

## Research Article

# Profit in the Era of Sustainability: The Influence of Green Accounting, ESG, and Capital Intensity on the Financial Performance of Energy Companies in Indonesia, 2019–2023

Riz Yudha Tama<sup>1</sup>, Dwiarto Utomo<sup>2\*</sup><sup>1</sup> Dian Nuswantoro University, Indonesia; e-mail : [kudusyudha@gmail.com](mailto:kudusyudha@gmail.com)<sup>2</sup> Dian Nuswantoro University, Indonesia; e-mail : [dwiarto.utomo@dsn.dinus.ac.id](mailto:dwiarto.utomo@dsn.dinus.ac.id)

\* Corresponding Author : Riz Yudha Tama

**Abstract:** This study examines whether Green Accounting (proxied by Indonesia's PROPER environmental rating), ESG disclosure, and capital intensity explain variation in profitability, measured by return on assets (ROA), among energy companies listed on the Indonesia Stock Exchange during 2019–2023. Using partial least squares structural equation modelling (PLS-SEM) via WarpPLS 8.0 on 59 firm-year observations, we find that (i) ESG disclosure is negatively and statistically significantly associated with ROA ( $p < 0.01$ ), (ii) capital intensity is negatively and statistically significantly associated with ROA ( $p < 0.01$ ), and (iii) Green Accounting (PROPER) has no significant direct effect on ROA. The model's explanatory power is modest ( $R^2 = 0.130$ ) and overall model fit is acceptable (APC = 0.250,  $p = 0.010$ ; GoF = 0.361). These results suggest that, in this period, heavier sustainability disclosure and more asset-intensive structures coincided with lower short-term returns on assets, while compliance-oriented environmental performance did not translate into immediate profitability. We discuss managerial and policy implications regarding disclosure quality, capital productivity, and the time profile of sustainability payoffs.

**Keywords:** Capital Intensity; Energy Industry; ESG Disclosure; Green Accounting; Return on Assets

## 1. Introduction

Sustainability issues have become a major focus in global business over the last few decades. Companies no longer seen merely as economic entities but as integral parts of social and environmental systems. Regulators, investors, and society increasingly expect businesses to take responsibility for the environmental and social impacts of their operations, giving rise to the Environmental, Social, and Governance (ESG) framework as a key measure of corporate sustainability.

In Indonesia, the adoption of sustainability principles is supported by regulations such as POJK No. 51/POJK.03/2017, POJK No. 16/POJK.04/2021, Law No. 32 of 2009, and the PROPER program from the Ministry of Environment and Forestry, which provide a legal foundation for ESG reporting and environmental accountability. However, ESG disclosure remains uneven across industries, and its impact on financial performance is still debated.

Green Accounting plays a crucial role in this context by integrating environmental costs into financial reporting and decision-making, thereby improving transparency and encouraging operational efficiency. In capital-intensive industries such as the energy sector, efficient utilization of fixed assets also becomes a critical determinant of profitability. Capital Intensity, measured as the ratio of fixed assets to revenue, reflects a firm's ability to optimize its production capacity, but excessive investment without efficient use can become a financial burden.

Return on Assets (ROA) as a profitability indicator shows significant fluctuations in the financial performance of energy sector companies listed on the Indonesia Stock Exchange (IDX) during the period 2019 to 2023:

