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# A REVIEW OF ENVIRONMENTAL DISCLOSURE PRACTICES IN TOP-LISTED COMPANIES IN POLAND: SCOPE, METHODOLOGIES AND ALIGNMENT WITH EU ESG STANDARDS

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**Purpose:** The aim of the study is to evaluate the maturity of environmental disclosure practices among companies listed in the WIG20 index in Poland in light of the evolving European Union (EU) sustainability regulations.

**Design/methodology/approach**: The research is based on desk research and the content analysis of publicly available sustainability disclosures, annual reports and management board activity statements for 2024, published by companies listed in the WIG20 index in 2025.

**Findings:** The analysis of the WIG20 index companies and their compliance with EU ESG environmental matters (E) reveals that while the companies demonstrate awareness of their obligations regarding non-financial environmental disclosure, the quality and consistency of their reporting remain limited. Most of them still heavily rely on descriptive, qualitative information, with quantitative data provided primarily in the category of climate change and GHG emissions. And thus, all companies disclose information on climate change (ESRS E1), including GHG emissions in scopes 1, 2 and 3, 35% of the companies disclose information on their business conduct related to pollution (ESRS E2), 40% on water and marine resources (ESRS E3), 35% on biodiversity and ecosystems (ESRS E4) and finally 60% on resource use and circular economy (ESRS E5). Additionally, there are significant asymmetries in the length, structure and reliability of environmental disclosures across the WIG20 index companies.

**Originality/value:** Despite the increasing significance of non-financial disclosure, to the best of our knowledge, comprehensive and methodologically robust research on the current state of environmental reporting amid European companies remains limited. To address this gap, this study examines the scope, methodological approaches and degree of alignment of environmental reporting of WIG20 index listed companies in Poland with the EU ESG requirements.

**Keywords:** ESG, environmental reporting, WIG20 index, sustainability, non-financial disclosure, Poland.

Category of the paper: Research paper, Case study.

# 1. Introduction

In the contemporary business landscape, the expectations of stakeholders towards corporate accountability have intensified. Companies, particularly medium- and large-sized ones, are under growing pressure regarding environmental, social and governance (ESG) responsibility. Following Eccles & Klimenko (2019), ESG is no longer perceived merely as a compliance obligation, but increasingly as strategic drivers of innovation, competitiveness, and long-term value creation.

Companies in the European Union (EU) has encountered substantial changes in sustainability regulations in recent years. In terms of non-financial (sustainability) reporting, two the most relevant are Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting, known as CSRD, and Commission delegated Regulation (EU) 2023/2772 of 31 July 2023 supplementing Directive 2013/34/EU of the European Parliament and of the Council as regards sustainability reporting standards, known as ESRS.

Sustainability reporting means the disclosure of information related to sustainability matters, including the following key aspects: the undertaking's business model and strategy, the time-bound targets related to sustainability matters with absolute greenhouse gas emission reduction targets at least for 2030 and 2050, the role of governance bodies, adopted policies, due diligence processes, principal actual or potential adverse impacts across operations and the value chain along with measures taken and their outcomes, as well as the principal risks and dependencies related to sustainability matters, their management, and the relevant indicators (Directive 2013/34/EU, 2013). Despite the regulatory description of sustainability reporting, managers demonstrate substantial discretion in the reporting frameworks, the quality of information reported and assurance obtained, which result in significant heterogeneity of reporting practices across undertakings (Dinh et al., 2022).

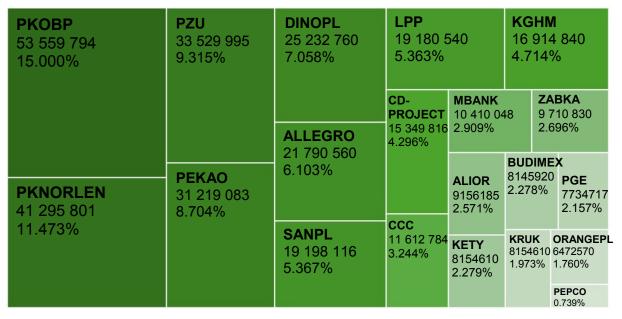
The aim of the study is to evaluate the maturity of environmental disclosure practices among companies listed in the WIG20 index in Poland in light of the evolving European Union (EU) sustainability regulations. With the Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS) coming into force, companies are expected to adopt more rigorous, transparent and standardised environmental reporting frameworks. Despite the increasing significance of non-financial disclosure, to the best of our knowledge, comprehensive and methodologically robust research on the current state of environmental reporting within the European context remains limited, particularly regarding eastern European countries. To address this gap, this study examines the scope, methodological approaches and degree of alignment of environmental reporting of WIG20 index listed companies with the EU ESG requirements, particularly in relation to the following ESRS

