



received: 5 April 2024  
accepted: 15 August 2024

# SUSTAINABILITY REPORTING IN SELECTED AUTOMOTIVE COMPANIES

pages: 129-142

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and M. Kaźmierczak

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ALEKSANDRA KAMIŃSKA-WITKOWSKA   
MAGDALENA KAŹMIERCZAK 

## ABSTRACT

The benefits of sustainability reporting are indisputable. These include, first and foremost, building trust. Transparency on non-financial performance can help reduce reputational risk and open a dialogue with stakeholders. Transparent sustainability reporting is also a sign of openness and responsibility. Efforts to develop the economy sustainably include the development of reporting concepts in this sphere. Sustainability activities are becoming an increasingly important element of business reports. This article aims to present and verify the current sustainability reporting at the level of comparison of reported indicators of selected automotive companies in the context of the most widely used Global Reporting Initiative systematics and the upcoming requirements defined by the Corporate Sustainability Reporting Directive (CSRD). It focuses on study cases and identifies good practices and difficulties of sustainable reporting in the automotive industry. This study used the case study method on selected automotive industry companies. The case study analyses a defined problem consisting of a real situation and information as a methodological tool. The findings show that the world's major automotive companies are broadly endeavouring to realise sustainability practices. The main conclusion of the analysis is that the Environmental, Social, and Governance (ESG) framework and the Global Reporting Initiative (GRI), in addition to being complementary, can be combined not only to improve the strategic management of an organisation but also, in a broader context, serve the well-being of the local community and society at large. The article organises and systematises knowledge about the ESG concept and the GRI standard, which currently play an important role in sustainability reporting.

## KEY WORDS

**ESG (social, environment and governance), GRI, Global Reporting Initiative, sustainability, reporting of sustainability matters**

10.2478/emj-2024-0028

**Aleksandra Kamińska-Witkowska**  
Institute of Management,  
Department of Quality Management,  
Poznan University of Economics and Business,  
Al. Niepodległości 10, 61-875 Poznań  
ORCID 0000-0002-3136-6027

Corresponding author:  
e-mail: aleksandra.kaminska-witkowska  
@ue.poznan.pl

**Magdalena Kaźmierczak**  
Institute of Management,  
Department of Quality Management,  
Poznan University of Economics and Business,  
Al. Niepodległości 10, 61-875 Poznań  
ORCID 0000-0002-8663-1297  
e-mail: magdalena.kazmierczak@ue.poznan.pl

## INTRODUCTION

Reporting on sustainability activities is becoming an increasingly important element of reports presented by companies. Contractors, investors, and

consumers appreciate the organisation's attention to issues beyond economic performance, such as environmental issues and activities in the area of social responsibility. This increases their confidence in the company, making them more inclined to cooperate with a particular enterprise or to choose its products or services.

Kamińska-Witkowska, A., & Kaźmierczak, M. (2024). Sustainability reporting in selected automotive companies. *Engineering Management in Production and Services*, 16(3), 129-142. doi: 10.2478/emj-2024-0028

With the increasing prevalence of non-financial issues, which are often treated on a par with financial performance, a number of benchmarks for reporting sustainability-related indicators have been developed, and one of the most common is the Global Reporting Initiative (GRI) or global best practices for organisations to communicate and demonstrate accountability for their environmental, economic and human impacts. GRI systematics has been used voluntarily by companies for 26 years. However, the EU is now on the threshold of introducing mandatory reporting of sustainability activities according to the principles described in Directive 2022/2464 of the EU Parliament and the Council of December 2022 as regards corporate sustainability reporting (CSRD).

Some organisations report on non-financial indicators in advance, often using the GRI standard, as exemplified by some automotive companies among the world's largest vehicle manufacturers. Considering the above, this paper aims to compile current sustainability reporting and attempts to answer the following research questions:

- What is the interplay between ESG and GRI?
- To what extent can reporting based on the GRI systematics be used to report ESG indicators according to the CSRD in the automotive industry?

It also aims to verify current sustainability reporting at selected automotive companies: VW Group, Ford Motor Company, and MAN Truck & BUS SE.

