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EVALUATING GRI STANDARDS IMPLEMENTATION QUALITY AND GREENWASHING PRACTICES IN PT PERTAMINA (PERSERO)

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ABSTRACT

Purpose: This study aims to evaluate the application of the Global Reporting Initiative (GRI) standards in the sustainability report of PT Pertamina (Persero) for the 2021-2023 period and analyze the potential for greenwashing practices in the report.

Methodology/approach: Utilizing the content analysis method, this study assessed the quality of the report based on GRI principles, both quantitatively and qualitatively.

Findings: PT Pertamina (Persero) consistently enhances its sustainability report disclosure quality, with general disclosures reaching 100% over three years. Material topic disclosure is expected to increase from 70% (2021) to 94% (2023). The Greenwashing Index (GI) stabilized at 0.72, indicating low greenwashing levels. Results suggest a strong commitment to transparency and accountability, but ongoing evaluation of greenwashing practices is necessary.

Practical implications: This study contributes significantly to understanding the effectiveness of GRI implementation in the Indonesian oil and gas sector and provides recommendations for other companies and regulators to enhance the quality of sustainability reports.

Originality/value: This study analyzes the quality of sustainability reports both quantitatively and qualitatively. The researcher also added an analysis of greenwashing practices.



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Keywords: Global Reporting Initiative (GRI); Greenwashing, PT Pertamina (Persero); Sustainability Report; Transparency.

ABSTRAK

Purpose: Penelitian ini bertujuan untuk mengevaluasi penerapan standar Global Reporting Initiative (GRI) dalam laporan keberlanjutan PT Pertamina (Persero) periode 2021-2023, dan menganalisis potensi praktik greenwashing dalam laporan tersebut.

Methodology/approach: Menggunakan metode analisis konten, studi ini menilai kualitas laporan berdasarkan prinsip-prinsip GRI, secara kuantitatif dan kualitatif.

Findings: PT Pertamina (Persero) secara konsisten meningkatkan kualitas pengungkapan laporan keberlanjutannya, dengan pengungkapan umum mencapai 100% selama tiga tahun. Pengungkapan topik material diperkirakan akan meningkat dari 70% (2021) menjadi 94% (2023). Indeks Greenwashing (GI) stabil di angka 0,72, menunjukkan tingkat greenwashing yang rendah. Hasil menunjukkan komitmen yang kuat terhadap transparansi dan akuntabilitas, namun evaluasi berkelanjutan terhadap praktik greenwashing diperlukan.

Practical implications: Studi ini berkontribusi signifikan terhadap pemahaman efektivitas implementasi GRI di sektor migas Indonesia dan memberikan rekomendasi bagi perusahaan lain dan regulator untuk meningkatkan kualitas laporan keberlanjutan.

Originality/value: Studi ini menganalisis kualitas laporan keberlanjutan secara kuantitatif dan kualitatif. Peneliti juga menambahkan analisis praktik greenwashing.

Kata kunci: Global Reporting Initiative (GRI); Greenwashing, PT Pertamina (Persero); Laporan Keberlanjutan; Transparansi.

INTRODUCTION

The world is facing the various impacts of climate change, including natural disasters, environmental damage, and epidemics. Businesses in various sectors may also contribute to climate change. Research from Carbon Majors shows that in the period 2016-2023, 57 companies engaged in oil, gas, coal, and cement contributed 80% of the world's emissions (Pristiandaru, 2024). In addition to environmental issues, companies engaged in the oil sector, such as Exxon Mobil, have reported alleged human rights violations related to their business operations in Aceh (Down to Earth, 2001). A lawsuit over human rights violations by Exxon Mobil was settled in 2023. These facts show that companies in the sector must

commit significant effort to reduce the impact of their operations on environmental and social issues by applying the concept of business sustainability.

Sustainability is a form of corporate responsibility (CSR). Sustainability has become an important aspect of modern business practices, especially in industries with large environmental impacts, such as the oil and gas industry. The concept encompasses environmental, social, and economic dimensions and is known as the triple bottom line framework (Perry & Towers, 2013). This means that the concept of sustainability emphasizes that a company's performance should be assessed based on social, ethical, and environmental criteria in addition to financial aspects.