Received: September 8, 2025

Revised: September 22, 2025

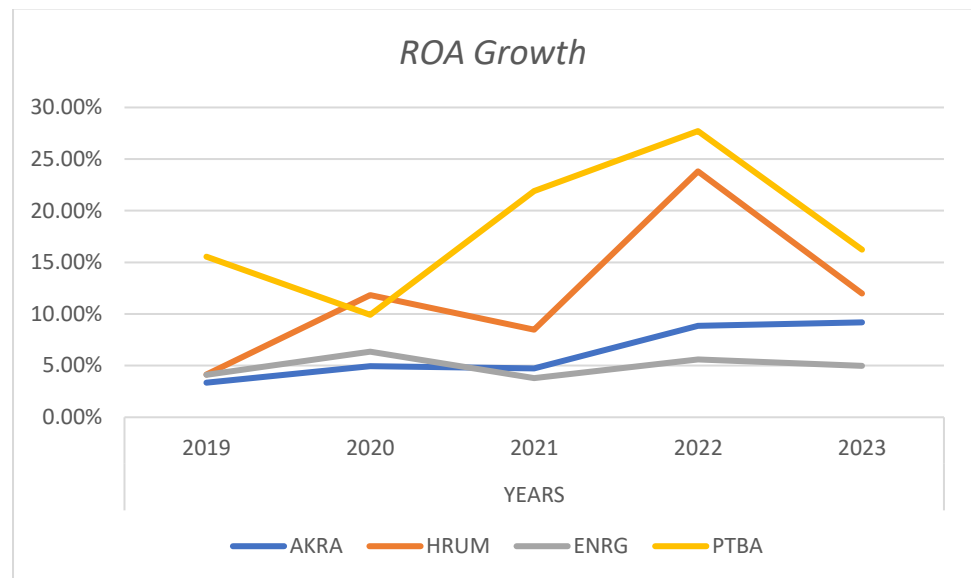
Accepted: November 5, 2024

Published: November 7, 2025

Curr. Ver.: November 7, 2025



Copyright: © 2025 by the authors.  
Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY SA) license (<https://creativecommons.org/licenses/by-sa/4.0/>)



**Figure 1.** ROA of energy sector companies on the IDX in 2019–2023

Source: Indonesian Stock Exchange (2025)

The data above show considerable variation in ROA between companies and across years. For example, PTBA experienced a jump in ROA in 2022 of 27.71%, which can be attributed to high coal demand and operational efficiency. In contrast, ENRG's ROA remained relatively flat, which may reflect constraints in management effectiveness or other challenges in maintaining sustainable operations. These differences in ROA trends indicate the importance of identifying variables that affect financial performance, including potential contributions from ESG disclosure, Green Accounting implementation, and Capital Intensity.

This phenomenon is reinforced by previous studies that provide varied results. For instance, Widyowati (2022) found that Green Accounting has a positive effect on profitability, while May et al. (2023) showed that Green Accounting can become a burden and have a negative impact when companies struggle to balance environmental and financial interests. Meanwhile, studies such as Aydogmus et al. (2022) and Putri (2025) state that ESG positively affects profitability, but other works by Dinarjito (2024) and Kim (2023) found that ESG has no significant or even negative effect. Similarly, research on the effect of Capital Intensity on profitability also shows diverse findings. Hidayat and Firmansyah (2020) found that Capital Intensity positively affects ROA in coal mining companies listed on the IDX. Prabowo and Asmara (2021) also indicated that capital intensity significantly affects profitability in the energy sector when fixed assets are managed efficiently. However, Sari and Nugroho (2022) showed that capital intensity has no meaningful effect on profitability when companies fail to optimize their fixed assets. These differences suggest that the effect of Capital Intensity on profitability is very contextual and depends on managerial efficiency and industry sector.

The different findings of previous studies create a significant research gap and show the need for further study, especially in the context of Indonesia which is undergoing a transition toward sustainability and strengthening the role of ESG in business. Therefore, this research synthesizes various previous studies, including May et al. (2023), which initially examined Green Accounting and sustainable development. This study extends the focus toward profitability and adds ESG and Capital Intensity as additional variables.

By focusing on energy companies in Indonesia during 2019–2023, this study aims to provide empirical evidence on how Green Accounting, ESG disclosure, and Capital Intensity affect profitability and to bridge inconsistencies in prior research. Accordingly, this study hypothesizes that Green Accounting, ESG disclosure, and Capital Intensity each have a positive influence on corporate profitability as measured by Return on Assets (ROA).

## 2. Literature Review

### Signalling Theory

Spence (1973), in his Signalling Theory, states that companies transmit signals to external parties, particularly investors, to demonstrate their actual performance or prospects through the disclosure of information in financial statements. Such information can be used to assess a company's condition and future outlook. In the context of this study, the implementation of Green Accounting and ESG disclosure is understood as a positive signal of sustainability commitment and long-term risk management. Companies that actively disclose ESG information signal that they possess good sustainability prospects and performance, which may enhance investor appeal and profitability.

