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ABSTRACT: From research conducted on 14 automotive companies listed on the Indonesia Stock Exchange (IDX), it was found that the implementation of sustainability reports in this sector still varies, both in terms of completeness and conformity with international standards. When compared to IFRS S1 and IFRS S2 standards, the majority of companies have not fully adopted the requirements related to the disclosure of sustainability and climate-related financial information. Only a few companies have started detailed disclosures on the risks and impacts of climate change on their business operations in accordance with IFRS S2, while others are still limited to general disclosures. In terms of reporting quality, some companies have shown improvement in terms of transparency and integration of sustainability information with the company's financial performance. However, most companies still face challenges in providing data that is consistent, measurable and relevant to international standards. Overall, the results of this study show that despite progress in the implementation of sustainability reporting in the automotive sector, significant improvements are still needed, particularly in terms of conformity with global standards such as GRI, IFRS S1, and IFRS S2.

KEYWORDS: Sustainability Report; Automotive Companies, IFRS S1 & S2

I. INTRODUCTION

The automotive industry in Indonesia is one of the strategic sectors that plays an important role in the national economy, being one of the main contributors to the gross domestic product (GDP) of the conveyance industry sector. In 2021, the industry recorded a significant growth of 17.82 percent, despite the pressure of the Covid-19 pandemic. In the first quarter of 2022, the conveyance industry experienced the highest growth in the non-oil and gas industry sector at 14.2 percent year-on-year (y-on-y). With a total production capacity of 2.35 million units per year, the automotive industry also makes a major contribution to employment, absorbing more than 1.5 million workers along its supply chain (GAAKINDO, 2022). Not only does it contribute significantly to the national economy, but also to greenhouse gas (GHG) emissions. Motor vehicles, the industry's main product, are one of the largest contributors to GHG emissions that contribute to global warming and climate change.

According to a report from the International Council on Clean Transportation (ICCT), the transportation sector in Indonesia is responsible for about 15% of the country's total greenhouse gas (GHG) emissions. The report highlights the importance of decarbonizing the transport sector to achieve a net-zero GHG emissions target by 2060 or sooner. Indonesia is considering various measures, including a shift from gasoline and diesel internal combustion engine vehicles to hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles (PHEVs), battery electric vehicles (BEVs), and hydrogen fuel cell electric vehicles (FCEVs), as well as increased use of biofuels (Mera, 2023). In the face of this challenge, Indonesia, as part of the Paris Agreement since 2016, is committed to reducing GHG emissions by 29% on its own and up to 41% with international assistance by 2030 (GAAKINDO, 2022).

One of the strategic steps that the Indonesian government has taken to support emission reduction efforts is through the implementation of the Euro 4 Emission Standard for diesel vehicles since April 2022 (GAAKINDO, 2022). This standard not only aims to reduce carbon emissions, but also increase the competitiveness of Indonesian automotive products in the global market. The Indonesian government has implemented a number of policies and regulations to support the transition to electric vehicles, with the aim of reducing greenhouse gas emissions and improving the sustainability of the transportation sector. One of

the key policies is Presidential Regulation No. 55/2019, which aims to accelerate the development and use of battery-based electric vehicles (BEVs) in Indonesia. The regulation covers various types of vehicles, including two-, three-, and four-wheelers. It sets incentives for local manufacturers with minimum local component requirements, and seeks to expand EV charging infrastructure. In addition, the regulation also establishes fiscal and non-fiscal incentive schemes to support the electric vehicle industry. (Mahalana & Yang, 2021). In addition, the government has also issued various regulations to accelerate the transition to environmentally friendly vehicles, including Presidential Regulation Number 55 of 2019 concerning the acceleration of the battery-based electric vehicle program and Government Regulation Number 73 of 2019 concerning luxury sales tax for electric vehicles (Jatmika, 2022).

The transition to electrified vehicles, such as electric vehicles, is also a major focus of the government in achieving emission reduction targets. Indonesia has great potential in the electric vehicle industry, especially due to the availability of abundant nickel resources, as the main raw material for electric vehicle batteries. With a target of reaching a population of 3 million electric vehicles by 2030, Indonesia is projected to reduce CO2 emissions by 4.6 million tons. These steps demonstrate Indonesia's strong commitment in supporting global sustainability goals. The transition to electric vehicles brings significant economic impacts, including the creation of new jobs and changes in the conventional automotive industry. According to a study by the International Council on Clean Transportation (ICCT), the development of electric vehicle charging infrastructure in the United States could create more than 160,000 new jobs by 2032, primarily in the installation and maintenance of such infrastructure (Pennington, 2023). Toyota Astra Motor (TAM) is accelerating electrification by presenting Hybrid Electric Vehicle (HEV) based models, such as the All New Corolla Cross HEV. This SUV offers elegant design, high performance, and lower CO2 emission efficiency. Using a 1,798 cc 4-cylinder DOHC engine and an electric motor, the car produces a combined power of 98 PS and 142 Nm of torque, with an e-CVT transmission system. Additional features such as 6-way electric seats and a power back door with kick sensor add convenience. This vehicle supports the 2030 greenhouse gas emission reduction target.

