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Application of IFRS S2 in Disclosing The Impact of Climate Change for Consumer Goods Companies

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ABSTRACT

Climate change is a growing global issue that increasingly affects the operations and long-term sustainability of companies, particularly within the consumer goods sector, which is characterized by complex supply chains and significant emissions. To enhance the transparency and consistency of climate-related financial disclosures, the International Sustainability Standards Board (ISSB) issued IFRS S2. This article analyzes the application of IFRS S2 by PT Unilever Indonesia Tbk in its 2022 and 2023 reports to assess the company's readiness, challenges, and opportunities in adopting this new global standard. Using a qualitative case study approach, the research analyzed annual reports, sustainability reports, and interview data. The results indicate that the company has a strong commitment, successfully reducing Scope 1 and 2 GHG emissions by 89.45% since 2015, and demonstrating alignment with the Governance, Strategy, and Metrics pillars of IFRS S2. However, significant challenges remain, particularly in the accurate collection of Scope 3 (indirect) emission data and the quantitative measurement of physical risks, which are critical components of IFRS S2's Risk Management pillar. Theoretically, this transparent disclosure is supported by Legitimacy Theory and Stakeholder Theory, proving effective in strengthening corporate reputation and improving access to sustainability-focused capital. This study provides crucial empirical evidence for regulatory bodies and practitioners regarding the practical application and key obstacles of IFRS S2 in the emerging market context.

Keywords: Climate Change, Consumer Goods Sector, IFRS S2, Legitimacy, Sustainability Disclosure

INTRODUCTION

Climate change has become a central issue affecting business sectors globally. Historically, it can be argued that one of the main triggers for the emergence of the sustainability issue is closely related to the environment, specifically climate change. The increasing impacts of climate change, according Simorangkir and Shauki (2024) both physical (such as natural disasters) and transition (such as government policies related to carbon emissions), are forcing companies to manage these risks more proactively. Consequently,

stakeholders, including investors, regulators, and consumers, are demanding greater transparency regarding how companies manage climate risks and opportunities within their business strategies (Lin et al., 2022).

In the business world, especially for industrial sectors highly dependent on natural resources and energy, climate change presents complex challenges. Companies not only face physical risks (like natural disasters and supply chain disruptions) but also transition risks resulting from changes in regulations, technology, and consumer preferences. In this context, accounting is evolving with the concept of sustainable accounting to support sustainable development (Doloksaribu and Firmansyah 2024). This term signifies an accounting and information management method aimed at providing information to support a company's sustainability efforts. The field of accounting thus plays a role in providing information about corporate operations, including the impact and efforts made by the company to fulfil its social and environmental responsibilities through reporting, commonly known as a Corporate Social Responsibility (CSR) Report. This concept has further developed into the term Sustainability Report.

As a response to this need, Li and Jia (2022) the International Financial Reporting Standards (IFRS), through the International Sustainability Standards Board (ISSB), issued the standard IFRS S2: Climate-related Disclosures in 2023. This standard aims to harmonize sustainability reporting practices focused on climate-related information, thereby providing relevant and comparable information for decision-makers. IFRS S2 emphasizes disclosure across four key pillars: governance, strategy, risk management, and metrics and targets related to climate change.

This standard seeks to standardize sustainability reporting procedures centered on climate-related information, thereby delivering pertinent and comparable data for decision-makers. IFRS S2 underscores the necessity of transparency across four principal pillars: governance, strategy, risk management, and measures and targets pertaining to climate change. Zaid and Issa (2023) in their result research said the consumer goods industry is significantly affected by climate change, as it relies heavily on natural resources and consumer behavior. Organizations within this sector must exhibit a dedication to sustainability in both their operations and long-term business strategy. Shanti and Pello (2024) The implementation of sustainability reporting standards, such as IFRS S2, is crucial for enabling companies to routinely disclose climate-related risks and opportunities that may impact their value.