The first part of the article, which is this introduction, is followed by a description of the main findings from the literature study relevant to the purpose of this article. This part describes the ESG concept with particular reference to the GRI reporting standard and its impact on business development.

The next sections describe the research methods and results of the current approach to reporting sustainability indicators in selected automotive companies without comparing the indicator values, broken down into environmental (E), social (S) and corporate governance (G) indicators. Next, the results are discussed, and the article concludes with conclusions.

## 1. LITERATURE REVIEW

The ESG concept is one of the biggest changes currently confronting businesses, and it will become even more important in the future. Globally, compa-

nies are adopting ESG measures to stay competitive in the dynamic environment (Yadav & Prashar, 2022). The ESG concept originated in finance in the 1970s, when a small group of investors took an interest in the environmental and social practices of the companies they invested in (Galbreath, 2012). Environmental (E), social (S) and governance (G) factors are considered when measuring the sustainability and impact of an organisation (Table 1).

Environmental factors refer to how the organisation uses renewable and non-renewable resources, including the amount and type of energy used, greenhouse gas emissions, the amount of waste generated and how it is disposed of, and the impact on the environment and biodiversity. Social factors measure how a company and its business activities affect the social environment — employees, customers, suppliers, and the local community. Corporate governance refers to a company's internal supervisory system. It consists of procedures, standards, and control mechanisms implemented to ensure effective management, improve decision-making processes, comply with laws and regulations, and consider the needs of external stakeholders, including investors (GPW, 2021). Companies face constant pressure from shareholders and other stakeholder groups to perform better in social responsibility (Dorfleitner, Halbritter, & Nguyen, 2015). Therefore, ESG constantly evolves, and organisations increasingly integrate ESG factors into their operations. According to Reuters (2018), the right approach to ESG management is still somewhat undefined but should certainly include a four-step process:

- Align ESG with the company's core strategy, products/services, and operations.
- Allocate adequate resources to address relevant ESG issues.
- Managing and measuring ESG according to well-defined KPIs.
- Engage investors, customers and employees in the effort.

The literature offers increasingly more studies on various aspects of ESG disclosures. For example, Ellili (2020), Sharma et al. (2020), and Suttipun (2021) examined the scope of ESG information disclosures and confirmed its increase over the following years. However, it still remains at a low level. Furthermore, governance information constitutes the largest part of ESG disclosures, followed by social and environmental information. Hence, the issues related to the environment and the ongoing climate change require the most urgent measures. In addition, several recent

Tab. 1. Examples of ESG metrics

E	S	G
E1. GHG Emissions E2. Emission Intensity E3. Energy Usage E4. Energy Intensity E5. Energy Mix E6. Water Usage E7. Environmental Operations E8. Climate Oversight/Board E9. Climate Oversight/Management E10. Climate Risk Mitigation	S1. CEO Pay Ratio S2. Gender Pay Ratio S3. Employee Turnover S4. Gender Diversity S5. Temporary Worker Ratio S6. Non-Discrimination S7. Injury Rate S8. Global Health & Safety S9. Child & Forced Labour S10. Human Rights	G1. Board Diversity G2. Board Independence G3. Incentivised Pay G4. Collective Bargaining G5. Supplier Code of Conduct G6. Ethics & Anti-Corruption G7. Data Privacy G8. ESG Reporting G9. Disclosure Practices G10. External Assurance

Source: (The Nasdaq ESG Reporting Guide, 2019, p. 13).