Despite various regulations and initiatives to support the development of environmentally friendly vehicles, the implementation of sustainability in the automotive industry still faces challenges. One important aspect of sustainability is the preparation and reporting of sustainability reports. This report is an important tool for automotive companies to demonstrate their commitment to environmental, social, and governance (ESG) management and support their GHG emission reduction targets. In this context, the transparency and conformity of sustainability reports with international standards is essential to demonstrate the company's seriousness in supporting national and global climate targets (Singh & Rahman, 2021). IFRS S1 and S2 emerged in response to the global need for consistent and reliable sustainability reporting standards. These standards were developed by the International Sustainability Standards Board (ISSB) to increase trust and transparency in corporate disclosure of sustainability-related information. IFRS S1 prescribes general requirements for disclosure of sustainability-related financial information, while IFRS S2 focuses on disclosure of risks and opportunities associated with climate change (IFRS, 2023).

 With the introduction of IFRS S1 (General Requirements for Disclosure of Sustainability-related Financial Information) and IFRS S2 (Climate-related Disclosures) by the International Financial Reporting Standards (IFRS) Foundation, companies are required to adopt more rigorous sustainability reporting standards integrated with financial statements. IFRS S1 requires companies to disclose sustainability-related information that may affect their financial position (International Sustainability Standards Board (ISSB), 2023), while IFRS S2 specifically focuses on the risks and opportunities associated with climate change (International Sustainability Standards Board, 2023).

The obligation of companies to adopt IFRS S1 and S2 is an important step in improving the transparency and accountability of automotive companies in Indonesia. The adoption of these standards will ensure that sustainability-related risks and opportunities, including those related to climate change, are integrated in financial reporting. This provides clearer guidance to stakeholders on how companies manage their environmental impacts and adapt their business strategies to support GHG emission reduction targets. This study aims to analyze the implementation of sustainability reporting in Indonesian automotive companies, taking into account the new obligations related to the adoption of IFRS S1 and S2. In addition, this study will evaluate the challenges and opportunities faced by companies in preparing effective sustainability reports that comply with international standards, and how such reports can contribute to the achievement of national and global climate targets.

II. METODE

This research is a descriptive qualitative study, which aims to describe and interpret the data obtained from the company's sustainability report. The main focus is on the disclosure of information related to environmental, social, and governance (ESG) aspects presented in sustainability reports, taking into account

linkages with international reporting standards such as the Global Reporting Initiative (GRI), IFRS S1, and IFRS S2. The population in this study were all companies engaged in the automotive sector and listed on the Indonesia Stock Exchange (IDX). The samples used are 14 automotive companies that are listed and have published sustainability reports regularly.

No	Company							
1	PT Astra International Tbk (kode: ASII)							
1	PT Astra Otoparts Tbk (AUTO)							
2	PT Mitra Pinasthika Mustika Tbk (MPMX)							
3 4	PT Indomobil Sukses International Tbk							
4	(IMAS)							
5	PT Gajah Tunggal Tbk (GJTL)							
07	PT Multistrada Ara Sarana Tbk (MASA)							
/	PT Goodyear Indonesia Tbk (GDTR) PT Indospring Tbk (INDS)							
0								
9	PT Multi Prima Sejahtera Tbk (LPIN)							
10	PT Indo Kordsa Tbk (BRAM)							
11	PT Garuda Metalindo Tbk (BOLT)							
12	PT Bintraco Dharma Tbk (CARS)							
13	PT Selamat Sempurna Tbk (SMSM)							
14	PT Harapan Duta Pertiwi Tbk (HOPE)							

This study uses secondary data sourced from: Sustainability reports published by each automotive company, downloaded from the company's official website or the IDX; Company annual reports to see the relationship between financial statements and sustainability information; Other supporting data such as related regulatory and policy documents issued by the government, as well as international reporting standards such as GRI, IFRS S1, and IFRS S2.