### Legitimacy Theory

Suchman (1995) explains that legitimacy represents a generalized perception that a company's actions are desirable, proper, and appropriate within a socially constructed system of norms, values, and beliefs. Legitimacy Theory suggests that companies engage in activities such as environmental reporting and sustainability initiatives to maintain or restore social approval. In the context of this study, Green Accounting can be interpreted as a mechanism to demonstrate environmental responsibility and secure legitimacy from stakeholders. While such actions may not yield immediate financial returns, they can enhance reputation and reduce regulatory or reputational risk in the long run.

### Stakeholder Theory

Freeman (1984), through Stakeholder Theory, argues that companies have a responsibility to consider the interests of all parties involved in or affected by their activities, not just shareholders. This perspective emphasizes the long-term benefits of balancing financial performance with environmental and social responsibility. Companies are expected to integrate environmental responsibility into their business models to address stakeholder concerns. Green Accounting aligns with this framework by ensuring that companies account for environmental costs, thereby enhancing transparency and accountability. Studies indicate that firms with strong stakeholder engagement tend to achieve better sustainability outcomes.

### Resource-Based View (BRV) Theory

Wernerfelt (1984), in the Resource-Based View theory, explains that a firm's competitive advantage can be achieved through the utilization of internal resources that are unique, scarce, inimitable, and non-substitutable. In this context, Capital Intensity, representing the use of fixed assets, serves as one of the strategic resources influencing operational efficiency and profitability. Capital-intensive firms that can manage fixed assets effectively are more likely to enhance long-term value and competitiveness.

### Profitability

Profitability reflects a firm's efficiency in generating earnings from its resources (Haryanto, 2008). Return on Assets (ROA), which measures profit relative to total assets, is used in this study as the primary indicator of financial performance.

### Green Accounting

Green Accounting incorporates environmental costs such as pollution control, rehabilitation, and recycling into financial reporting (Gray & Bebbington, 2001). In Indonesia, environmental performance is measured using the PROPER rating issued by the Ministry of Environment and Forestry, which is used here as a proxy for Green Accounting.

### Environmental, Social, and Governance Disclosure

ESG reflects the non-financial performance of a company in environmental, social, and governance dimensions. Disclosure is measured through a content analysis index based on recognized standards (GRI, POJK), indicating the extent of transparency on sustainability practices.

### Capital Intensity

Capital Intensity measures the proportion of fixed assets relative to revenue and is especially relevant in the energy sector, where production depends heavily on physical infrastructure (Prabowo & Asmara, 2021).

### Hypothesis Development

#### *Green Accounting and Financial Performance*

As a form of environmental accountability, Green Accounting requires companies to record and disclose costs related to environmental activities in a clear and transparent manner. The adoption of Green Accounting has the potential to enhance operational efficiency while simultaneously strengthening corporate reputation, which in turn may improve profitability. Based on Stakeholder Theory (Freeman, 1984), Green Accounting serves as a form of

accountability toward society and the environment. Meanwhile, according to Signalling Theory (Spence, 1973), Green Accounting acts as a positive signal of the company's sustainability commitment. Furthermore, Legitimacy Theory (Suchman, 1995) supports the view that Green Accounting practices help firms maintain or restore societal approval by aligning corporate actions with prevailing environmental norms and expectations. Several previous studies also indicate a positive effect of Green Accounting on sustainability and profitability (e.g., Widyowati A. D. E., 2022; Fakhroni, 2020; Loen et al., 2019). Drawing from these insights, the study proposes the following hypothesis.

H1: Green Accounting has a positive impact on corporate profitability.