Consequently, International accounting regulations, including IFRS S2, increasingly prioritize the disclosure of climate change-related information in financial reporting. IFRS S2 governs the disclosure of climate change risks by organizations, impacting the valuation of their assets, liabilities, and operational continuity, as stated by Al Hawaj and Buallay (2022). Consequently, the implementation of IFRS S2 in this industry is essential to guarantee that sustainability policies are both credible and quantifiable. PT. Unilever Indonesia Tbk, a leading consumer products corporation in Indonesia, has commenced the application of IFRS S2 for the disclosure of climate change risks in its financial statements for the years 2022 and 2023 (Destiana Safitri et al. 2023).

The consumer goods industry is one sector heavily affected by climate change, given its reliance on natural resources and consumption patterns. The adoption of sustainability reporting standards like IFRS S2 is highly relevant to help companies systematically disclose climate-related risks and opportunities that can affect firm value. Specifically, IFRS S2 regulates how companies should disclose climate change risks that impact their assets, liabilities, and business continuity (Juanita, et al 2024).

PT. Unilever Indonesia Tbk , as one of Indonesia's largest consumer goods companies, has begun implementing IFRS S2 in disclosing climate change risks in their financial reports

for 2022 and 2023. This article aims to explore and analyze the company's readiness in adopting IFRS S2, analyze the challenges faced, and identify the opportunities arising from these disclosures. Putra et al. (2023) While the IFRS S2 standard was issued by the ISSB to enhance the transparency of climate risk disclosure, research on its application is still dominated by studies in developed countries. Developing countries like Indonesia face different characteristics in terms of regulatory readiness, technology, and resources. Furthermore, most companies in developing countries, including Indonesia, still face major challenges in implementing this standard, particularly due to data limitations, human resource capacity, and national policy support (Wahyuni 2025).

This study seeks to address this gap by examining the application of IFRS S2 at PT Unilever Indonesia Tbk, representing the consumer products sector in Indonesia, through an exploratory case study methodology. Nevertheless, numerous enterprises in developing nations, such as Indonesia, continue to encounter substantial obstacles in adopting this standard, chiefly owing to inadequate data, insufficient human resources, and a lack of national policy endorsement. This disparity prompts inquiries over the preparedness of local enterprises to meet global climate transparency requirements.

Torresan et al. (2019) Prior studies have thoroughly examined the influence of climate change on corporate financial performance and the significance of disclosing sustainability information. Nevertheless, research especially focusing on the application of IFRS S2 within Indonesia's consumer products sector remains scarce. Limited research has thoroughly investigated the preparedness, obstacles, and advantages of adopting this standard for firms functioning in emerging market contexts with diverse reporting capabilities. Shanti and Pello (2024) This research is crucial to address the deficiency in the literature concerning the application of IFRS S2 in Indonesian consumer products industries and to offer practical insights for regulators, corporations, and other stakeholders.

If IFRS S2 is not implemented, companies, particularly in the consumer goods sector, face several significant risks. First, a loss of stakeholder trust may occur, with investors, regulators, and consumers likely to doubt a company's commitment to sustainability without standardized and transparent climate disclosures. Stakeholders are now demanding greater transparency regarding the management of climate-related risks and opportunities. Second, limited access to funding may be an issue, with sustainability-focused investors increasingly utilizing climate information in investment decision-making.

Without IFRS S2 implementation, companies risk losing access to this important source of capital. Third, there are heightened reputational and regulatory risks. Companies perceived as not being proactive in addressing climate issues could face negative reputational impacts. Furthermore, with constant changes in sustainability accounting, failure to implement this standard could leave companies unprepared for future government policy changes related to carbon emissions and mandatory reporting. Fourth, ineffective risk management is also highlighted. IFRS S2 requires disclosures across four key pillars: governance, strategy, risk management, and metrics/targets. Without this framework, companies may not be able to systematically identify and manage physical risks (such as natural disasters and supply chain disruptions) or transition risks (such as regulatory or technological changes), which can exacerbate negative impacts related to sustainability issues.

By comprehending the constraints and opportunities of climate disclosure under IFRS S2, organizations may formulate more effective and pertinent reporting strategies, therefore fostering informed decision-making and facilitating the transition to a low-carbon economy. This study is important to fill the literature gap regarding the application of IFRS S2 in consumer goods companies in Indonesia and to provide practical insights for regulators, companies, and other stakeholders.

