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The Role of *ESG Disclosure* and *Net Zero Emission* Strategy in Reducing *Cost of Capital*

Ulfatul Khasanah

Sekolah Tinggi Ekonomi Islam Permata Bojonegoro, Indonesia; ulfatulkhasanah@permata.ac.id[1]

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ABSTRACT

Sustainability issues remain a major focus in global business practices. This has encouraged many companies to implement environmental, social, and governance (ESG) disclosure. The government also supports this by setting a net-zero emission target. This minimizes environmental risks and increases investor confidence. This study aims to analyze the effect of ESG Disclosure and net-zero emissions on the cost of capital. The study was conducted on companies in the energy and raw materials sector listed on the Indonesia Stock Exchange. A quantitative approach was used with a casual design. The sample size for this study was 10 companies selected through purposive sampling. The data used were secondary data, processed using multiple linear regression with SPSS software. The analysis results indicate that ESG Disclosure has a significant negative effect on the cost of capital. Net-zero emissions have been shown to significantly reduce the cost of capital. These findings reinforce the view that ESG Disclosure and a net-zero emission strategy can provide positive signals to investors, reduce financing risks, and increase corporate legitimacy among stakeholders. The practical implications of this study's findings can serve as a foundation for company management to improve the quality of ESG reporting and achieve Net Zero Emission targets, for investors to consider sustainability aspects in risk assessments, and for regulators to formulate more detailed sustainability reporting policies.

Corresponding Author:
Ulfatul Khasanah
Sekolah Tinggi Ekonomi Islam Permata Bojonegoro, Indonesia; ulfatulkhasanah@permata.ac.id1

1. INTRODUCTION

Today's sustainability issue is increasingly in the spotlight at the global level, as various countries are increasingly committed to reducing carbon emissions so that *the Net Zero Emission target* can be achieved. According to a report by the World Economic Forum (2023), more than 140 countries along with more than 8,000 multinational companies have committed to realizing net zero carbon emissions in the 2050–2060 range. In Indonesia itself, the government targets the achievement of *Net Zero Emissions* by 2060 through strategic policies in the industrial and energy sectors (Zahira & Fadillah,

2022). This target encourages companies to adjust through *Environmental, Social, and Governance (ESG) Disclosure* practices as a form of responsibility and transparency to stakeholders.

In the modern capital market, investors are now increasingly paying attention to non-financial factors such as *ESG Disclosure* as a basis for consideration before investing. Some studies support that companies with adequate ESG disclosure tend to have lower reputational risks that can have an impact on reducing *the Cost of Capital* (Arditiyan & Purwanto, 2025). However, some researchers argue that ESG disclosure does not necessarily have a significant effect, as it depends on the quality of information and the characteristics of each industry (Xaviera et al., 2023). The same applies to *the Net Zero Emission target*, where the cost of transitioning to net zero emissions has the potential to affect the funding structure, both through risk reduction and increased cost burden at the initial implementation stage.

Although the topic *of ESG* and *Net Zero Emission* is increasingly studied, empirical studies on the common influence between *ESG Disclosure* and *Net Zero Emission* commitment on *the Cost of Capital* in Indonesia are still minimal. Most previous research has focused more on the linkage of ESG to profitability (Tyas & Prastiwi, 2025), but has not directly highlighted its impact on a company's capital costs. This condition shows a significant research gap, considering that the cost of capital is a vital component in the company's long-term investment planning.

On this basis, this study aims to quantitatively test whether *ESG Disclosure* and *Net Zero Emission* have a significant effect on the *Cost of Capital* in public companies on the Indonesia Stock Exchange. In particular, this study tries to answer the following questions: (1) Does *ESG Disclosure* have a significant effect on *the Cost of Capital*? and (2) Does *Net Zero Emission* have a significant effect on *the Cost of Capital*? The findings of this research are expected to enrich the literature in the field of sustainability accounting and become a practical reference for management and regulators in formulating policies related to ESG reporting practices and carbon reduction strategies. Thus, the results of this study are expected to make a theoretical contribution through the explanation of the relationship between sustainability and corporate financing aspects, as well as become a basis for practical considerations for investors, management, and policymakers to encourage the implementation of more socially and environmentally responsible business practices in Indonesia.