Tab. 2. ESG reporting initiatives

INITIATIVE	NAME	YEAR	THEME	DESCRIPTION
GRI	Global Reporting Initiative	2023	General	Sector-overarching sustainability reporting standards aiming to inform all stakeholders.
SASB	Sustainability Accounting Standards Board	2023	General	Sector-specific reporting framework focused on financial materiality and geared towards investors and capital providers.
UN SDG	United Nations Sustainable Development Goals	2015	General	A pact signed by businesses pledging to adopt sustainable business practices aligned with the Sustainable Development Goals.
IIRC	International Integrated Reporting Council	2013	General	Integrated reporting framework aiming to link traditional financial and sustainability disclosure. Recently merged with SASB in the Value Reporting Foundation.
CDP	Carbon Disclosure Project	2020	Climate	Non-profit with a focus on data collection and content for climate reporting.
CDSB	Climate Disclosure Standards Board	2010	Climate	Non-profit global environment disclosure framework geared towards investors and financial markets.
TCFD	Task Force on Climate-Related Financial Disclosures	2017	Climate	Climate-related risk disclosure focused on the financial impacts of ESG risks.
GHG Protocol	Greenhouse Gas Protocol	2001	Climate	Greenhouse gas accounting standards and comprehensive calculation guides.
SBTi	Science Based Targets Initiative	2014	Climate	Association approving emission targets in line with the Paris Agreement (a 1.5C reduction by 2030).

Source: (Nordea, 2021).

studies (Manita et al., 2018; Arayssi et al., 2020; Shakil, 2021; De Masi et al., 2021; Korzeb et al., 2024; Tancke et al., 2023; Hofbauer & Limanskis, 2022) examined the impact of various corporate governance mechanisms on ESG disclosure. This only confirms that ESG is gaining more recognition.

First, the main shortcoming of the ESG concept is the lack of universally accepted and verifiable evaluation criteria. Consequently, ESG indicators can differ significantly depending on who is setting them. Before deciding what initiatives, generally accepted frameworks and ESG standards to use, it is important to understand the difference between the two terms (Courtneil, 2022):

- ESG framework is a generally accepted framework, which is broad in scope, giving a set of principles to guide and shape an understanding

of a specific topic, ESG in this case. The framework will guide the ESG reporting but will not provide a methodology for collecting information, data or reporting itself. Frameworks are useful alongside ESG standards or when there is no well-defined standard.

- ESG standards are specific by nature. They contain detailed criteria explaining what should be reported. In the ESG context, they specify how information and data are collected and how the report should be made. The standards make the framework more practical by providing comparable, consistent and reliable disclosures.

Table 2 presents a set of major reporting frameworks and ESG reporting standards together with the year of issue of the latest guidelines.

The table above shows that the market offers a myriad of climate information frameworks. The most important initiatives in this area include CDP, which has successfully standardised carbon disclosure by companies in various industries, and TCFD, which was endorsed by the EU and found its way into regulatory requirements elsewhere. On the other hand, in terms of general reporting guidelines, GRI, SASB, UN SDGs and IIRC are certainly relevant. The Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board (SASB) collaborated to harmonise disclosure frameworks. GRI was one of the first companies to introduce corporate sustainability disclosure principles. Founded in 1997, GRI provides a global, sector-independent standard for disclosing information about the impact of a company's activities on its overall stakeholders. SASB, founded in 2011, applies a financial materiality approach to sustainability disclosure, aiming to provide a more sector-specific view of the financial impact of ESG issues on a company. Geographically, while SASB has historically been more firmly anchored in the North American market, the framework is gaining traction in Europe (and Scandinavia). Cementing harmonisation, GRI and SASB issued a guide on alignment with both initiatives in April 2021 (GRI and SASB, 2021). The guidance emphasises that:

- GRI provides general guidelines for disclosure.
- SASB streamlines how reports are issued to investors and financial entities.

Further work has also begun towards harmonising guidelines for reporting sustainability issues. An initiative by five leading sustainability reporting organisations (GRI, SASB, IIRC, CDP and CDSB) aims to simplify corporate sustainability reporting by developing common market guidelines to bridge the gap between financial and sustainability reporting (Nordea, 2021).

Currently, the GRI Standards created by the Global Reporting Initiative are clearly number one in Poland and globally when it comes to standards used to prepare sustainability reports. According to the KPMG Global Survey of Sustainability Reporting 2022, 68% of the largest global companies creating their own sustainability reports use GRI standards in this regard. The Polish market has an analogous situation: at the moment, there is no other ESG reporting standard as popular as GRI. Almost half of the surveyed companies (45 %) indicate it in their reports, and this percentage is consistently growing (Oczyp

& Grzybek, 2023). With this in mind, the article focuses on a detailed analysis of the standard.