environmental categories: climate change (E1), pollution (E2), water and marine resources (E3), biodiversity and ecosystems (E4) and resource use and circular economy practices (E5).

### 2. Methods

The research is based on desk research and the content analysis of publicly available sustainability disclosures, annual reports and management board activity statements for 2024, published by companies listed in the WIG20 index in 2025.

Warsaw Stock Exchange Index (WIG20) is a price index of the largest companies quoted on the Stock Exchange, serving as proxies for a country's economic stability and a crucial reference point for both domestic and international investors. The WIG20 index has been calculated since 16<sup>th</sup> April 1994 on the basis of stock exchange turnover and the prices of shares in 20 major and most liquid companies in the WSE Main List (GPW, 2025b). The WIG20 index may not include more than 5 companies from a single exchange sector.



**Figure 1.** Constituents of the WIG20 index (with market capitalization and share, in thousands of PLN and % accordingly).

Source: GPW, 2025a.

The composition of the WIG20 index is subject to regular revisions to ensure it accurately reflects the current Polish equity market dynamics. A comprehensive annual review is conducted based on data following the last trading session in January, complemented by quarterly adjustments, that may result in substantive modifications to the index constituents. The ranking is based on 12-month turnover values and free float capitalization based on closing price selected from the last 5 trading sessions before the ranking day (GPW, 2022). The share

of a single company in the index may not exceed 15%. In line with this framework, the most recent adjustment to the WIG20 index was conducted on 20<sup>th</sup> June 2025 (Figure 1).

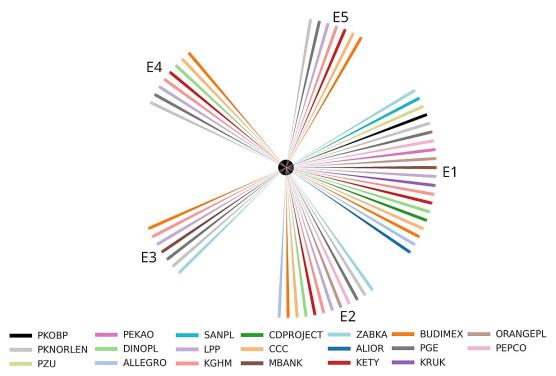
Environmental matters that should be disclosed by companies under the European sustainability reporting standards (ESRS E) include:

- ESRS E1 Climate change: climate change adaptation, climate change mitigation and energy.
- ESRS E2 Pollution: pollution of air, water, soil and living organisms and food resources, substances of concern, substances of very high concern and microplastics.
- ESRS E3 Water and marine resources.
- ESRS E4 Biodiversity and ecosystems: direct impact drivers of biodiversity loss, impacts on the state of species and the extent and condition of ecosystems, and impacts and dependencies on ecosystem services.
- ESRS E5 Resource use and circular economy: resources inflows, including resource use and resources outflows related to products and services and waste (Commission delegated Regulation (EU) 2023/2772, 2023).

### 3. Results and discussion

The analysis of sustainability disclosures, annual reports and management board activity statements of the WIG20 index listed companies for 2024, published in 2025, showed that all of the companies provide some information on the ESG, environmental matters. This indicates that the companies are aware of their obligations resulting from the EU regulations. Additionally, the disclosure of non-financial information strengthens companies' legitimacy in the perception of external stakeholders. This may also result from growing public pressure on companies to be more transparent and accountable for their performance and business conduct, including the area of environmental risks and opportunities.