This research is based on three fundamental theories that underlie the relationship between sustainability and corporate financing, namely Agency Theory, Legitimacy Theory, and Signaling Theory. Agency Theory emphasizes the importance of the relationship between the manager as the agent and the shareholder as the principal. In this context, ESG-related information disclosure is a means to minimize conflicts of interest through increased transparency (Jedidyah Johan & Susanto, 2025). Furthermore, the Legitimacy Theory explains that every business entity seeks to gain social support by implementing sustainability practices in order to maintain the trust of the public and investors. Meanwhile, Signaling Theory explains that ESG disclosure and the implementation of Net *Zero Emission* commitments can be a positive signal for the market, affirm management credibility, reduce investor uncertainty, and ultimately have an impact on lowering the cost of capital (Rahmansyah & Mutmainah, 2024).

Environmental, Social, and Governance (ESG) disclosure itself is defined as the publication of information about the company's performance in the fields of environment, social responsibility, and governance. Generally, the aspect of ESG measurement refers to international standards such as *the Global Reporting Initiative (GRI)* and *ESG Ratings* issued by independent institutions (Jedidyah Johan & Susanto, 2025). *ESG Disclosure* serves to provide stakeholders with valuable non-financial data, so companies with good ESG disclosure levels tend to gain higher trust, lower reputational risk, and potential access to funding with a more efficient cost of capital.

Meanwhile, the concept *of Net Zero Emission* refers to the company's commitment to balancing the greenhouse gas emissions generated with those absorbed or eliminated through various mitigation strategies. This commitment to *Net Zero Emission* is believed to be able to reduce transition risks, support the company's long-term sustainability, and strengthen positive signals for investors (Cahyaputra et al., 2024). Companies that consistently implement the *Net Zero Emission target are* also considered to have a more credible reputation, wider global market opportunities, and financing risks

that can be suppressed.

The *Cost of Capital* or capital cost is the minimum rate of return that the company must generate to meet investor expectations. The cost of capital is usually measured using the *Weighted Average Cost of Capital* (WACC) approach, which is influenced by business conditions, funding policies, capital market situations, and the company's reputation in relation to its sustainability performance (Jedidyah Johan & Susanto, 2025). The implementation *of good ESG Disclosure* and *Net Zero Emission commitments* are believed to be able to reduce risk perception from investors, thereby encouraging a decrease in WACC.

A number of previous studies are relevant to this theme. Roudotul & Purwanto (2024) found that *Environmental, Social, and Governance disclosure* and profitability have no effect on *the cost of capital*. Meanwhile, Jedidyah Johan & Susanto (2025) explained that *ESG Disclosure* has a negative effect on *the cost of debt*. On the contrary, Andanrani et al., (2023) explain that *Carbon Emission Disclosure* has an effect on *the Cost of Capital* . This fact shows that the simultaneous linkage between *ESG Disclosure, Net Zero Emission*, and *Cost of Capital* is still rarely studied in the context of the Indonesian capital market. Therefore, this study formulates a framework of thought that *ESG Disclosure* and *Net Zero Emission* are suspected to have a negative effect on *the Cost of Capital*. Based on this framework, the proposed research hypotheses are:

H1 : *ESG Disclosure* has a negative effect on *the Cost of Capital*

H2 : *Net Zero Emission* has a negative effect on *the Cost of Capital*.