The main objectives of this research are to analyze the implementation of IFRS S2 in disclosing the impact of climate change on consumer goods companies in Indonesia, using PT Unilever Indonesia Tbk as a case study. To assess the readiness and challenges faced by PT Unilever Indonesia Tbk in adopting and implementing IFRS S2. To identify opportunities for PT Unilever Indonesia Tbk to gain from increasing the transparency of climate disclosure.

The contributions of this research include are filling the literature gap by providing empirical evidence regarding the application of IFRS S2 in developing countries, particularly in the Indonesian consumer goods sector. Providing insights to regulators in Indonesia regarding the readiness of local companies and challenges in implementing IFRS S2, which can inform future policy development and regulatory support. Providing practical guidance to other consumer goods companies in Indonesia on the strategies, challenges, and potential benefits of adopting IFRS S2. Practical Contributions for Investors: Improve investor and other stakeholders' understanding of climate transparency in Indonesian companies, facilitating more informed decision-making.

This research is highly urgent because it focuses on the implementation of IFRS S2, a new standard issued by the International Sustainability Standards Board (ISSB) in 2023 to improve transparency and consistency in the disclosure of climate-related risks and opportunities. Most studies on the implementation of IFRS S2 are still dominated by developed countries, while developing countries like Indonesia face different characteristics and challenges in terms of regulatory readiness, technology, and resources. Therefore, this study is important to fill the literature gap regarding the application of IFRS S2 to consumer goods companies in Indonesia and provide practical insights for stakeholders.

LITERATURE REVIEW

Theoretical Basis Supporting the Study (Legitimacy Theory and Stakeholder Theory)

This research is highly relevant when supported by two main theoretical frameworks:

1. Legitimacy Theory

This theory states that companies continuously strive to ensure that their operations are perceived as legitimate by society or stakeholders.

Relevance to the Study: Disclosure of climate change impacts through global standards such as IFRS S2 is a company's effort to gain and maintain social legitimacy. By transparently disclosing climate risks and mitigation initiatives, companies assure the public that they are responsible corporate citizens and operate in accordance with societal values. The implementation of IFRS S2 helps enhance a company's sustainability reputation.

2. Stakeholder Theory

This theory argues that a company's success depends not only on shareholders but also on the company's ability to manage relationships with all stakeholders (e.g., investors, customers, regulators, suppliers).

Relevance to the Study: IFRS S2 emerged in response to transparency demands from stakeholders, including investors and regulators. Disclosures that comply with IFRS S2 demonstrate that companies prioritize providing relevant and comparable information to decision-makers. This is particularly relevant for sustainability-focused investors, who use this information to make more informed decisions.

These two theories provide a foundation for analyzing why companies like Unilever Indonesia are willing to face challenges (e.g., data difficulties, measuring physical risks) in adopting stringent climate disclosure standards: companies do so to maintain legitimacy and meet the information demands of key stakeholders. An in-depth case study focusing on the

consumer goods sector in Indonesia, a sector highly vulnerable to the impacts of climate change.Limitations of the Developing Country Context: Existing IFRS S2/TCFD literature is dominated by developed countries. This research provides insight into the practical challenges faced by companies in Indonesia (a developing country) in terms of data readiness and resource capacity.

Holistic Approach to Implementation this study uses the IFRS S2 pillar framework to comprehensively analyze how Unilever Indonesia integrates climate risks and opportunities into its governance, strategy, risk management, and GHG reporting metrics, rather than focusing solely on emissions metrics. This research's conceptual framework outlines the relationship between PT Unilever Indonesia Tbk's sustainability commitments, the disclosure standards used, and the disclosure results in accordance with IFRS S2 principles. This framework demonstrates that a company's sustainability commitments, supported by standards such as GRI 305 (Emissions) and GRI 302 (Energy), will result in expected disclosures aligned with the pillars of IFRS S2, which include disclosure of emissions, mitigation efforts, and risk communication. The data collection involved document analysis, categorizing information according to the 2021 GRI Standards, particularly GRI 302 and GRI 305, and evaluating the quality of disclosures to determine transparency and compliance with these standards.