### **ESG Disclosure and Financial Performance**

ESG disclosure reflects the extent to which companies are transparent in managing sustainability issues related to environmental, social, and governance aspects. The higher the level of ESG disclosure, the greater the trust gained from investors and stakeholders. From the perspective of Stakeholder Theory, ESG disclosure strengthens a company's social legitimacy. Meanwhile, according to Signalling Theory, by disclosing ESG information, companies provide a signal that they are attentive to non-financial risks and oriented toward long-term business continuity. Numerous international studies have found a positive relationship between ESG disclosure and financial performance (Luo & Bhattacharya, 2009; Eccles et al., 2014). More recent research, such as Mahmut Aydogmus et al. (2022) and Linsia Cecilia & Widya Rizki Eka Putri (2025), also found a positive effect of ESG on profitability. Based on these findings, the following hypothesis is proposed.

H2: ESG disclosure has a positive effect on corporate profitability.

### **Capital Intensity and Financial Performance**

Capital Intensity reflects the extent to which companies invest in fixed assets. In the capital-intensive energy sector, the efficient management of fixed assets plays a crucial role in driving profitability. Based on the Resource-Based View Theory (Wernerfelt, 1984), fixed assets that are scarce and effectively managed can become a source of competitive advantage, thereby contributing to profitability. This variable is closely related to the Resource-Based View framework, as fixed assets are considered strategic resources capable of generating competitive advantage. Based on these findings, the following hypothesis is proposed.

H3: Capital Intensity has a positive effect on corporate profitability.

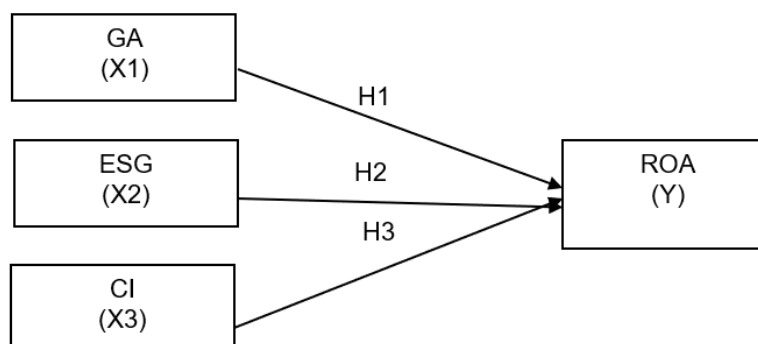


Figure 2. Conceptual Framework

## **3. Research Method**

### **Research Variables and Operational Definitions**

This study uses a quantitative approach with an explanatory research design. The research aims to test the effect of Green Accounting, ESG disclosure, and Capital Intensity on the financial performance of energy sector companies in Indonesia during the period 2019–2023. The sampling technique used is purposive sampling with the following criteria:

- Energy sector companies consistently listed on the IDX during 2019–2023.
- Participate in the Corporate Performance Rating Program (PROPER) conducted by the Ministry of Environment and Forestry.
- Provide complete financial reports for 2019–2023.
- Although POJK 51/POJK.03/2017 was issued in 2017, this study begins from 2019 because 2017 was considered a transition year for firms to adjust to the new regulation, and complete PROPER and ROA were only consistently available from 2019 onward.

**Table 1.** Purposive Sampling Indicator

No	Criteria	Total
1	Energy companies listed on the IDX	73
2	Energy companies not participating in the Corporate Performance Rating Program (PROPER) by the Ministry of Environment and Forestry	(62)
3	Energy companies not providing complete financial reports for the 2019–2023 period	(1)
	Total Sample	10
	Year of Study	5
	Study Sample Units	50

Source: Processed Secondary Data

Following the set criteria, energy companies from the Indonesia Stock Exchange (IDX) were selected as the research sample, yielding data spanning the years 2019-2023. The research utilizes Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine causal connections between variables. PLS-SEM is especially appropriate for studies relying on secondary data with a small sample size, as it does not necessitate normality assumptions (Sholihin & Ratmono, 2020). The analysis was conducted using WarpPLS 8.0, which includes evaluating model fit, calculating the coefficient of determination, assessing predictive relevance, and testing research hypotheses. These methods provide strong and dependable insights into the effects of Green Accounting, ESG, and Capital Intensity on profitability within the energy industry.