III. RESULTS AND DISCUSSION

The implementation of sustainability reporting in Indonesian automotive companies is showing a positive trend, with more companies adopting international reporting standards and setting measurable sustainability targets. While the industry is increasingly aware of environmental, social and governance (ESG) issues, the actual implementation and reporting of these initiatives vary widely among companies. IFRS S1 focuses on delivering relevant sustainability information to stakeholders, especially investors, by integrating sustainability as part of financial reporting. Whereas IFRS S2 emphasizes disclosures related to climate change, which is particularly important for the automotive industry that faces immense pressure to reduce carbon emissions and environmental impacts. For automotive companies in Indonesia, IFRS S1 and S2 help drive sustainability strategies. The implementation of the sustainability report of automotive companies in Indonesia discussed in this study regarding environmental, social, governance, and sustainability risks and opportunities. Table 1 below presents the implementation of the sustainability report of automotive companies in Indonesia.

Company	Environmental Aspects	Social Aspects	Governance Aspects	Sustainability Risks & Opportunities	Climate-related Disclosures (IFRS S2)	
PT Astra International Tbk	GHG emission reduction target 30% from 2019 baseline; 44.63% renewable energy	2.27 million community program beneficiaries; Target of zero workforce fatalities	Integration of sustainability through Triple- P Roadmap	Risk of transition to green vehicles; Opportunities in product innovation	Emission reduction targets aligned with national commitments	
PT Astra Otoparts Tbk	30%GHGemissionreductiontarget;50%renewableenergymix	215,625 employee training hours; 97,000 community program beneficiaries	Governance structure with specialized committees	Supply chain risks; Opportunities in green technology	Climate scenario analysis for long- term strategies	
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Tabel 1. Implementation of Sustainability Reports of Indonesian Automotive Companies

PT Gajah Tunggal Tbk	Installation of solar panels; 2.41%	Education assistance	GCG principles and ethical	Risk of raw material price fluctuations;	No specific mention
	reduction in water consumption	program; ISO 45001:2018 certification	practices	Opportunities in environmentally friendly products	
PT Indomobil Sukses International Tbk	Eco-friendly vehicle financing IDR 447.63 billion	Financial literacy and inclusion program	Implementation of GCG principles	Risk of regulatory change; Opportunities in electric vehicles	No specific mention
PT Multistrada Ara Sarana Tbk	Focus on fuel use efficiency; Optimization of waste management	Comprehensive training program	Transparency through regular Board meetings	Risk of technological change; Opportunities in product innovation	No specific mention
PT Goodyear Indonesia Tbk	Target of 40% reduction in rolling resistance; Use of solar panels	Over 13,400 volunteer hours	Board Committee on Responsibility and Compliance	Risk of changing market demand; Opportunities in green products	46% global emissions reduction target
PT Multi Prima Sejahtera Tbk	3R approach for non-B3 waste	Equal opportunity for employees	Active supervision by the Board of Commissioners	Risk of changes in environmental regulations; Operational efficiency opportunities	No specific mention
PT Indo Kordsa Tbk	6.5% reduction in electricity consumption; 50% waste reduction target	No specific mention	Clear ESG policy	Energy transition risks; Opportunities in materials innovation	Emission reduction target of 46.2% by 2030
PT Indospring Tbk	Energy consumption 775,427 GJ; 3.4% increase in emissions	601 employee training sessions	Code of Ethics and Whistleblowing System	Semiconductor shortage risks; Opportunities in digitalization	No specific mention
PT Duta Pertiwi Tbk	Emission reduction of 2,347ton CO2e through RECs	MSMEs Go Digital Program	Enterprise Risk Management (ERM) framework	Climate change risks; Opportunities in sustainable property development	GHG inventory for scopes 1, 2, and 3
PT Bintraco Dharma Tbk	Energy saving program	CSR and disaster relief programs	Implementation of GCG principles	Risk of global economic uncertainty; Opportunities in market diversification	No specific mention
PT Selamat Sempurna Tbk	GHGemissionreductionof7%(639.92TonCO2eq)	IDR 405.26 million for community development	"Very Good" rating from ACGS	Risk of technological change; Opportunities in product innovation	Emission reduction target aligned with national target of 31.89%
PT Garuda Metalindo Tbk	ISO 14001:2004 Certification; BLUE PROPER Rating	Employee training programs; Occupational health and safety initiatives	Implementation of GCG principles	Risk of raw material price fluctuations; Opportunities in product diversification	No specific mention
PT Mitra Pinasthika Mustika Tbk	GHG Scope 1 & 2 emissions measurement; Energy efficiency; Waste management	"Zero Accident Award";	Score of 92.54 (Very Good) in ACGS assessment; Board of Directors structure consists of 1 President Director and 2	Risks: climate change, environmental regulations, technology and markets. Opportunities: green product innovation	Carbon emission reduction commitment; Electric vehicle business development plan