All sustainability reports prepared according to GRI and published after 1 January 2023 are subject to the new version of GRI Standards, labelled as GRI Standards 2021 as of the date of publication. GRI Standards 2021 introduce several important changes that should be kept in mind when preparing the report (Oczyp & Grzybek, 2023):

- A broader form of reporting on due diligence and human rights issues than before;
- A change in the approach to core issues and key reporting principles;
- A focus on a thorough and detailed definition of the materiality analysis process.

GRI Standards 2021 also requires adherence to eight reporting principles: information in the report should be accurate, balanced, transparent, comparable, complete, include sustainability context, be timely and verifiable.

## 2. RESEARCH METHODS

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This study used the case study method on selected automotive industry companies. No simple definition of a case study exists (Heale & Twycross, 2018). Flyvbjerg emphasised that some of the definitions in the literature may be misleading and indicated five misunderstandings regarding this research method (2011). This study adopted a definition related to management science, as described by Grzegorzczuk: it is a detailed description, usually of a real economic phenomenon, e.g., an organisation, a management process, its elements or the organisation's environment, to formulate conclusions about the causes and results of its course. The method is empirical, as it analyses and evaluates real phenomena. The case study is used especially for descriptive research topics. It then answers what happened, where and how (2015). Case study research is one of the most important research techniques of the grounded theory (GT), which can be adopted to produce a theory from qualitative data, fitting well with the case study research that explores complex social and psychological experiences (Fleet, Reeves, 2023). Moreover, a synergistic combination of case study research and grounded theory demonstrates a vibrant and flexible qualitative approach (Arshad, Ahlan, & Ibrahim, 2013). The grounded theory and case study have one

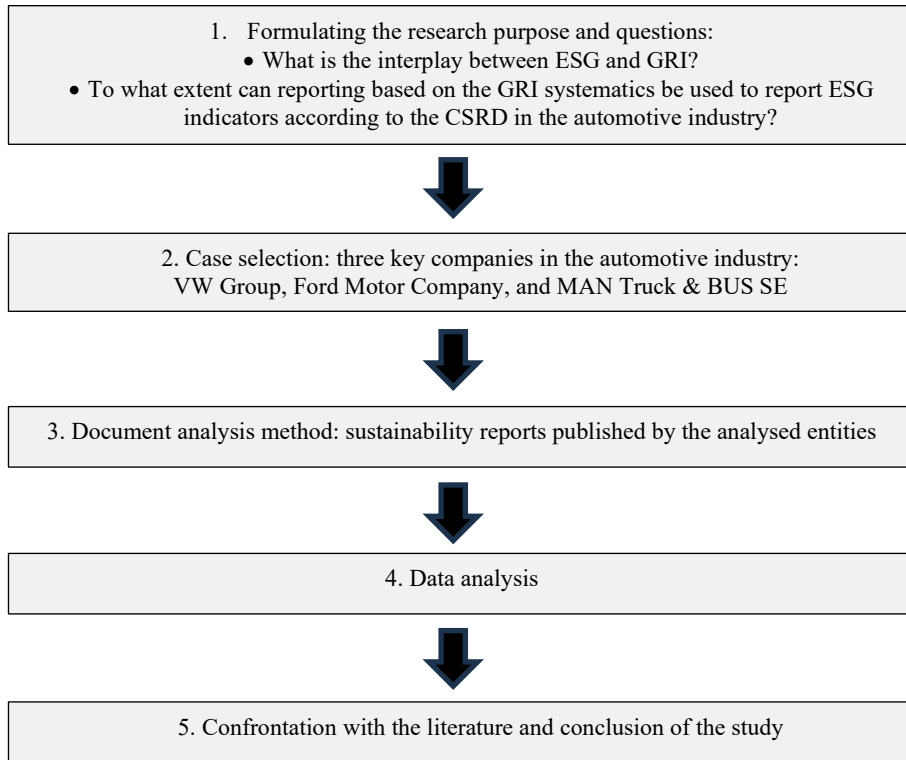


Fig. 1. Research methodology

thing in common: the general research process begins with a research problem. It proceeds to questions, data collection, data analysis and interpretations and the research report.