To examine the effect of Green Accounting (GA), ESG disclosure, and Capital Intensity (CI) on profitability, this study uses a structural equation model estimated with PLS-SEM. The structural model can be expressed as follows:

$$ROA_{it} = \beta_0 + \beta_1 PROPER_{it} + \beta_2 ESG_{it} + \beta_3 CI_{it} + \varepsilon_{it} \quad (1)$$

Where:

$ROA_{it}$  = Return on Assets of firm  $i$  in year  $t$

$PROPER_{it}$  = Green Accounting proxy (PROPER rating score)

$ESG_{it}$  = ESG disclosure index score

$CI_{it}$  = Capital Intensity (ratio of fixed assets to revenue)

$\beta_0$  = intercept,  $\beta_1$ –  $\beta_3$  = regression coefficients, and  $\varepsilon_{it}$  = error term

This equation represents the structural relationship tested in WarpPLS, where ROA serves as the endogenous variable, and GA, ESG, and CI act as exogenous predictors. The model evaluates whether these sustainability-related factors and capital structure influence short-term profitability of energy sector firms.

**Table 2.** Operational Definition

No	Variable	Measurement	Explanation	Source
1	Green Accounting (X1)	PROPER	PROPER rating scale consisting of five levels: Black, Red, Blue, Green, and Gold	<a href="https://proper.men-lhk.go.id/proper/">https://proper.men-lhk.go.id/proper/</a>
2	ESG (X2)	Index calculated based on the number of ESG disclosure items reported by the company in accordance with recognized standards or guidelines (e.g., GRI, POJK). Each disclosed item is scored “1” and “0” if not disclosed. The total score is then divided by the maximum possible items	The extent to which the company publicly discloses information on activities and policies related to ESG aspects	Energy Company Financial Reports
3	Capital Intensity (X3)	$\frac{\text{Total Fixed Assets}}{\text{Total Sales}} \times 100\%$	Measures the intensity of fixed asset utilization relative to total sales	Company Annual Financial Statements (Source: IDX)

No	Variable	Measurement	Explanation	Source
4	ROA (Y)	$\frac{\text{Net Income}}{\text{Total Assets}} \times 100\%$	Represents the level of efficiency in utilizing company assets to generate earnings	Company Annual Financial Statements (Source: IDX)

#### 4. Results and Discussion

##### Model fit and quality indices

**Average path coefficient (APC)=0.250, P=0.010**  
**Average R-squared (ARS)=0.130, P=0.075**  
**Average adjusted R-squared (AARS)=0.083, P=0.129**  
**Average block VIF (AVIF)=1.053, acceptable if  $\leq 5$ , ideally  $\leq 3.3$**   
**Average full collinearity VIF (AFVIF)=1.119, acceptable if  $\leq 5$ , ideally  $\leq 3.3$**   
**Tenenhaus GoF (GoF)=0.361, small  $\geq 0.1$ , medium  $\geq 0.25$ , large  $\geq 0.36$**   
**Simpson's paradox ratio (SPR)=0.667, acceptable if  $\geq 0.7$ , ideally = 1**  
**R-squared contribution ratio (RSCR)=0.728, acceptable if  $\geq 0.9$ , ideally = 1**  
**Statistical suppression ratio (SSR)=1.000, acceptable if  $\geq 0.7$**   
**Nonlinear bivariate causality direction ratio (NLBCDR)=1.000, acceptable if  $\geq 0.7$**

Figure 2. Model Fit

Source: Output warpls8 (Processed data,2025)

The results show that the Average Path Coefficient (APC) is significant at the 5% level, while the Goodness of Fit (GoF) value of 0.361 indicates a large explanatory power. Although the Average R-squared and Adjusted R-squared values are marginal, the overall model can be considered acceptable and valid for hypothesis testing.

The model specified in Equation (1) was estimated using WarpPLS 8.0. The resulting path coefficients and explanatory power are summarized in Table 3.