Many companies now publish sustainability reports in response to stakeholders' demands for transparency and accountability. These demands arise because stakeholders, such as investors, regulators, and the public, increasingly expect companies to demonstrate how they manage environmental and social risks, fulfill ethical responsibilities, and contribute to the sustainable development goals (Ardiana, 2021; Gagné et al., 2021; Opferkuch et al., 2023). Transparency is not only seen as a moral obligation but also as a way to reduce information asymmetry and build long-term trust (Haffar & Searcy, 2020; Kuzey et al., 2023). Sustainability reports serve as crucial instruments for businesses to convey the environmental and social effects of their activities to all stakeholders in a clear and responsible manner. (Stocker et al., 2020). Sustainability reports also provide evidence of a company's moral commitment and fulfillment of obligations to various stakeholder demands, increased trust, and support for the Sustainable Development Goals (SDGs) (Amran & Ooi, 2014; Qian et al., 2020). Saraswati et al. (2021) found that the quantity and quality of sustainability reports can open access to capital and reduce company risks. Comprehensive disclosures reduce information asymmetry and strengthen stakeholder trust, particularly among investors and creditors. This improved transparency enhances a firm's reputation and legitimacy, thereby facilitating financing opportunities and mitigating perceived risk.

The Global Reporting Initiative (GRI) is a reference standard for sustainability reports. The GRI is widely recognized as a comprehensive framework adopted by various organizations for sustainability reporting worldwide (Orazalin & Mahmood, 2019). In Indonesia, while many state-owned enterprises (SOEs) have adopted the GRI framework, PT Pertamina (Persero) was chosen for this study because of its strategic role in the national energy sector and notable achievements in sustainability reporting. Pertamina's dedication to ESG practices is demonstrated by several accolades, including two honors received at the 14th Annual Corporate Register Reporting Award (CRRRA) in 2021. (Imandiar, 2021) and four awards in 2024, such as the Platinum Elite SDGs and the Honorary Keris Trophy at the Nusantara CSR Awards. These recognitions highlight Pertamina's leadership in sustainability among Indonesian SOEs, making it a relevant and impactful case for evaluating the GRI implementation and potential greenwashing practices.

Although sustainability reporting aims to increase corporate transparency and accountability, there are concerns about greenwashing practices. Greenwashing refers to companies intentionally misleading or providing inaccurate information about their environmental and social performance (Netto et al., 2020). These practices may include the use of unsubstantiated claims, overemphasizing small initiatives, or ignoring significant negative information (Torelli et al., 2019). In the context of sustainability reporting, greenwashing can undermine the credibility of a report and reduce stakeholders' trust in a company's sustainability efforts (Yu et al., 2020). Therefore, identifying and analyzing potential

greenwashing practices is critical for evaluating the quality and reliability of sustainability reports, including those that use GRI standards.

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This study aimed to analyze the application of Global Reporting Initiative (GRI) standards to improve the quality of sustainability reports at PT Pertamina (Persero). Another study that assessed the application of GRI in the sustainability report of PT Pertamina (Persero) was conducted by [Priyo & Haryanto \(2022\)](#) and [Daromes et al. \(2023\)](#). However, these studies only quantitatively assessed the quality of sustainability reports and were limited to analyzing the frequency and trends in sustainability report disclosures. This study seeks to fill this gap by quantitatively and qualitatively analyzing the quality of Pertamina (Persero) Sustainability Reports. Researchers have added an assessment of greenwashing practices to sustainability reports based on [Xu et al. \(2023\)](#). The practice of greenwashing can be used as an indicator for assessing the quality of sustainability reports because it can damage their credibility, thus affecting stakeholder decisions. ([Yu et al., 2020](#)).

This study sought to answer the following research questions: (1) What is the quality of PT Pertamina's (Persero) sustainability report? (2) What is the potential for greenwashing practices in the sustainability report of PT Pertamina (Persero) for 2021-2023? This study contributes significantly to understanding the effectiveness of GRI implementation in the Indonesian oil and gas industry and its implications for corporate transparency and accountability. The results of this study can serve as a reference for similar companies to improve the quality of their sustainability reporting and provide valuable insights for regulators to develop policies related to sustainability reporting. The urgency of this research lies in the importance of ensuring that large companies, such as PT Pertamina (Persero), which have a significant impact on the environment and society, can effectively communicate their sustainability efforts through quality reports that comply with international standards.