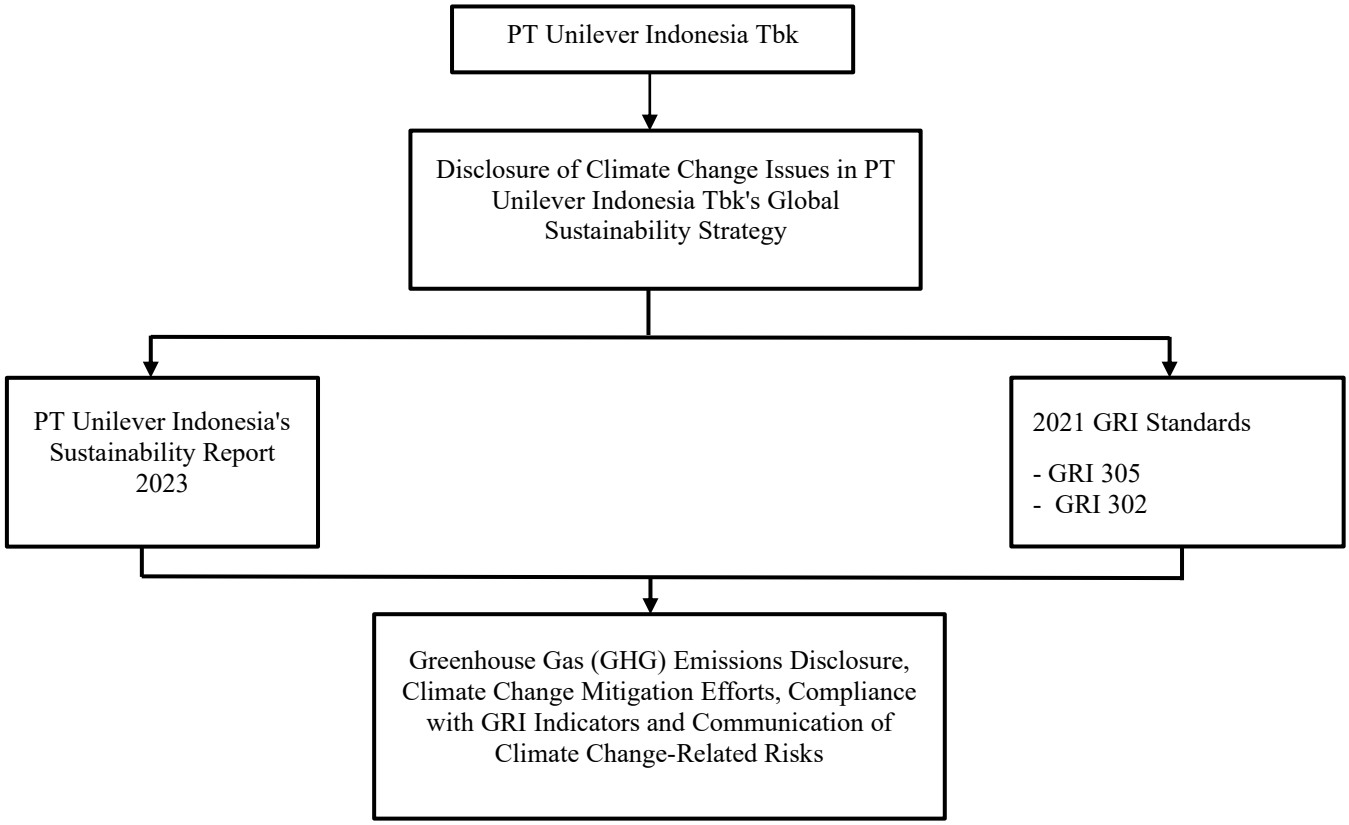

Figure 1 Conceptual Framework

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The research steps were:
1. Data Collection: Gathering Unilever Indonesia's annual reports and related documents disclosing climate change impacts.
2. Data Analysis: Analyzing Unilever Indonesia's disclosures on climate change risks and comparing them with the guidelines in IFRS S2.