Table 3. Structural Model Results

Variable	R <sup>2</sup> (R-Square)	Q <sup>2</sup> (Q-Square)	F <sup>2</sup> (F-Square)
X1 (Green Accounting)	—	—	0,013
X2 (ESG)	—	—	0,077
X3 (Capital Intensity)	—	—	0,195
Y (Return on Assets)	0,130	0,283	—

Source: Output warpls8 (Processed data,2025)

The results indicate that Green Accounting (GA), proxied by the PROPER rating, does not significantly affect profitability (ROA). Conversely, ESG disclosure has a negative and significant effect on ROA ( $p < 0.05$ ), suggesting that extensive disclosure may reduce short-term profitability due to associated costs. Capital Intensity (CI) also has a negative and significant impact on ROA ( $p < 0.01$ ), implying that higher investment in fixed assets tends to lower asset efficiency in the short term.

#### Hypothesis Testing

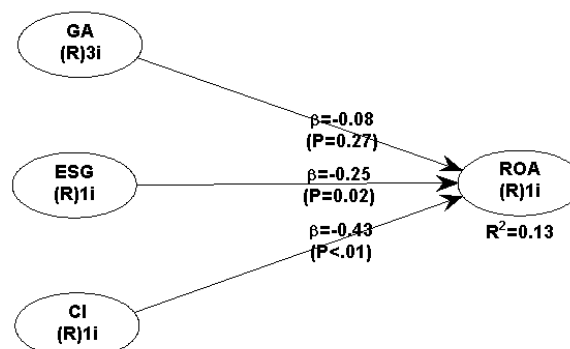


Figure 3. Research Result.

Source: Research Result, 2025

**Table 5.** Table P-Value

Hypothesis	Variable	P-Value	Status
H1	Green Accounting	0.27	Not Affected
H2	ESG Disclosure	0.02	Affected
H3	Capital Intensity	<0.01	Affected

Source: Output warpls8 (Processed data, 2025)

### Interpretation of Research Results

#### *Green Accounting and Financial Performance*

The findings indicate that Green Accounting (GA), proxied by the PROPER rating, does not significantly affect Return on Assets (ROA). This result suggests that while environmental performance assessments can improve corporate image, their impact on financial performance is not immediate. In practice, the implementation of GA often requires substantial investment in cleaner technologies, environmental audits, and compliance with regulations, which may not directly increase profitability in the short term (Christ & Burritt, 2019).

This result is consistent with legitimacy theory, which argues that companies engage in environmental practices primarily to maintain social approval and organizational legitimacy rather than to generate short-term profits (Suchman, 1995). Previous studies also highlight that GA tends to create intangible benefits, such as improved reputation, reduced regulatory risk, and stakeholder trust, which may take time to translate into measurable financial outcomes (Bebbington et al., 2014). Thus, while GA enhances sustainability disclosure and legitimacy, its contribution to profitability may only be visible in the long run.

For Indonesian energy firms, this implies that Green Accounting should be regarded as a strategic, long-term investment in sustainability rather than as a direct driver of quarterly profitability. Policymakers can also play a role by providing incentives such as tax reductions or subsidies for eco-friendly technologies to help firms offset the initial costs of environmental initiatives and realize financial benefits over time.

#### *ESG Disclosure and Financial Performance*

The analysis reveals that ESG disclosure has a negative and significant impact on profitability. This finding underscores the paradox of ESG implementation in emerging markets: while ESG initiatives are designed to attract investors, enhance transparency, and foster long-term sustainability, they may impose short-term financial burdens. The preparation of sustainability reports, integration of ESG metrics into operations, and compliance with stakeholder expectations involve substantial costs that can erode short-term profitability (Friede, Busch, & Bassen, 2015).

International evidence supports this result. Jeanice and Kim (2023) find that in emerging markets, ESG adoption is often negatively correlated with profitability due to high implementation costs and limited investor premiums for ESG performance. Similarly, Velte (2017) argues that the market may take time to reward ESG efforts, especially where regulatory incentives and green financing options are still underdeveloped. In Indonesia, where ESG reporting remains relatively nascent and voluntary for many firms, the cost of early adoption may outweigh the immediate financial gains.