METHODS

This study used content analysis to evaluate the implementation of Global Reporting Initiative (GRI) standards in the sustainability report of PT Pertamina (Persero). Content analysis was chosen for its ability to systematically and objectively identify patterns and trends in written documents ([Krippendorff, 2019](#)). The primary data for this research are the sustainability reports of PT Pertamina (Persero) from 2021 to 2023, obtained from the company's official website. The selection of this time span allows for a longitudinal analysis to observe the development and consistency of GRI standards ([Milne & Gray, 2013](#)). Data analysis was conducted by, First, based on the latest GRI standards ([GRI, 2021](#)), a coding framework was developed that included key indicators from the economic, environmental and social aspects. Second, the coding. Two independent researchers coded the sustainability reports using the developed framework. This process follows the approach used by [Hahn & Lülfs \(2014\)](#) to analyse companies' disclosure strategies. Third, quantitative and qualitative analyses were performed. A quantitative analysis was conducted by calculating the frequency and percentage of disclosures for each GRI indicator and analyzing the trends from year to year. In addition, qualitative analysis uses a sustainability report quality index adapted from previous research ([Trianaputri & Djakman, 2019](#)). Qualitative analysis conducted an in-depth analysis of the context and quality of disclosures based on sustainability reporting principles, such as clarity, accuracy, timeliness, comparability, and reliability ([Badia et al., 2020](#); [Farhana & Adelina, 2019](#); [Sebrina et al., 2023](#)). This study used factor measurements of the quality of sustainability reports based on [Sebrina et al. \(2023\)](#), as shown in Table 1.

No	Quality Principle	Level	Measurement Criteria
1	Clarity and Accuracy	1	The information is both unclear and inaccurate: there is a lack of quantitative data, the presentation is not clear, and the application of the triple bottom line approach is not clearly defined.
		2	The information is somewhat clear and precise, with some quantitative data being presented, though the accuracy of the presentation is lacking. Nonetheless, the triple bottom line approach has been adequately explained.
		3	The clarity and accuracy of the information are evident: the data is adequate, and the presentation is precise; the triple bottom line approach is both clear and well-defined.
		4	The data is both clear and precise, with a substantial amount of information presented accurately. The triple bottom line approach is articulated clearly and explicitly.
		5	Information that is both clear and precise: encompasses all essential data necessary for external communication, presented in a well-organized and reader-friendly format tailored to each stakeholder group; this information is crafted within a framework that aligns with and respects the principles of the triple bottom line approach.
2	Timeliness and stakeholder engagement	1	stakeholder engagement is not discussed at all;
		2	stakeholder engagement is addressed, but without clear and explicit reference to communication processes, report elaboration and outcome measurement;
		3	Stakeholder engagement is managed equitably, with a strong emphasis on communication efforts, yet there is little to no consideration of the engagement profile when documenting and evaluating outcomes.
		4	Stakeholder engagement is thoroughly covered, with an emphasis on communication efforts and those associated with the document drafting process. However, there is no mention of stakeholder participation in the process of measuring outcomes.
		5	Engagement with stakeholders is thorough and well-defined, with a strong emphasis on communication efforts and elements related to the reporting process and evaluating outcomes.
3	Comparability	1	the lack of a comparative benchmark between the outcomes achieved in the past and those from previous years;
		2	the presence of data and result comparisons, without clearly linking these outcomes to the specified goals;
		3	The data and results are compared, aligning with the previously stated objectives.
4	Reliability	1	no sustainability report;
		2	there is a sustainability report;

No	Quality Principle	Level	Measurement Criteria
		3	The company has a sustainability report, and a sustainability committee is linked to the board of directors.
		4	non-audit companies provide sustainability reports and assurances;
		5	A sustainability report is available and has been independently verified by one of the Big 4 or another auditing firm.