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other directors

Source: Sustainability Report (2023)

Environmental Aspects

Based on Table 1. Implementation of Sustainability Reports of Indonesian Automotive Companies, the environmental aspects of automotive companies in Indonesia show a variety of initiatives and commitments to sustainability. The majority of companies focus on reducing greenhouse gas (GHG) emissions and improving energy efficiency. PT Astra International Tbk and PT Astra Otoparts Tbk, for example, have GHG emission reduction targets of 30%, with PT Astra International Tbk also reporting 44.63% renewable energy use. Some companies such as PT Gajah Tunggal Tbk and PT Goodyear Indonesia Tbk have implemented the use of solar panels to reduce dependence on conventional energy. Waste and water management is also a major concern, with PT Gajah Tunggal Tbk reporting a 2.41% reduction in water consumption and PT Multi Prima Sejahtera Tbk implementing a 3R approach for non-B3 waste. Several companies have obtained environmental certifications, such as PT Garuda Metalindo Tbk which has ISO 14001:2004 certification and a BLUE PROPER Rating. Green product innovation is also a focus, with PT Indomobil Sukses International Tbk reporting green vehicle financing worth Rp447.63 billion.

However, the level of detail and types of initiatives reported vary between companies. Some companies such as PT Mitra Pinasthika Mustika Tbk measure GHG Scope 1 & 2 emissions, while others focus on energy efficiency or waste management. This variation shows that while there is a general awareness of the importance of environmental aspects, individual companies' approaches and priorities in addressing environmental issues still vary. It also indicates that there is room for improvement and standardization in environmental reporting in the Indonesian automotive industry.

Social Aspects

In the social aspect, the majority of companies show attention to human resource development and community engagement. PT Astra International, for example, has reached 2.27 million beneficiaries through its community development programs. PT Selamat Sempurna Tbk allocated Rp 405.26 million for community development activities in 2023. Some companies also show a strong commitment to occupational safety, such as PT Astra Otoparts which has managed to significantly reduce workplace accidents. However, there are still gaps in reporting and implementation of sustainability practices among these companies. Some companies such as PT Bintraco Dharma Tbk and PT Garuda Metalindo Tbk have not provided specific quantitative data on their environmental achievements, despite showing awareness of the importance of this aspect.

This suggests that there is still room for improvement in terms of transparency and consistency of sustainability reporting in the Indonesian automotive industry. PT Indospring Tbk, PT Duta Pertiwi Tbk, and PT Bintraco Dharma Tbk demonstrated commitment to occupational health and safety (OHS), by implementing strict safety standards and recording a decrease in the incidence of workplace accidents. PT Selamat Sempurna Tbk highlighted its prioritization of OHS, with positive results in 2023 with no fatal work accidents. Overall, these companies demonstrate ongoing efforts in managing social impacts through employee development, community engagement, and improved safety standards.

Governance Aspects

The governance aspects of automotive companies in Indonesia show a variety of approaches and levels of implementation. The majority of companies apply Good Corporate Governance (GCG) principles as the basis of their governance. Some companies demonstrate more advanced and structured governance practices. PT Astra International Tbk, for example, integrates sustainability through the Triple-P Roadmap, demonstrating a holistic approach to governance that includes environmental and social aspects. PT Astra Otoparts Tbk has a governance structure with dedicated committees, indicating a higher level of oversight and specialization in the management of the company. Several companies received external recognition for their governance practices. PT Selamat Sempurna Tbk and PT Mitra Pinasthika Mustika Tbk received "Very Good" ratings from the ASEAN Corporate Governance Scorecard (ACGS), indicating that their governance practices have met high regional standards. Transparency and accountability were a focus for several companies. PT Multistrada Ara Sarana Tbk emphasizes transparency through regular Board meetings, while PT Indospring Tbk has a Code of Ethics and Whistleblowing System that demonstrates commitment to business integrity.

Some companies have a more specific approach to sustainability governance. PT Goodyear Indonesia Tbk has a Board Committee for Responsibility and Compliance, while PT Duta Pertiwi Tbk implements an Enterprise Risk Management (ERM) framework that includes sustainability aspects. However, the level of detail and types of initiatives reported vary between companies. Some companies only mention the application of GCG principles in general without providing specific details on their implementation.