Nevertheless, ESG can produce significant long-term benefits. Khan, Serafeim, and Yoon (2016) shows companies focusing on material ESG issues eventually outperform peers in profitability and stock performance. Hence, the negative short-term association observed in this study may be interpreted as a transitional cost before ESG investments yield competitive advantages. Managers must therefore view ESG as a strategic, long-term investment rather than a mere compliance requirement.

#### *Capital Intensity and Financial Performance*

The results further indicate that Capital Intensity (CI) has a negative and significant effect on ROA, suggesting that higher reliance on fixed assets may reduce asset efficiency, particularly when assets are underutilized. This is consistent with Anderson and Reeb (2003), who highlight that capital-intensive firms face higher depreciation and maintenance costs that may suppress profitability in the short run.

From a resource-based view (RBV) perspective, fixed assets can be a source of competitive advantage only when they are rare, valuable, and efficiently deployed (Barney, 1991). In Indonesia's energy sector, fluctuations in global commodity prices and regulatory constraints can lead to periods of underutilization, reducing returns on investment. Moreover, excessive capital spending without corresponding revenue growth may indicate overcapacity or poor investment planning, both of which depress ROA.

International studies echo this finding. Gugler and Mueller (2003) show that in industries with high capital intensity, marginal returns on additional investment decline rapidly if demand conditions are unfavourable. This suggests that Indonesian energy companies need to improve asset utilization rates and consider more flexible, technology-driven strategies such as digitalization and predictive maintenance to enhance productivity and avoid locking up excessive capital in underperforming assets

Overall, the discussion emphasizes that while sustainability practices (GA and ESG) and structural factors (CI) play a significant role in shaping firm strategies, they may impose short-term financial pressures. Managers need to balance these sustainability initiatives with profitability goals, while policymakers should provide incentives and regulatory support to help companies achieve both economic and environmental objectives.

## 5. Conclusions

This study examined the effect of Green Accounting, ESG disclosure, and Capital Intensity on the financial performance of energy companies in Indonesia during 2019–2023, using WarpPLS 8.0 with 59 firm-year observations. The results indicate that Green Accounting, measured through the PROPER rating, does not significantly influence Return on Assets (ROA), suggesting that environmental performance contributes more to legitimacy and long-term reputation than to immediate profitability (Bebbington et al., 2014). ESG disclosure shows a negative and significant effect on financial performance, reflecting the burden of reporting and implementation costs that outweigh short-term financial benefits, even though prior studies emphasize the long-term advantages of ESG in enhancing reputation, risk management, and investor confidence (Friede et al., 2015; Khan et al., 2016). Capital Intensity is also found to have a negative and significant impact on ROA, highlighting the inefficiencies that arise when companies rely heavily on fixed assets without maximizing their utilization, consistent with the resource-based view that assets only generate value when managed effectively (Barney, 1991).

The findings of this research imply that while sustainability initiatives and structural investments are crucial for long-term competitiveness, they place pressure on short-term profitability. For managers, the results underline the need to integrate Green Accounting and ESG practices into corporate strategies that drive innovation and efficiency while simultaneously improving the productivity of capital assets (Christ & Burritt, 2019). For policymakers, the study suggests that regulatory frameworks should be complemented by incentives such as tax benefits, subsidies, and green financing to reduce the financial burden of sustainability compliance (Fernando & Lawrence, 2014). Although limited to the Indonesian energy sector, the study provides valuable insights that may guide future research across different industries and countries, with opportunities to explore other financial indicators and long-term outcomes of sustainability practices. Despite providing meaningful insights, this study has several limitations. The sample is restricted to 10 energy sector companies over five years (50 firm-year observations), which may limit the generalizability of the findings. Moreover, the explanatory power of the model is modest ( $R^2 = 0.130$ ), suggesting that other factors such as energy prices, regulatory changes, and macroeconomic conditions also play an important role in determining profitability. Future research could expand the sample to include other sectors, extend the observation period, and incorporate additional variables such as leverage, market competition, or innovation capacity to provide a more comprehensive understanding of the drivers of profitability in the era of sustainability