This literature review underscores the importance of Legitimacy Theory and Stakeholder Theory as the theoretical basis behind the adoption of IFRS S2 standard climate disclosures. A critical analysis of empirical studies, both globally and in Indonesia, identified a significant research gap regarding the application of IFRS S2 to the Indonesian consumer goods sector. Therefore, this study aims to analyze the implementation of IFRS S2 at PT Unilever Indonesia Tbk, identifying readiness, challenges, and opportunities, thereby providing practical and theoretical contributions to the sustainability accounting literature.

Research Hypotheses

H1: Perceived climate risk has a positive effect on entrepreneurial resilience. Climate risk encourages entrepreneurs to build resilience and adaptability.

H2: Adaptation strategies have a positive effect on entrepreneurial resilience. Good adaptation strategies will improve businesses' ability to recover and survive in difficult conditions.

H3: Climate-Adaptive Supply Chain Agility positively influences entrepreneurial resilience. This means that climate-adaptive supply chain agility will improve MSMEs' ability to survive, adapt, and recover from disruptions.

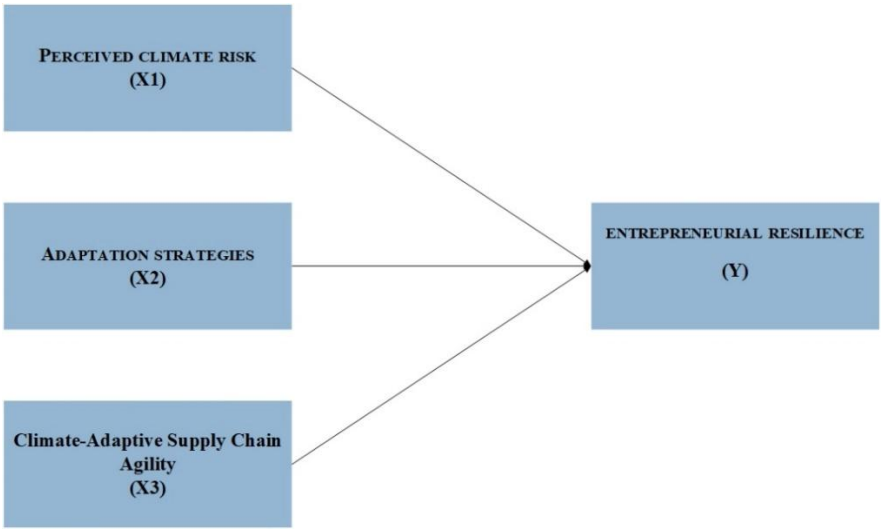

Figure 2 Research Concept

METHODOLOGY

This study employs a qualitative methodology through a case analysis of PT. Unilever Indonesia Tbk. This study utilizes data from Unilever Indonesia's annual reports for 2022 and 2023, which include information pertaining to climate change declarations. Furthermore, interviews with sustainability managers and other stakeholders engaged in sustainability management at the organization were undertaken to obtain a more profound understanding of the issues and possibilities they encounter. This study utilizes secondary data, notably the 2023 sustainability report of PT Unilever Indonesia Tbk, which acts as the principal document for

the disclosure analysis. The analysis concentrates on portions of the report pertaining to climate change, including greenhouse gas emissions, energy consumption, and mitigation strategies.

RESULTS AND DISCUSSION

Result

The Results section presents the research findings concisely and clearly, based on an analysis of the annual report and sustainability reports of PT Unilever Indonesia Tbk (Unilever Indonesia) for 2022 and 2023, as well as interview results.

1. Climate Disclosure Compliance (GRI 302 and GRI 305)

Unilever Indonesia is committed to complying with the 2021 GRI Standards in its 2023 Sustainability Report. Key findings related to energy and emissions include:

a) GHG Emission Reduction (Scope 1 & 2): Since 2015, the company has recorded an 89.45% reduction in Scope 1 and 2 GHG emissions. In 2023, there was an 11.22% reduction compared to the previous year.

b) Direct Emissions (Scope 1): Reported at 14,662.90 tons of CO2 from renewable energy sources in 2023.

c) Indirect Energy Emissions (Scope 2): Reported at 14,662.90 tons of CO2 from non-renewable electricity in 2023.

d) Other Indirect Emissions (Scope 3): As of the end of 2023, the company is still in the Scope 3 data collection phase.