Table 1.
A Framework of Quality Factors Measurement

Category	Indicator	Symbolic Disclosure	Substantive Disclosure
Readability	Report form	Non-disclosure	Disclosure
	Standardization	Non-disclosure	Disclosure
Reliability	Third-party audits or evaluations	Non-disclosure	Disclosure
	Whether to refer to GRI	Non-disclosure	Disclosure
Completeness	Shareholder interest	Text qualitative description	Number quantitative description
	Creditor interest	Text qualitative description	Number quantitative description
	Employee interest	Text qualitative description	Number quantitative description
	Supplier interest	Text qualitative description	Number quantitative description
	Customer interest	Text qualitative description	Number quantitative description
	Environmental responsibility	Text qualitative description	Number quantitative description
	Financial responsibility	Text qualitative description	Number quantitative description
	System building and corporate governance	Text qualitative description	Number quantitative description
	Safety	Text qualitative description	Number quantitative description
	Public activities	Text qualitative description	Number quantitative description
	Sustainable development	Text qualitative description	Number quantitative description

Table 2.
Sustainability Reporting “Greenwashing” Indicator System

Category	Indicator	Symbolic Disclosure	Substantive Disclosure
	International exchange	Text qualitative description	Number quantitative description
	Description of the defect	Text qualitative description	Number quantitative description

Further analysis was used to assess whether PT Pertamina (Persero) practiced greenwashing in its sustainability report. The assessment of greenwashing practices was based on a study by [Xu et al. \(2023\)](#). This research evaluates greenwashing behavior by comparing symbolic disclosure actions to substantive disclosure actions in sustainability, aiming to assess the extent of "greenwashing" in corporate sustainability information (refer to Table 2 for the scoring criteria). The formula used to calculate the "greenwashing" indicator for corporate sustainability information is as follows:

$$GI = \frac{\sum_{i=1}^{17} X_i}{\sum_{i=1}^{17} Y_i + 1}$$

X_i denotes the company's symbolic disclosure actions, while Y_i signifies its substantive disclosure actions. X_i is given a value of 1 when symbolic disclosure is observed, and Y_i is assigned a value of 1 when substantive disclosure is detected. To account for the scenario where companies exhibit only symbolic disclosure without substantive disclosure, a value of one is added to the denominator Y_i . This adjustment is intended to maintain the precision of the analysis amid variations in corporate disclosure practices. A higher ratio indicates a greater degree of greenwashing in the sustainability report, and the opposite is true as well.

RESULT AND DISCUSSION

A quantitative analysis was conducted by examining the level and percentage of disclosure of sustainability reports based on the GRI 2021 standard. PT Pertamina (Persero) has consistently reported sustainability activities in its sustainability report (SR) from to 2021-2023. This company has several standards and regulations. The GRI standard used is GRI 2021 and specifically uses GRI sector standard GRI 11 for the Oil and Gas Sector 2021. Government regulations that are also the basis for reporting include POJK No. 51/POJK.3.2017, and since 2023, PT Pertamina (Persero) has also used SEOJK No. 16/SEOJK/04/2021 as a reporting reference. In addition, there are other international standards are used as references, such as the International Petroleum Industry Environmental Conservation Association (IPIECA) and the Sustainability Accounting Standard Board (SASB). Regarding the GRI, which is the basis, there are generally two disclosures: general disclosures and Material Topics.

The general disclosure by PT Pertamina (Persero) has experienced consistency from to 2021-2023. Based on the GRI 2 standard for general disclosures 2021, PT Pertamina (Persero) has consistently disclosed 30 aspects (100 %) from 2021 to 2023. This indicates the company's commitment to and compliance with sustainability reporting in accordance with the GRI requirements. Compared with the previous four years, namely 2017-2020, [Priyo & Haryanto \(2022\)](#) reported that the general disclosures made by PT Pertamina (Persero) were 63%, 59%, 64%, and began to disclose fully (100%) in 2020.

The assessment of materiality changes in PT Pertamina (Persero) SR can be observed in the GRI content index. Materiality can be divided into three categories: economic, environmental, and social. The company determines material topics in four stages: 1) understanding the organizational context, 2) identifying actual and potential impacts, 3) assessing significant impacts, and 4) prioritizing the most significant impacts for reporting.