2. METHOD

This study applies a quantitative approach with a causality design designed to empirically test the cause-and-effect relationship between variables. The causality design was chosen because it is best suited to analyze the extent to which *ESG Disclosure* and *Net Zero Emission* can affect the *Cost of Capital* in the sampled companies. The quantitative approach also ensures that the research results are objective because they are analyzed through measurable statistical techniques and can be tested for validity. The research population includes all companies engaged in the energy and raw materials sector and listed on the Indonesia Stock Exchange (IDX) in the 2021–2023 period. The selection of this sector is based on its dominant contribution to national carbon emissions. The sample determination technique was carried out by purposive sampling, namely with special criteria such as companies that are actively registered during the observation period, routinely publish sustainability reports or annual reports that contain ESG information, and have complete data on ESG disclosures, emission targets or realization, and financial information needed to calculate *the Weighted Average Cost of Capital* (WACC) (Jedidyah Johan & Susanto, 2025).

The data used in this study is secondary data sourced from company publication documents, including annual reports, sustainability reports, and ESG rating databases. Financial data is also taken from IDX or a supporting official financial platform. Data collection techniques are carried out through documentation, online data mining, and content analysis to examine the details of ESG disclosures and *Net Zero Emission* targets in each company.

The operational definition of the variable is described as follows: *ESG Disclosure* is measured using ESG scores obtained from official databases or through content analysis according to *Global Reporting Initiative (GRI) indicators.* The *Net Zero Emission variable* is measured from the net zero emission target announced by the company and the realization of its reduction recorded every year. Meanwhile, *the Cost of Capital* is measured through the calculation of WACC, which takes into account the proportion of equity, debt, and capital cost of each component.

The data analysis stage begins with descriptive statistics to describe the characteristics of the research data. Furthermore, a classical assumption test was carried out which included normality, multicollinearity, and heteroscedasticity tests to ensure the feasibility of the regression model used. Hypothesis testing was carried out by multiple linear regression analysis, with a partial test (t-test) to determine the influence of each independent variable and a simultaneous test (F test) to test the co-influence of independent variables on the dependent variable. In addition, the Coefficient of

Determination (R^2) is used to see the significant contribution of *ESG Disclosure* and *Net Zero Emission* variables in explaining the *Cost of Capital variable.* The entire data processing process will be carried out using SPSS software with a significance level (α) of 5%.

3. FINDINGS AND DISCUSSION

This study processed data from 10 companies in the energy and raw materials sector listed on the Indonesia Stock Exchange (IDX) during the 2021–2023 period. Data is obtained through annual reports, sustainability reports, and official ESG Rating databases. The average *ESG Disclosure* score achieved by the sample companies was 67.5 with a standard deviation of 8.2, which indicates a difference in the level of sustainability disclosure between companies. As many as 70% of companies have set *Net Zero Emission* targets, but only about 40% have actually reported a measurable reduction in emissions in that period. The average cost *of capital* of the company was recorded at 9.8%, with a standard deviation of 1.3%, indicating a fairly real variation in funding risk between companies.

Table 1 Descriptive Statistics

Variabel	Average	Min	Max	Standard Deviation
ESG Disclosure Score	67,5	52,0	85,0	8,2
Net Zero Emission	70% target	-	-	-
Cost of Capital	9,8%	7,5%	12,1%	1,3

Before hypothesis testing, the regression model is tested through a classical assumption test. The results of the normality test showed a Kolmogorov-Smirnov significance value of 0.213, greater than 0.05, which means that the data is normally distributed. The multicollinearity test showed a Variance Inflation Factor (VIF) value for *ESG Disclosure* of 1.241 and *Net Zero Emission* of 1.112, so it can be concluded that there is no multicollinearity problem because all VIF values are below 10. Furthermore, the Glejser test yielded a significance value greater than 0.05 indicating a model free of heteroscedasticity symptoms.

Hypothesis testing was performed using multiple linear regression analysis, the results of which showed that the model was significant at a confidence level of 95% (sig. F = 0.000).