The degree of alignment of the WIG20 index listed companies with the ESRS varies across categories (Figure 1). In general, compared to other categories, the companies disclose the most comprehensive quantitative information on climate change (ESRS E1). Regarding the remaining environmental matters, the companies provide only limited information on their business conduct related to pollution (ESRS E2), water and marine resources (ESRS E3), biodiversity and ecosystems (ESRS E4), and resource use and circular economy (ESRS E5), with strongly descriptive, qualitative focus. Respectively, 35%, 40%, 35%, and 60% of WIG20 index companies disclose such information.



**Figure 2.** Degree of alignment of WIG20 index listed companies with the EU requirements, in relation to the following ESRS environmental categories: Climate change (E1), Pollution (E2), Water and marine resources (E3), Biodiversity and ecosystems (E4) and Resource use and circular economy (E5).

Source: Own study.

### 3.1. Climate change

Climate change (ESRS E1) constitutes the first component of the environmental disclosure framework, addressing, in particular, climate change adaptation, climate change mitigation and energy-related matters, to the extent that they are relevant to climate change (Commission delegated Regulation (EU) 2023/2772, 2023). Regarding climate change mitigation, companies shall disclose transition plans for climate change mitigation covering, among others, greenhouse gases (GHG) emission reduction targets and climate change mitigation actions, including "changes in the undertaking's product and service portfolio and the adoption of new technologies in its own operations, or the upstream and/or downstream value chain" (Commission delegated Regulation (EU) 2023/2772, 2023).

All companies listed in the WIG20 index disclose information on climate change, although the scope and the level of detail vary across subcategories (ESRS E1) (Table 1). Uniform policies and internal regulations on climate change adaptation and mitigation have either already been implemented or are currently being developed across the companies. Nevertheless, clear disclosures on adaptation measures are provided by only a limited number of companies. Following the Annual Report of Allegro.eu S.A. Group (2025) these measures include physical actions, such as additional fire protection, as well as non-physical actions, including routine security tests, crisis protocols and trainings.

All WIG20 index listed companies quantify their greenhouse gas (GHG) emissions under scopes 1, 2, and 3, with some having already set group-wide objectives for carbon footprint reduction. The Allegro Group, for instance, has committed to reducing GHG emissions (scope 1 and 2) by 43% by 2030, compared to the base year of 2021, through monitoring energy consumption, implementing energy efficient infrastructure and increasing the use of renewable energy (Allegro S.A., 2025). The CD Projekt Group has identified climate-related risks and opportunities and declared the reduction of GHG emissions in scopes 1 and 2 by 42% by 2030, compared to 2023 as the base year (CD Project S.A., 2025). The decarbonization strategy of the CD Projekt Group is based on improving the energy efficiency of its buildings, increasing the share of renewable electricity in total energy consumption and further expanding photovoltaic installations at its Warsaw campus. Finally, the Kety Group aims to cut scope 1 and 2 GHG emissions by 25% per tonne of production by 2025, relative to the 2016 base year, and to achieve climate neutrality by 2050 (Kety S.A., 2025).

Regarding the energy-related matters, all WIG20 index listed companies monitor their energy consumption, collect relevant data and declare measures to mitigate their negative environmental impacts, while working towards concrete plans and targets for reducing GHG emissions, enhancing energy efficiency and transitioning to renewable energy sources.

**Table 1.** *The compliance of the WIG20 index companies with ESRS E1: Climate change* 

WIG20 index	ESRS E1: Climate change			
companies	Climate change adaptation	Climate change mitigation	Energy	
PKOBP	Plan preparation	Plan preparation	Monitoring	
PKNORLEN	Existing plan for 2026	Existing plan	Monitoring	
PZU	Internal regulations	Plan up to 3 years	Monitoring	
PEKAO	Internal regulations	Internal regulations	Monitoring	
DINOPL	Internal regulations	Internal regulations	Monitoring	
ALLEGRO	Existing plan	Existing plan	Reduction plan	
SANPL	Plan preparation	Plan preparation	Monitoring	
LPP	Internal regulations	Internal regulations	Monitoring	
KGHM	Internal regulations	Internal regulations	Monitoring	
CDPROJECT	Existing plan	Existing plan	Reduction plan	
CCC	Internal regulations	Plan preparation	Monitoring	
MBANK	Plan preparation	Plan preparation	Monitoring	
ZABKA	Plan preparation	Plan preparation	Monitoring	
ALIOR	Internal regulations	Internal regulations	Monitoring	
KETY	Existing plan	Existing plan	Monitoring, optimalisation	
BUDIMEX	Internal regulations	Plan preparation	Monitoring	
PGE	Internal regulations	Internal regulations	Monitoring	
KRUK	Internal regulations	Internal regulations	Monitoring	
ORANGEPL	Internal regulations	Internal regulations	Monitoring	
PEPCO	Existing plan	Existing plan	Monitoring	

Source: Own study.