## References

- [1] D. Agung, “Pengaruh ESG Disclosure terhadap Profitabilitas,” *Jurnal Akuntansi dan Keuangan*, vol. 19, no. 1, pp. 50–63, 2024.
- [2] R. Aurelia, B. Handoko, and Y. Sari, “Analisis Regresi Data Panel dalam Penelitian Ekonomi,” *Jurnal Ekonomika*, vol. 21, no. 2, pp. 101–115, 2022.
- [3] D. Evanjeline and S. Suwito, “Uji Asumsi Klasik dalam Regresi Panel,” *Jurnal Statistika dan Bisnis*, vol. 14, no. 1, pp. 34–41, 2021.
- [4] M. A. Nugraha and A. Ramadhani, “ESG Disclosure dan Dampaknya terhadap Profitabilitas: Studi pada Perusahaan Sektor Energi,” *Jurnal Keuangan dan Perbankan*, vol. 27, no. 2, pp. 112–127, 2023.
- [5] Global Reporting Initiative, *GRI Standards*. [Online]. Available: [www.globalreporting.org](http://www.globalreporting.org), 2021.
- [6] K. Gugler and D. C. Mueller, “Corporate investment and cash flow sensitivity: Evidence from the EU,” *Economics Letters*, vol. 79, no. 2, pp. 219–224, 2003.
- [7] E. R. Handayani and I. P. Sudana, “Pengaruh Struktur Modal, Capital Intensity, dan Likuiditas terhadap Profitabilitas,” *Jurnal Akuntansi Indonesia*, vol. 8, no. 3, pp. 199–211, 2019.



- [8] R. R. Hidayat and M. A. Firmansyah, "Pengaruh Capital Intensity dan Leverage terhadap Profitabilitas pada Perusahaan Pertambangan Sub Sektor Batu Bara," *Jurnal Ilmu Manajemen dan Akuntansi Terapan*, vol. 11, no. 2, pp. 123–132, 2020. [Online]. doi:10.35446/akuntansikompetif.v2i3.398
- [9] A. Irawan and N. Laily, *Panduan Ekonometrika Terapan untuk Penelitian Bisnis*. Jakarta: Prenada Media, 2019.
- [10] J. Jeanice and S. S. Kim, "Negative ESG Impact on ROE in Emerging Markets," *International Journal of Sustainable Finance*, vol. 5, no. 1, pp. 88–99, 2023.
- [11] C. Linsia and W. R. E. Putri, "ESG dan Profitabilitas Perusahaan Publik di Indonesia," *Jurnal Keuangan Berkelanjutan*, vol. 2, no. 1, pp. 30–44, 2025.
- [12] M. M. Aydogmus, A. B. Yildiz, and A. Altuntas, "The Impact of ESG Disclosure on Financial Performance," *Journal of Environmental Economics*, vol. 6, no. 2, pp. 89–103, 2022.
- [13] A. D. Utami and R. Nugroho, "Pengaruh ESG dan Intensitas Modal terhadap Return on Assets (ROA) pada Perusahaan Publik," *Jurnal Akuntansi dan Investasi*, vol. 23, no. 1, pp. 95–109, 2022.
- [14] Otoritas Jasa Keuangan, *POJK No. 16/POJK.04/2021 tentang Bentuk dan Isi Laporan Tahunan Emiten atau Perusahaan Publik*, 2021.
- [15] H. Prabowo and R. Y. Asmara, "The Effect of Capital Intensity on Firm Profitability in the Energy Sector," *Journal of Energy Business Research*, vol. 4, no. 2, pp. 112–124, 2021.
- [16] N. Sari and M. Nugroho, "Pengaruh Capital Intensity dan Ukuran Perusahaan terhadap Profitabilitas pada Perusahaan Manufaktur," *Jurnal Akuntansi Multiparadigma*, vol. 13, no. 2, pp. 201–213, 2022.
- [17] A. D. E. Widyowati, "Pengaruh Green Accounting terhadap Profitabilitas Perusahaan," *Jurnal Ilmu Akuntansi*, vol. 5, no. 1, pp. 75–85, 2022.