Sustainability Risks and Opportunities

Automotive companies in Indonesia have demonstrated a diverse commitment to sustainability. In terms of sustainability risks and opportunities, these companies face various challenges and opportunities. Key risks identified include the transition to green technology, regulatory changes, fluctuations in raw material prices, changes in technology and market demand, and global economic uncertainty. PT Astra International Tbk, for example, faces the risk of transitioning to environmentally friendly vehicles, while PT Indomobil Sukses International Tbk anticipates the risk of regulatory changes. On the other hand, these companies also see various opportunities in the context of sustainability. Product innovation, especially in green technology, is a key focus for many companies. PT Astra Otoparts Tbk sees opportunities in green technology, while PT Indomobil Sukses International Tbk focuses on opportunities in electric vehicles. Some companies such as PT Garuda Metalindo Tbk and PT Bintraco Dharma Tbk see opportunities in product and market diversification. Risk mitigation and opportunity utilization strategies vary between companies. PT Duta Pertiwi Tbk, for example, developed an Enterprise Risk Management (ERM) framework to manage climate change risks, while PT Mitra Pinasthika Mustika Tbk focused on green product innovation as a response to technological and market change risks. These variations show that automotive companies in Indonesia adopt diverse approaches to sustainability challenges, tailored to their individual business conditions and strategies.

Climate-related Disclosures (IFRS S2)

Climate-related disclosures (IFRS S2) show significant variation among automotive companies. Some companies have demonstrated strong commitment by setting specific and measurable emissions reduction targets. PT Astra International Tbk, for example, has an emissions reduction target aligned with national commitments, while PT Goodyear Indonesia Tbk set a global emissions reduction target of 46%. PT Indo Kordsa Tbk has even set an emissions reduction target of 46.2% by 2030. PT Selamat Sempurna Tbk also aligned its emission reduction target with the national target of 31.89%. Some companies have gone further by conducting climate scenario analysis for their long-term strategies, such as PT Astra Otoparts Tbk. PT Duta Pertiwi Tbk shows greater transparency by conducting GHG inventories for scopes 1, 2, and 3. Meanwhile, PT Mitra Pinasthika Mustika Tbk shows a commitment to reducing carbon emissions and has an electric vehicle business development plan, reflecting their efforts in anticipating the transition to a low-carbon economy.

However, it should be noted that some companies have not provided specific climate-related disclosures in their sustainability reports. Companies such as PT Gajah Tunggal Tbk, PT Indomobil Sukses International Tbk, PT Multistrada Ara Sarana Tbk, PT Multi Prima Sejahtera Tbk, PT Indospring Tbk, PT Bintraco Dharma Tbk, and PT Garuda Metalindo Tbk do not mention specifically about their climate-related targets or strategies. This suggests that there is still room for improvement in terms of reporting and transparency on climate issues in the Indonesian automotive industry. Overall, the implementation of sustainability reporting in Indonesian automotive companies shows a positive trend, with more companies adopting international reporting standards and setting measurable sustainability targets. However, further efforts are needed to improve the quality and consistency of reporting, and to ensure that sustainability practices are effectively integrated into the long-term business strategies of these companies.

IV. CONCLUSION

The implementation of sustainability reporting in the automotive sector listed on the Indonesia Stock Exchange (IDX) is still in a developmental stage, despite increasing global attention to sustainability issues. From the analysis of the 14 automotive companies sampled, it was found that most have started to adopt the Global Reporting Initiative (GRI) standards in reporting environmental, social and governance (ESG) aspects. However, the level of conformity with international standards such as IFRS S1 and IFRS S2 is still low, with some companies yet to fully integrate disclosures related to climate change risks and impacts.

The results show that despite progress in sustainability reporting, many companies still face challenges in terms of consistency, completeness and quality of reported data. Weaknesses in the provision of measurable and relevant sustainability information create gaps in efforts to comply with international standards. The research also emphasises the importance of clear regulations, independent audits and strict compliance to encourage companies to pay more attention to their environmental and social impacts. As stated by PwC, regulations accompanied by rigorous external audits can provide additional motivation for companies to take sustainability impact management more seriously, especially regarding the environment (PwC, 2023).

Overall, this study shows that while sustainability reporting is getting more attention from automotive companies in Indonesia, there is still significant room for improvement, especially in terms of complying with international standards and improving the quality of disclosures related to sustainability issues.

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