#### 3.2. Pollution

Pollution (ESRS E2) constitutes the second component of the environmental disclosure framework, addressing, in particular, pollution of air, water, soil and substances of concern, including substances of very high concern, and prevention, control and reduction of such emissions (Commission delegated Regulation (EU) 2023/2772, 2023).

Only 35% of companies listed in the WIG20 index provide any information on pollution (ESRS E2) (Table 2). These are PKNORLEN, LPP, KGHM, CCC, KETY, BUDIMEX, PGE. The Orlen Group discloses the most comprehensive information on pollution, covering all subcategories through emissions monitoring, implementing internal regulations and undertaking a set of measures aimed at reducing negative impacts on the environment (PKN Orlen S.A., 2025). Although not required, the company additionally addresses noise pollution. There are also other noteworthy initiatives undertaken by WIG20 index companies. For instance, the LPP Group has been a member of the Zero Discharge of Hazardous Chemicals (ZDHC) initiative since 2020 and thus fully complies with the Manufacturing Restricted Substances List (MRSL) established by the organisation (LPP S.A., 2025). Many companies listed in the WIG20 index, including the ones representing banking and financial sector, refrain from publishing information on pollution, arguing that it is not relevant to their operations.

**Table 2.** *The compliance of the WIG20 index companies with ESRS E2: Pollution* 

	ESRS E2: Pollution					
WIG20 index companies	Pollution of air	Pollution of water	Pollution of soil	Pollution of living organisms and food resources	Substances of concern/ very high concern	Micro- plastics
PKOBP	X	X	X	X	X	X
PKNORLEN	Emissions reduction	Emissions reduction	Low relevance	Low relevance	Emissions reduction	Monitoring
PZU	X	X	X	X	X	X
PEKAO	X	X	X	X	X	X
DINOPL	X	X	X	X	X	X
ALLEGRO	X	X	X	X	X	X
SANPL	X	X	X	X	X	X
LPP	X	X	X	X	Roadmap to Zero ZDHC	X
KGHM	Monitoring	Monitoring	Monitoring	X	Monitoring	X
CDPROJECT	X	X	X	X	X	X
CCC	No emission	No emission	No emission	X	No emission	Internal regulations
MBANK	X	X	X	X	X	X
ZABKA	X	X	X	X	X	X
ALIOR	X	X	X	X	X	X
KETY	Monitoring	Monitoring	X	X	Monitoring	Monitoring
BUDIMEX	Monitoring	Monitoring	Monitoring	X	Monitoring	X
PGE	Monitoring	Monitoring	Monitoring	X	X	X
KRUK	X	X	X	X	X	X
ORANGEPL	X	X	X	X	X	X
PEPCO	X	X	X	X	X	X

Source: Own study.

#### 3.3. Water and marine resources

Water and marine resources (ESRS E3) constitutes the third component of the environmental disclosure framework, addressing, in particular, water consumption, water withdrawals, water discharges, water discharges in the oceans as well as extraction and use of marine resources (Commission delegated Regulation (EU) 2023/2772, 2023). Consequently, following Commission delegated Regulation (EU) 2023/2772 (2023) the undertakings shall implement policies aimed at improving water management within their own operations and throughout the upstream and downstream value chain.

Only 40% of companies listed in the WIG20 index provide any information on water and marine resources (ESRS E3), with their disclosures strongly focusing on water consumption. These are: PKOBP, DINOPL, LPP, KGHM, CCC, KETY, BUDIMEX and PGE (Table 3). Regarding the KGHM Group, key objectives encompass reducing the emission of pollution into water bodies and ensuring the efficient management of resources, however no measurable targets related to water resources and water pollution have been established (KGHM S.A., 2025). The Budimex Group has already adopted the Water Footprint Policy aimed at defining and establishing the principles and criteria governing activities related to water and wastewater management within the Group's operations and its value chain (Budimex S.A., 2025). Overall, companies concentrate their activities on monitoring and optimising water consumption, including the implementation of water-saving technologies.