As seen in Table 3, the material topics disclosed have undergone some changes in material topics, especially in 2022 and 2023, compared to 2021. These changes occur because of different considerations in determining the significance of the impacts on sustainability. This information is disclosed in the 2022 Sustainability Report.

“Based on its significance, the company determines priority on material topics that have been approved by the Board of Directors, namely Occupational Safety and Health, Anti-Corruption, Emissions, Employment, and Energy. Due to various considerations regarding the significance of the effects of sustainability issues, the topics have changed from 2021.” (PT Pertamina (Persero) Sustainability Report, 2022, p. 34)

From an economic perspective, market presence (GRI 202) appears only in the 2023 SR. Similarly, in terms of anti-competitive behavior (GRI 206). Tax-related disclosures (GRI 207) are the only materials used in 2022 and 2023. Regarding the environmental aspect, the material (GRI 301) will only be present in 2023. The supplier’s environmental assessment (GRI 308) is considered for 2022 and 2023. Energy (302) is different in 2021 compared to 2022 and 2023. In 2021, the company does not consider the reduction in energy demand for products and services (302-5) material, and it is only disclosed in 2022 and 2023. In terms of social aspects, there were differences in the years of observation. Material topics that only appear in 2023, such as topics related to non-discrimination (GRI 406) and forced or compulsory labor (GRI 409). New topics that companies consider material in 2022-2023 but not material in 2021, such as labor/management relations (GRI 402), freedom of association and collective bargaining (GRI 407), and child labor (GRI 408). While material topics were disclosed in 2021, there were additions in 2022 and 2023, such as the disclosure of negative social impacts in the supply chain and actions taken (414-2), and incidents of non-compliance on health and safety impacts of products and services (416-2).

Disclosure Aspect	GRI Indicators		
	2021	2022	2023
Economy (GRI 200)			
Economic Performance	201-1, 201-2, 201-3, 201-4	201-1, 201-2, 201-3, 201-4	201-1, 201-2, 201-3, 201-4
Market presence	-	-	202-1, 202-2
Indirect economic impact	203-1, 203-2	203-1, 203-2	203-1, 203-2
Procurement Practice	204-1	204-1	204-1
Anticorruption	205-1, 205-2, 205-3	205-1, 205-2, 205-3	205-1, 205-2, 205-3
Anti-competitive behavior	-	-	206-1
Tax	-	207-1, 207-2, 207-3, 207-4	207-1, 207-2, 207-3, 207-4
Environment (GRI 300)			
Material	-	-	301-1, 301-2, 301-3
Energy	302-1, 302-3, 302-4	302-1, 302-2, 302-3, 302-4, 302-5	302-1, 302-2, 302-3, 302-4, 302-5

Disclosure Aspect	GRI Indicators		
	2021	2022	2023
Water and effluents	303-1, 303-2, 303-3, 303-4, 303-5	303-1, 303-2, 303-3, 303-4, 303-5	303-1, 303-2, 303-3, 303-4, 303-5
Biodiversity	304-1, 304-2, 304-3, 304-4	304-1, 304-2, 304-3, 304-4	304-1, 304-2, 304-3, 304-4
Emissions	305-1, 305-2, 305-3, 305-4, 305-5, 305-6, 305-7	305-1, 305-2, 305-3, 305-4, 305-5, 305-6, 305-7	305-1, 305-2, 305-3, 305-4, 305-5, 305-6, 305-7
Waste	306-1, 306-2, 306-3, 306-4, 306-5	306-1, 306-2, 306-3, 306-4, 306-5	306-1, 306-2, 306-3, 306-4, 306-5
Supplier environmental assessment	-	308-1, 308-2	308-1, 308-2
Social (GRI 400)			
Staffing	401-1, 401-2, 401-3	401-1, 401-2, 401-3	401-1, 401-2, 401-3
Labor/management relations	-	402-1	402-1
Occupational health and safety	403-1, 403-2, 403-3, 403-4, 403-5, 403-6, 403-7, 403-8, 403-9, 403-10	403-1, 403-2, 403-3, 403-4, 403-5, 403-6, 403-7, 403-8, 403-9, 403-10	403-1, 403-2, 403-3, 403-4, 403-5, 403-6, 403-7, 403-8, 403-9, 403-10
Training and education	404-1, 404-2, 404-3	404-1, 404-2, 404-3	404-1, 404-2, 404-3
Diversity and equal opportunity	405-1, 405-2	405-1, 405-2	405-1, 405-2
Non-discrimination	-	-	406-1
Freedom of association and collective bargaining	-	407-1	407-1
Child labor	-	408-1	408-1
Forced or compulsory labour	-	-	409-1
Materiality			
Security practices	410-1	410-1	410-1
Rights of indigenous peoples	411-1	411-1	411-1
Local community	413-1, 413-2	413-1, 413-2	413-1, 413-2
Supplier social assessment	414-1	414-1, 414-2	414-1, 414-2
Public policy	415-1	415-1	415-1
Customer health and safety	416-1	416-1, 416-2	416-1, 416-2
Marketing and labelling	417-1, 417-2, 417-3	417-1, 417-2, 417-3	417-1, 417-2, 417-3