The influence of independent variables is described in the following table:

Table 2 Linear Regression Test Results

Variable independent	Coeficin beta	t-statistic	Sig. (p-value)
ESG Disclosure	-0,032	-2,874	0,007
Net Zero Emission	-0,045	-3,125	0,003
Konstanta	12,04	-	-

The estimation results show that the beta coefficient for *ESG Disclosure* is -0.032 with a t-statistic value of -2.874 and sig. 0.007, while *Net Zero Emission* has a coefficient of -0.045 with a t-statistic of -3.125 and sig. 0.003. A Coefficient of Determination (R^2) value of 0.482 indicates that approximately 48.2% of the Cost *of Capital variation* can be explained by *ESG Disclosure* and *Net Zero Emission* simultaneously. Both independent variables have been shown to have a significant negative effect on *the Cost of Capital*, so the first (H1) and second (H2) hypotheses are acceptable.

These findings confirm that the better a company discloses sustainability practices through *ESG Disclosure*, the lower the investor perception of risk, which in turn reduces the cost of capital. These results support the Signaling Theory, in which the practice of disclosing non-financial information becomes a positive signal to the market. These findings are in line with the results of research by Jedidyah Johan & Susanto (2025) which proves that *ESG Disclosure* is able to reduce debt costs, as well as support research (Andanrani et al., 2023) that found the relationship between *CSR Disclosure* and *Cost of Capital*, especially if supported by strong institutional ownership.

In addition, the results of the regression test show that *the Net Zero Emission commitment* also has a significant negative effect on the cost of capital. These findings are in line with the framework of Legitimacy Theory, where companies implementing clean energy transition strategies have greater support from investors and the public. These results are also in line with the findings of Andanrani et al., (2023) which prove that decarbonization policies in the energy sector are able to increase access to funding at a more competitive cost.

The difference in results with the research of Roudotul & Purwanto (2024) which found that the influence of ESG has no effect on *the Cost of Capital* can be caused by differences in industrial sectors, emission measurement methods, and observation periods used. Thus, the results of this study confirm that the influence of *ESG Disclosure* and *Net Zero Emission* can differ according to the context of sustainability policy implementation in each sector.

The practical implication of these findings is that companies that continue to improve ESG transparency and consistently report progress *on Net Zero Emission* targets have the opportunity to gain greater trust from investors, thus enjoying lower capital costs. The contribution of this research also enriches the sustainability accounting literature, particularly in explaining the role of ESG reporting practices and decarbonization strategies on financing risk.

However, this study has limitations in the limited coverage of the last three years and the availability of emission realization data that is not yet uniform across companies. Future research is expected to expand the observation time range, add moderation variables such as *Good Corporate Governance*, and conduct cross-sector comparisons to improve the external validity of findings.

4. CONCLUSION

Based on the findings of the analysis, this study confirms that ESG disclosure has a significant negative relationship with *the Cost of Capital*, as well as the *Net Zero Emission commitment* which is also statistically proven to reduce the company's capital costs. Thus, the empirical evidence supports both hypotheses, while answering the formulation of the problem that companies with good sustainability reporting quality and clear neutral emission targets will be able to reduce the burden of capital costs. These results are consistent with the foundations of Signaling Theory, Legitimacy Theory, and Agency Theory that are the basis of this study.

Practically, the results of this study provide an important picture for management to continuously improve the quality of transparency in sustainability reporting and realize decarbonization targets to attract investor confidence with lower financing risks. These findings are also useful for investors as a reference in assessing investment risk through sustainability indicators. For policymakers, the results of this research underscore the urgency of policies that encourage standardization of ESG reporting and more detailed monitoring of *Net Zero Emission* targets. From a scientific perspective, this research contributes to an empirical study on the relationship between sustainability aspects and the cost of corporate capital in the Indonesian market.

However, this study still has limitations in terms of the availability of uneven emission realization data across all sample companies, as well as the observation period that only covers three years, so the generalization of results for a longer period or other sectors still needs to be studied further.

To enrich the literature and testing in the future, further research is recommended to expand the study time span, expand the scope of the industrial sector, and consider moderation variables such as corporate governance practices or institutional ownership. In addition, the influence of *ESG Disclosure* and *Net Zero Emission* can also be extended to other financial indicators, such as market value, profitability, and capital structure so that the results are more comprehensive and deep.

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