**Table 3**. The compliance of the WIG20 index companies with ESRS E3: Water and marine resources

WICOO : 1	ESRS E3: Water and marine resources			
WIG20 index companies	Water	Marine resources		
PKOBP	Monitoring	X		
PKNORLEN	X	X		
PZU	X	X		
PEKAO	X	X		
DINOPL	Internal regulations	X		
ALLEGRO	X	X		
SANPL	X	X		
LPP	Monitoring	X		
KGHM	Monitoring	X		
CDPROJECT	X	X		
CCC	Plan preparation	X		
MBANK	X	X		
ZABKA	X	X		
ALIOR	X	X		
KETY	Monitoring	X		
BUDIMEX	Water Footprint Policy	X		
PGE	Monitoring	X		
KRUK	х	X		
ORANGEPL	х	х		
PEPCO	x	X		

Source: Own study.

#### 3.4. Biodiversity and ecosystems

The biodiversity and ecosystems (ESRS E4) represents the fourth component of the environmental disclosure framework, addressing, in particular, the resilience of the undertaking's strategy and business model with respect to biodiversity and ecosystems, as well as their alignment with relevant local, national and global public policy objectives concerning biodiversity and ecosystems (Commission delegated Regulation (EU) 2023/2772, 2023). Consequently, following Commission delegated Regulation (EU) 2023/2772 (2023) the companies shall adopt policies to manage its "impacts, risks, dependencies and opportunities related to biodiversity and ecosystems".

Only 35% of companies listed in the WIG20 index provide any information on the biodiversity and ecosystems, with the scope and depth of the disclosure varying depending on the company profile. These are: PKNORLEN, LPP, KGHM, CDPROJECT, MBANK, ZABKA and BUDIMEX (Table 4). The Orlen Group, for instance, adopted the Biodiversity Policy in 2023 and plans to implement the Biodiversity Action Plan to 2030 in the coming years (PKN Orlen S.A., 2025). The LPP group strengthens its commitment to the use of bio-based certified materials, primarily cotton (Cotton made in Africa, CmiA) and viscose fabrics (LPP S.A., 2025). The Budimex Group collects data, monitor impacts and has already adopted internal regulations regarding the biodiversity and ecosystems (Budimex S.A., 2025). Additionally, it has established the following objectives: analysing the interdependencies between the company's operations and biodiversity, evaluating its impacts on biodiversity, and conducting calculations to determine its Corporate Biodiversity Footprint (CBF) in 2025. Despite discrepancies between actual and expected measures, all companies referring to ESRS E4 acknowledge the importance of protecting the biodiversity and ecosystems and, very often, actively engage in initiatives aimed at their preservation and restoration.

**Table 4.** *The compliance of the WIG20 index companies with ESRS E4: Biodiversity and ecosystems* 

	ESRS E4: Biodiversity and ecosystems				
WIG20 index companies	Direct impact drivers of biodiversity loss	Impact on the state of species	Impacts on the extent and condition of ecosystems	Impacts and dependencies on ecosystem services	
PKOBP	X	X	X	X	
PKNORLEN	Internal regulations	Low relevance	Monitoring	Internal regulations	
PZU	X	X	X	X	
PEKAO	X	X	X	X	
DINOPL	X	X	X	X	
ALLEGRO	X	X	X	X	
SANPL	X	X	X	X	
LPP	Monitoring	Monitoring	Monitoring	Monitoring	
KGHM	X	Low relevance	Low relevance	X	
CDPROJECT	X	X	Plan preparation	Not relevant	
CCC	X	X	X	X	

Cont. table 4.

MBANK	Internal regulations	X	X	Internal regulations
ZABKA	Low relevance	Low relevance	Low relevance	Low relevance
ALIOR	X	X	X	X
KETY	X	X	X	X
BUDIMEX	Internal regulations	Internal regulations	Internal regulations	Internal regulations
PGE	X	X	X	X
KRUK	X	X	X	X
ORANGEPL	X	X	X	X
PEPCO	X	X	X	X

Source: Own study.