Table 3.
Comparison
of Topic
Specific
Materiality
Aspects of PT
Pertamina
(Persero)
Sustainability
Report 2021-
2023

Furthermore, the level and percentage of disclosure are based on Pertamina's (Persero) sustainability report from to 2021-2023 (see Table 4). In 2021, the company disclosed ten items (59%) on economic aspects, 21 (68%) on environmental aspects, and 28 (78%) on social aspects. In 2021, PT Pertamina (Persero) disclosed 59 items (70%). There was an increase in disclosure items in 2022; the company disclosed 14 items (82%) for economic aspects, 24 items (77%) for environmental aspects, and 33 items (92%) for social aspects. In 2022, the total disclosure by the company increased from 15% to 85% compared with the

previous year. The year with the highest level and percentage of disclosure was 2023. PT Pertamina (Persero) disclosed 17 items (100%) on economic aspects, 27 (87%) on environmental aspects, and 35 (97%) on social aspects of sustainability. In 2023, the company's disclosure totaled 79 items, with a disclosure percentage of 94%.

Table 4.
Level and Percentage of PT Pertamina (Persero) Sustainability Report Disclosure 2021-2023

Indicator	Total GRI Item	2021		2022		2023	
		Discolosure	%	Discolosure	%	Discolosure	%
Economy	17	10	59%	14	82%	17	100%
Environment	31	21	68%	24	77%	27	87%
Social	36	28	78%	33	92%	35	97%
Total	84	59	70%	71	85%	79	94%

For the qualitative analysis, we used a factor measurement approach for the quality of sustainability reports based on [Sebrina et al. \(2023\)](#), as presented in Table 1. On the Clarity and Accuracy principle, PT Pertamina (Persero) reached Level 5, meaning that the presentation of information was carried out with a high level of clarity and accuracy, covering all crucial data for external communication. The information was presented in a structured and easy-to-understand format, tailored to the needs of each stakeholder category. All content was developed with due regard to and consistency with the triple-bottom-line principle. The presentation of general information and material topics has been considered and has undergone various presentations. This ensured the accuracy of the data presented and was tailored to the needs of relevant stakeholders. In addition, the calculation and presentation of data in accordance with the triple bottom line principle followed generally accepted standards. For example, the disclosure of emissions data follows the GHG Protocol standards and government regulations.

“... material topics in the 2023 Sustainability Report were grouped into eight topics: economic performance, energy transition, environmental impact management, occupational health and safety, human capital management, local communities, ethical business practices, research, and innovation. Furthermore, the survey results were discussed internally by PERTAMINA management through the Sustainability Function in a focus group discussion (FGD) to determine the priority of the material topics. FGDs are facilitated by independent parties as a team of experts.” (Sustainability Report 2023. p. 9).

“The calculation of GHG emission refers to the Minister of Environment Regulation (Permen LH) Number 12 of 2012 on the Guidelines for Calculating Emission Loads for Oil and Gas Industry Activities, American Petroleum Institute (API) 2021, and GHG Protocol.” (Sustainability Report 2023, p. 105).

In terms of timeliness and stakeholder engagement, PT Pertamina (Persero) reached Level 5, meaning that the sustainability report met stakeholder needs and stakeholder involvement in each company's sustainability activities, including sustainability measurement and reporting. The company also explained in detail its approach to communicating with and engaging stakeholders.