2. Mitigation Strategy Implementation

a) Energy Efficiency: The company recorded an energy intensity ratio of 0.79 GJ/ton in 2023, marking a significant decrease from 0.95 GJ/ton in 2015, due to efficiency and conservation initiatives.

b) Digital Logistics: The implementation of the Digital Logistics (Digilog) system aims to optimize shipping routes and cargo, directly reducing fuel consumption and carbon emissions.

c) Target: The company is committed to a net-zero emissions target by 2023. 2039 and 100% renewable energy by 2030.

3. Readiness and Challenges of IFRS S2 Implementation

Based on reports and interviews, findings indicate:

a) Increased Transparency: There has been increased disclosure of physical risks (natural disasters) and transition risks (policy changes) in the 2022 and 2023 reports.

b) External Engagement: Unilever has allocated additional resources and collaborated with ESG consultants and an independent auditor (TUV Rheinland) to align reports with IFRS S2 and verify data accuracy.

c) Key Challenges: Key challenges include difficulties in collecting historical climate data across operational areas, technological limitations for accurately predicting climate risks, and difficulties in collecting indirect emissions data (Scope 3).

Discussion

This Discussion section analyzes the findings (Results) by integrating theoretical foundations, comparing them with previous literature, and providing a comprehensive interpretation of the implementation of IFRS S2 at Unilever Indonesia. Analysis Based on IFRS S2 Pillars Unilever Indonesia's disclosure analysis shows a clear alignment with the four pillars of IFRS S2. In disclosing climate change issues, PT Unilever Indonesia Tbk has committed to adhering to the GRI 2021 standards in its sustainability report for 2023. The disclosures cover

various aspects, such as energy usage, reduction of greenhouse gas emissions (GHG), and the implementation of efficiency initiatives.

Table 1 GRI Disclosure Standards PT Unilever tbk

GRI Disclosure Standards 2021	GRI Standard PT Unilever Tbk
GRI 302 –Energy	
302-1 Energy	In 2023, PT Unilever Indonesia recorded energy consumption from non-renewable sources at on-site facilities of 260,317.29 GJ, while off-site renewable energy consumption reached 90,494.12 GJ from biomass and 654.11 GJ from solar panels. The company also obtained 482,738.23 GJ of renewable electricity. Total energy consumption for the year reached 834,203.75 GJ. There were no reports of energy sales in the form of electricity, heating, cooling, or steam. Energy consumption and emissions calculations were carried out in accordance with the GRI Standard 2021, using energy conversion methods based on recognized industry standards.
302-2 Energy Consumption Outside the Organization	PT Unilever Indonesia is committed to improving energy efficiency in product distribution by 2023. The strategies implemented include designing efficient delivery routes and optimizing loads, which reduces travel distance, fuel consumption, and carbon emissions. The implementation of the Digital Logistics (Digilog) system enables more accurate deliveries and more efficient use of the transportation fleet, thereby reducing logistics time and costs. All deliveries are carried out through a digital system, increasing transparency and accuracy in supply chain management. This initiative contributes to reducing greenhouse gas emissions, which is in line with the company's commitment to achieving net-zero emissions, as well as supporting environmental sustainability and social responsibility.
302-3 Energy Intensity	PT Unilever Indonesia recorded an energy intensity ratio of 0.79 GJ/ton in 2023, indicating a decrease compared to the previous year. This measurement only applies to manufacturing activities, with a decrease from 0.95 GJ/ton in 2015. This confirms Unilever's achievement in reducing energy consumption per ton of product produced. This ratio is calculated based on manufacturing activities measured in tons, and does not include energy consumption from logistics and office activities. The types of energy calculated include all energy sources used in the manufacturing process, including fuel, electricity, heating, cooling, and steam.
302-4 Reducing Energy Consumption	PT Unilever Indonesia has successfully reduced energy consumption as a direct result of implemented efficiency and conservation initiatives. Specifically, energy savings include 294,239 kWh per month from solar panels, a 2% reduction in electricity consumption through harmonic filters, and a savings of 44.6 GJ of energy per day from biomass use and heat recovery. The types of energy involved in these reductions include electricity and fuel, with electricity savings coming from solar panels and harmonic filters, while natural gas consumption was reduced thanks to biomass energy. Although the basis for calculating the reductions is not explicitly stated, comparisons can be made with conditions prior to the efficiency initiatives. Unilever uses GRI standards and direct measurements to calculate energy consumption reductions and provide a clear picture of the company's achievements in improving energy efficiency.
302-5 Reducing Energy Needs for Products and Services	PT Unilever Indonesia reported indirect Greenhouse Gas (GHG) emissions (Scope 2) of 14,662.90 tonnes of CO^2 from non-renewable electricity in 2023, a decrease compared to 16,516.70 tonnes of CO^2 in 2022. Specific data on market-based emissions for renewable and non-renewable electricity are not provided. Calculated gases include CO^2, CH^4, N^2O, HFCs, PFCs, SF^6, and NF^3. The base year used is 2015, as a