# 3.5. Resource use and circular economy

The resource use and circular economy (ESRS E5) constitutes the fifth component of the environmental disclosure framework, addressing, in particular, "the transition away from extraction of non-renewable resources and the implementation of practices that prevent waste generation" (Commission delegated Regulation (EU) 2023/2772, 2023). This is, however, the environmental matter that is receiving a growing attention from scholars, investors and financing organizations.

60% of companies listed in the WIG20 index provide information on the resource use and circular economy (ESRS E5), albeit with considerable variation in both scope and level of detail. These are: PKNORLEN, DINOPL, ALLEGRO, LPP, KGHM, CCC, ZABKA, KETY, BUDIMEX, PGE, ORANFEPL, PEPCO (Table 5). The Allegro Group, for instance, has adopted the Circularity and Waste Policy to address the resource use and circular economy. Its key objective is to achieve 100% sustainable packaging in Allegro Group's own operations by 2028, mitigating the environmental impacts of waste management and fostering a closedloop approach through the application of eco-design principles, waste reduction, reuse, and recycling across all stages of the product life cycle (Allegro S.A., 2025). The Kety Group has declared a 75% share of aluminum scrap in extruded products and committed to increasing the share of recyclable packaging films and laminates by 5% by 2025 compared to the base year of 2020 (Kety S.A., 2025). On the other hand, Dino Polska Group has not identified any significant risks and opportunities related to the transition towards a circular economy. Consequently, although the company declares "reducing the amount of waste generated, proper segregation of waste and minimising commodity losses", it has not specified any quantitative targets (Dino Polska S.A., 2025). The remaining WIG20 index companies mainly employ qualitative disclosure to communicate their resource use and circular economy framework, with a focus on monitoring and optimising resource reuse and waste management throughout the value chain and systematically applied practices.

**Table 5.**The compliance of the WIG20 index companies with ESRS E5: Resource use and circular economy

WIC20 in don	ESRS E5: Circular economy				
WIG20 index companies	Resources inflows, including resource use Resources outflows related to products and services		Waste		
PKOBP	X	X	X		
PKNORLEN	Monitoring	Monitoring	Monitoring		
PZU	X	X	X		
PEKAO	X	X	X		
DINOPL	Low relevance	Low relevance	Monitoring		
ALLEGRO	Circularity and Waste Policy	Circularity and Waste Policy	Circularity and Waste Policy		
SANPL	X	x	X		
LPP	Monitoring	Monitoring	Monitoring (Reduction, reuse and recycling)		
KGHM	Monitoring	Monitoring	Monitoring (Reduction, reuse and recycling)		
CDPROJECT	X	x	X		
CCC	Monitoring and internal regulations	Monitoring and internal regulations	Monitoring (Reduction, reuse and recycling)		
MBANK	X	X	X		
ZABKA	Monitoring	Monitoring	Monitoring		
ALIOR	X	X	X		
KETY	Monitoring	Monitoring	Monitoring		
BUDIMEX	Plan preparation	Plan preparation	Monitoring (Reduction, reuse and recycling)		
PGE	Monitoring	Monitoring	Monitoring		
KRUK	X	X X			
ORANGEPL	Monitoring	Monitoring	Monitoring		
PEPCO	Monitoring	Monitoring Monitoring			

Source: Own study.

### 4. Conclusions

The analysis of the WIG20 index companies and their compliance with EU ESG environmental matters (E) leads to the double-nature conclusions. It reveals though that while the companies demonstrate awareness of their obligations regarding non-financial environmental disclosure, the quality and consistency of their reporting remain limited. Most of them still heavily rely on descriptive, qualitative information, with quantitative data provided primarily in the category of climate change and GHG emissions. Moreover, there are significant asymmetries in the length, structure and reliability of disclosures across companies, largely due to the absence of a common methodology and standardized provisions, with the exception of GHG reporting.

Consequently, to ensure full compliance with the evolving EU ESG regulations and enhance their robustness, the WIG20 index companies should broaden the scope and improve the quality of their environmental disclosures. This requires the promotion of uniform reporting standards,

the adoption of comparable indicators, and the development of tools. Ultimately, greater transparency, standardization, and comparability are essential to enable stakeholders to navigate and evaluate corporate environmental performance more effectively.

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