“Stakeholders play an important role in PERTAMINA's sustainability; therefore, it must be managed by involving them in implementing sustainability practices. The approach taken is to fulfil their interests through engagement methods that consider the significance of influence on the company. The assessment to map stakeholders was conducted based on the AA1000 Stakeholder Engagement Standard (SES) 2015, and it is presented in the following table.” (Sustainability Report 2023, p. 234).

“The Sustainability Report is published annually along with the Annual Report, based on the Company Policy. The reporting period covers January 1 – December 31, 2021, with the most recent report released in June 2021. There are no significant changes or restatements to the previous Report, which was published in June 2021.” (Sustainability Report 2021, p. 40).

In the Comparability principle, the company explicitly explained how changes in data and information were compared to the previous period (Level 3). Using comparative information from the previous period, users can observe the changes that occur each year and the company's justification for changes.

“Based on its significance, company determines priority on material topics that have been approved by the Board of Directors, namely Occupational Safety and Health, Anti-Corruption, Emissions, Employment, and Energy. Due to various considerations regarding the significance of the effects of sustainability issues, the topics have changed fr.” 2021”. (Sustainability Report 2022, p. 34).

“Information disclosure on the Distribution of Economic Value Generated for contractors/ partners/ vendors that are a part of the Operating Costs is separately presented in the Local Suppliers Proportion and Employment in this Report. On Employee Wages, total distribution in 2023 increased by 15% from USD2,258 million in 2022, in line with the increasing numbers of PERTAMINA's employees.” (Sustainability Report 2023, p. 68).

In the reliability principle, PT Pertamina (Persero) assured stakeholders of the reliability of the sustainability report by involving a third party in conducting assurance on the sustainability report (level 5). The Company has appointed external assurance organizations, namely SR Asia and Moores Rowland (SR in 2021), SGS Indonesia (SR in 2022), and SR Asia (SR in 2023). These organizations perform assurance based on standards such as ISO 26000 and AA1000.

“This report has gone through an assurance process by an independent external party with reference to the AA1000AS standards. The assurer selection process is carried out independently, and it is ensured that there are no conflicts of interest with any party within the company. Reports include reporting standards indexes and cross-references.” (Sustainability Report 2022, p. 153).

Based on the analysis of sustainability report quality presented above, it can be concluded that the sustainability report of PT Pertamina (Persero) from to 2021-2023 can be classified as high quality. This conclusion was supported by the assessment of sustainability report quality principles, which attained the maximum level for each of the principles.

The assessment of greenwashing in the sustainability report of PT Pertamina (Persero) for 2021-2023 using the method of [Xu et al. \(2023\)](#) showed a stable Greenwashing Index (GI) value of 0.72 (see Table 5). This method evaluates sustainability reports based on the balance between symbolic and 'substantive disclosure.' This consistent GI value indicates low greenwashing practices, with the information presented in the report considered sufficiently representative and accurate regarding PT Pertamina's sustainability. Compared to industry standards and other companies' sustainability reports, the stability of GI values below 1.0 demonstrates PT Pertamina's (Persero) commitment to maintaining transparency. This has a positive impact on stakeholder trust and the company's long-term sustainability.

Category	Indicator	2021		2022		2023	
		Symbolic Disclosure	Substantive Disclosure	Symbolic Disclosure	Substantive Disclosure	Symbolic Disclosure	Substantive Disclosure
Readability	Report form	0	1	0	1	0	1
	Standardization	0	1	0	1	0	1
Reliability	Third-party audits or evaluations	0	1	0	1	0	1
	Whether ro refer to GRI	0	1	0	1	0	1
Completeness	Shareholder interest	1	1	1	1	1	1
	Creditor interest	1	1	1	1	1	1
	Employee interest	1	1	1	1	1	1
	Supplier interest	1	1	1	1	1	1
	Customer interest	1	1	1	1	1	1
	Environmental responsibility	1	1	1	1	1	1
	Financial responsibility	1	1	1	1	1	1
	System building and corporate governance	1	1	1	1	1	1
	Safety	1	1	1	1	1	1
	Public activities	1	1	1	1	1	1
	Sustainable development	1	1	1	1	1	1
	International exchange	1	1	1	1	1	1
	Description of the defect	1	1	1	1	1	1
	Total		13	17	13	17	13
	GI Score		0,72		0,72		0,72

