), 25–34.

Oktapiani, N., & Simatupang, F. S. (2024). Pengaruh good corporate governance dan firm size terhadap pengungkapan sustainability report pada perusahaan sektor energi yang terdaftar di Bursa Efek Indonesia periode 2020–2022. *J-MAS (Jurnal Manajemen Dan Sains), 9*(1), 411. https://doi.org/10.33087/jmas.v9i1.1657

Palupi, A. (2025). How external stakeholder pressure influences sustainability report quality: The intervening role of ESG disclosures. *1*(2).

Rahelliamelinda, L., & Handoko, J. (2024). Profitabilitas sebagai moderating pengaruh kinerja ESG, green innovation, eco-efficiency terhadap nilai perusahaan. *Jurnal Informasi, Perpajakan, Akuntansi, Dan Keuangan Publik, 19*(1), 145–170. https://doi.org/10.25105/jipak.v19i1.19191

Sagita, B., Aprianto, R., & Sari, D. (2022). Pengaruh ESG dan CSR terhadap kinerja keuangan. *Journal of Comprehensive Science (JCS), 1*(3), 419–438. https://doi.org/10.36418/jcs.v1i3.66

Setiawati, A., & Hidayat, T. (2025). The influence of environmental, social, and governance (ESG) disclosure on financial performance. *International Journal of Environmental, Sustainability, and Social Science, 6*(1), 149–161. https://doi.org/10.38142/ijesss.v6i1.1315

Shaikh, I. (2021). Environmental, social, and governance (ESG) practice and firm performance: An international evidence. *Journal of Business Economics and Management, 23*(1), 218–237. https://doi.org/10.3846/jbem.2022.16202

Sinaga, P., Simanjuntak, A., Sagala, F., & Ginting, M. C. (2025). The effect of environmental, social and governance disclosure on firm value in energy sector companies listed on the Indonesia Stock Exchange in the 2021–2023 period. *Jurnal Ilmiah Accusi, 7*(1), 113–124. https://doi.org/10.36985/94t7h561

Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics, 87*(3), 355–374. https://doi.org/10.2307/1882010

Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *The Academy of Management Review, 20*(3), 571–610. https://doi.org/10.2307/258788

Sumiati Sunarsih, & Yvonne Augustine. (2024). The effect of ESG disclosure, manager qualification and workplace safety on firm value with firm size and financial leverage as control variables in manufacturing companies listed on the Indonesia Stock Exchange year 2020–2022. *Technium Sustainability, 5*, 61–74. https://doi.org/10.47577/sustainability.v5i.10783

Temiz, H. (2023). ESG disclosure, foreign ownership, and the role of the information and governance environments. *2024*(1059), 1–46.

Wahyudi, H., Lenni, S. M., & Sutarto, S. (2024). CSR index of energy sector companies in Indonesia. *International Journal of Energy Economics and Policy, 14*(6), 40–45. https://doi.org/10.32479/ijeep.16918

Wahyuningrum, I. F. S., Ihlashul'amal, M., Hidayah, R., & Widhi Rizkyana, F. (2023). Stakeholder pressure and its effect on sustainability report. *Jurnal Presipitasi: Media Komunikasi Dan Pengembangan Teknik Lingkungan, 20*(2), 494–506. https://doi.org/10.14710/presipitasi.v20i2.494-506

Wardani, I. A., Juanda, A., & Wicaksono, A. P. N. (2025). Structural ownership and ESG disclosure: Unveiling their impact on corporate financial performance. *Journal of Accounting and Investment, 26*(1), 314–334. https://doi.org/10.18196/jai.v26i1.24193

Watts, R., & Zimmerman, J. (1986). *Positive accounting theory*. Prentice-Hall.

Yahaya, O. A. (2025). How institutional and foreign ownership drive ESG disclosure in Nigeria? *Journal of Sustainability, Business, and Economics, 18*(06), 12–37. https://doi.org/10.10514/josabe.v18i6

Yoo, J. W., & Chang, Y. J. (2024). Domestic vs. foreign institutional investors: Who improves ESG and value of Chinese companies? *Sustainability (Switzerland), 16*(18), 1–16.