GRI Disclosure Standards 2021	GRI Standard PT Unilever Tbk
	baseline for comparing emissions in subsequent years. The calculation refers to Environmental Performance Reporting (EPR) and uses a consolidated operational control approach, following GRI 305-1 and GRI 305-2, with data that has gone through an annual authorization process.
GRI 305-Emisi	
305-1 Direct GHG Emissions (Scope 1)	PT Unilever Indonesia reported direct Greenhouse Gas (GHG) emissions (Scope 1) for 2023 of 14,662.90 tons of CO^2 from renewable energy sources, while emissions from non-renewable energy (gas and light fuel) were recorded at 16,516.70 tons of CO^2 for 2022. The gases calculated include CO^2, CH^4, N^2O, HFCs, PFCs, SF^6, and NF^3, although data for gases other than CO_2 are not included. Biogenic CO^2 emissions from renewable energy are not explicitly mentioned but are included in the total emissions from biomass and solar PV. The base year used is 2015, chosen as the baseline for emission comparison. The source of emission factors refers to data from the Environmental Performance Reporting (EPR) with a consolidated approach using operational controls. Reporting follows GRI 305-1 and GRI 305-2, with a calculation methodology based on direct measurements of activities at Grha Unilever and data that has gone through annual authorization.
30-2 Indirect Emissions from Energy (Scope 2)	PT Unilever Indonesia reported indirect Greenhouse Gas (GHG) emissions (Scope 2) of 14,662.90 tonnes of CO^2 from non-renewable electricity in 2023, a decrease compared to 16,516.70 tonnes of CO^2 in 2022. Specific data on market-based emissions for renewable and non-renewable electricity are not provided. Calculated gases include CO^2, CH^4, N^2O, HFCs, PFCs, SF^6, and NF^3. The base year used is 2015, as a baseline for comparing emissions in subsequent years. The calculation refers to Environmental Performance Reporting (EPR) and uses a consolidated operational control approach, following GRI 305-1 and GRI 305-2, with data that has gone through an annual authorization process.
305-3 Other Indirect GHG Emissions (Scope 3)	As of the end of 2023, PT Unilever Indonesia was still collecting data on indirect greenhouse gas (GHG) emissions (Scope 3). Details regarding emissions in metric tons of CO^2 equivalent, the types of gases involved in the calculation, and the relevant activity categories still need to be determined. Additional information regarding the base year for the calculation, sources of emission factors, global warming potential (GWP) values, and the methodology used are also not yet fully available.

The annual reports of Unilever Indonesia for 2022 and 2023 show an increase in the disclosure of information related to climate change risks. This includes disclosures about physical risks from natural disasters, transition risks from policy changes, and mitigation strategies. In the context of IFRS S2, Unilever has identified operational areas most vulnerable to climate change impacts, including the supply chain and energy use in production. Based on interviews with Unilever Indonesia's sustainability manager, the company has allocated additional resources to enhance its sustainability reporting system and collaborates with external parties, including ESG consultants and independent auditors, to align reports with IFRS S2.