Table 5.
Sustainability reporting “greenwashing” Analysis

Based on the results of quantitative and qualitative analyses, it has been proven that PT Pertamina (Persero) has a quality sustainability report for 2021-2023. Based on the GRI guidelines, the company consistently made general disclosures with a consistent percentage of 100% from 2021-2023. This consistency proves that the company has adopted and implemented GRI guidelines to the fullest extent. This positive trend can be observed in the better changes from previous years. Research conducted by [Priyo & Haryanto \(2022\)](#) reported that the general disclosures made by PT Pertamina (Persero), from 2017-2020 to were 63%, 59%, and 64%, respectively, and began to disclose fully (100%) in 2020. This shows positive progress in general disclosures made by companies since 2017. A positive trend was also observed in the disclosure of material topics. Based on the GRI 2021 guidelines, PT Pertamina (Persero) has shown annual improvements in the number of material disclosure items, increasing from 59 (70%) in 2021 to 71 (85%) in 2022, and further to 79 (94%) in 2023. This upward trend reinforces the findings of [Priyo & Haryanto \(2022\)](#), who observed a similar pattern of progress since the adoption of the 2016 GRI guidelines. This suggests that Pertamina is consistent in general disclosures and deepening the scope of its sustainability reporting.

Qualitative analysis further supports this conclusion. Using the GRI-based indicators proposed by [Sebrina et al. \(2023\)](#) has been shown to have reached its maximum benchmark, indicating robust adherence to reporting principles. This contrasts with Sebrina et al.'s broader findings, which highlight the stagnation of sustainability reporting quality within the energy sector. This difference may stem from Pertamina's stronger institutional commitment to ESG principles and its strategic positioning as a national oil and gas company under higher public scrutiny.

However, despite these positive results, greenwashing remains a valid concern. As noted by [Torelli et al. \(2019\)](#), greenwashing undermines stakeholder trust and damages reputational capital. The Greenwashing Index (GI) for Pertamina stands at 0.72, which is relatively low, indicating limited symbolic disclosure compared to substantive disclosure. This finding deviates from that of [Zorio et al. \(2013\)](#), who argued that GRI adoption alone does not guarantee better reporting quality or mitigate greenwashing. In contrast, this study finds that the rigorous and consistent application of GRI, combined with public accountability, can lead to high-quality sustainability reporting with low greenwashing tendencies.

CONCLUSION

PT Pertamina (Persero) is a state-owned company (SOE) that has successfully implemented sustainability practices, as evidenced by its adoption of sustainability reporting per GRI standards. The company has consistently disclosed information with increasing levels and percentages each year, with 2023 showing the highest level of disclosure compared to the previous two years. Additionally, PT Pertamina applies high-quality, non-financial reporting principles in line with GRI guidelines.

The analysis of greenwashing practices revealed a low score, indicating minimal greenwashing at Pertamina. High transparency and robust internal controls, including evaluations by independent parties, have contributed to the overall quality of sustainability reports. Based on these findings, we conclude that PT Pertamina's sustainability report is of high quality. However, further analyses, particularly of greenwashing practices, are necessary.

This study has several limitations: 1) the observation period was limited to 2021-2023 due of changes in reporting standards after 2021. Future research should consider using other reporting standards to allow for comparisons over a longer time span; 2) the focus on a single

company limits generalizability; future studies should explore other industries within the same sector for comparative analysis; 3) this study focused solely on corporate sustainability reports; future research could benefit from a more in-depth analysis using observations and interviews to examine sustainability reports from multiple perspectives.

The results of this study provide an overview of the quality of corporate sustainability reporting. These findings reinforce the evidence that guidelines, such as the GRI, can improve the quality of sustainability reports and reduce the possibility of greenwashing. The results also offer valuable insights for other companies in the same industry regarding sustainability practices and reporting and can serve as a reference for business and policy decisions for both stakeholders and the government.

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