In its application, Unilever faces several major constraints, such as difficulty in obtaining historical data on climate impacts across various operational regions, and the lack of technology to accurately predict climate risks. Nevertheless, the company views this information transparency as a means to increase stakeholder trust, especially from institutional investors focused on long-term sustainability. Unilever also integrates climate management policies into its business strategy, such as committing to net-zero emissions by 2039 and expanding the use of renewable energy. Based on the analysis of the 2023 Sustainability Report and Annual

Report of PT Unilever Indonesia Tbk, the key findings regarding alignment with the principles of IFRS S2 (Climate-related Disclosures) are as follows:

1. Greenhouse Gas (GHG) Emission Disclosure: Unilever Indonesia reported an 89.45% reduction in Scope 1 and 2 GHG emissions since 2015, with an 11.22% decrease in 2023 compared to the previous year. The report also includes Scope 3 emission data, although disclosure still faces challenges in reporting indirect emission data.
2. Climate Strategy and Risk Management: The company integrates climate change risk into its business strategy , including through energy efficiency programs.
3. Governance and Transparency: The 2023 Sustainability Report was prepared based on GRI Standard 2021 and verified by an independent third party, TUV Rheinland, to ensure the accuracy and reliability of the information.

CONCLUSION AND SUGGESTION

Conclusion

This study aims to disseminate the application of IFRS S2 in disseminating climate change impacts at PT Unilever Indonesia Tbk, examining the readiness, challenges, and opportunities arising from the implementation of this standard. Strong commitment and Compliance with IFRS S2 Pillars that PT Unilever Indonesia Tbk demonstrates a strong commitment to sustainability. Its disclosures align with the three pillars of IFRS S2 Governance, Strategy, and Metrics & Targets (Scope 1 & 2) which are supported by the 2021 GRI standards and third party verification. This is reflected in the successful achievement of an 89.45% reduction in Scope 1 and 2 GHG emissions since 2015.

Key Challenges in the Metrics Pillar (Scope 3) and risk management that the significant challenge facing the company regarding the implementation of IFRS S2 focuses on the limited availability of indirect data (Scope 3), which is still in the collection phase as of the end of 2023. Furthermore, the difficulty in accurately measuring and predicting physical risks across various operational areas is also a major obstacle in the risk management pillar. Theoretical Implications and Strategic Benefits that Unilever's efforts to increase climate transparency (IFRS S2) are supported by Stakeholder Theory, as it meets the information demands of investors focused on sustainability and facilitates access to green financing. Simultaneously, this disclosure serves to maintain the company's social legitimacy as a responsible corporate citizen. Overall, PT Unilever Indonesia Tbk's implementation of IFRS S2 demonstrates that global companies in developing countries are on the right track toward climate transparency, although technical challenges related to supply chain data and physical risks remain a critical concern.

Suggestions

Based on the conclusions and identified challenges, the following are practical and academic suggestions:

1. Practical Suggestions for PT Unilever Indonesia Tbk

a) Improving Scope 3 Data Collection: The company should further invest in systems and collaboration with suppliers to ensure complete and accurate collection of indirect emissions (Scope 3) data, a crucial component of IFRS S2 coverage.

b) Adopting Predictive Technology: Given the difficulty in measuring physical risks, the company is advised to consider implementing climate modeling technology or collaborating with climate agencies to more precisely predict long-term climate impacts on assets and supply chains.

c) Full Integration of IFRS S2: Companies should continue to align their Sustainability Reports explicitly using the IFRS S2 structure (four pillars), rather than solely

using GRI as the primary reference, to maximize comparability of information for global investors.

2. Academic Suggestions for Further Research
   a) Sectoral and Regional Comparisons: Future research could expand the scope of the study by analyzing consumer goods companies with other sectors (e.g., the energy or financial sectors) in Indonesia, or comparing the implementation of IFRS S2 in the consumer goods sector in Indonesia with other developing countries in Southeast Asia.
   b) Quantitative Analysis of Market Impact: Future research is recommended to quantitatively measure the impact of IFRS S2 disclosures (particularly after Scope 3 reporting) on firm value, cost of capital, or investment decisions on the Indonesia Stock Exchange, which could provide stronger empirical evidence regarding the economic benefits of this standard.

Focus on Regulation: In-depth research is needed on the readiness and role of regulators in Indonesia (such as the OJK) in adapting IFRS S2 into national regulations, as well as the impact of mandatory (mandatory) reporting policies on the level of company compliance.

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