The study had several steps (Fig. 1): defining the research topic, formulating research questions, selecting cases and data collection tools, analysing data, reviewing the literature on the development of non-financial reporting, and considering the requirements and guidelines for reporting the effects of environmental, social and governance activities.

The selected businesses are three leading automotive companies that report on sustainability indicators. Volkswagen Group is one of the world's leading automobile manufacturers and the largest maker of commercial vehicles in Europe, with headquarters in Wolfsburg (Germany). In 2023, it delivered 9.31 million vehicles to the market worldwide (Statista, 2024). Ford Motor Company has American roots and is the world's first and oldest large-scale car manufacturer, founded in the early 20th century. MAN Truck & Bus is one of Europe's leading commercial vehicle manufacturers focused on producing trucks, buses and vans. These entities were selected

using a purposive selection method, considering the diversity of their origin, size and products offered.

The next phase studied sustainability reports of analysed entities published in 2023 for 2022 or 2021. Next, three tables were made to illustrate how environmental, social and governance factors are reported based on GRI standards against the requirements of the CSRD of three automotive companies: VW Group, Ford Motor Company and MAN Truck & BUS SE based on the sustainability reports. The case study aimed to illustrate the similarities and differences in reporting sustainability indicators in relation to the same guidelines.

Then, the results were discussed, pointing out gaps between the guidelines and the reported indicators. Several recommendations were made, which led to the conclusions below.

### 3. RESEARCH RESULTS

Although the automotive industry is widely regarded as one of the most environmentally damag-

Tab. 3. Reporting on environmental factors

GRI Standards	GRI 301: Materials	<ul style="list-style-type: none"> <li>• materials used (weight or volume)</li> <li>• recycled input materials used</li> <li>• recycled products and their packaging materials</li> </ul>
	GRI 302: Energy	<ul style="list-style-type: none"> <li>• energy consumption within the organisation</li> <li>• energy consumption outside the organisation</li> <li>• energy intensity</li> <li>• reduction in energy consumption</li> <li>• reduction in energy demand for products and services</li> </ul>
	GRI 303: Water and sewage	<ul style="list-style-type: none"> <li>• interaction with water as a shared resource</li> <li>• management of impacts related to water discharge</li> <li>• water abstraction</li> <li>• water discharge</li> <li>• water consumption</li> </ul>
	GRI 304: Biodiversity	<ul style="list-style-type: none"> <li>• operational land owned, leased, protected areas, and areas of high biodiversity value outside protected areas</li> <li>• significant impact of activities, products and services on biodiversity</li> <li>• habitats protected or restored</li> <li>• IUCN Red List species and National Conservation List species with habitats in areas covered by activities</li> </ul>
	GRI 305: Emissions	<ul style="list-style-type: none"> <li>• direct (Scope 1)</li> <li>• indirect (Scope 2)</li> <li>• other indirect greenhouse gas emissions (Scope 3)</li> <li>• emission intensity</li> <li>• reduction of greenhouse gas emissions</li> <li>• emissions of ozone-depleting substances</li> <li>• nitrogen oxides (NOx), sulphur oxides (SOx) and other significant air emissions</li> </ul>
	GRI 306: Waste	<ul style="list-style-type: none"> <li>• water discharge by quality and destination</li> <li>• waste by type and disposal method</li> <li>• significant spills</li> <li>• transportation of hazardous waste</li> <li>• water bodies affected by water discharges and/or runoffs</li> </ul>
	GRI 308: Supplier's environmental assessment	<ul style="list-style-type: none"> <li>• new suppliers screened using environmental criteria</li> <li>• negative environmental impacts in the supply chain and actions taken</li> </ul>
CSRD Directive	<ul style="list-style-type: none"> <li>• Climate change — mitigation and adaptation</li> <li>• Water and marine resources</li> <li>• Resource utilisation and the circular economy</li> <li>• Pollution</li> <li>• Biodiversity and ecosystems</li> </ul>	
VW Group	<p><b>DECARBONISATION</b> KPIs decarbonisation:</p> <ul style="list-style-type: none"> <li>• decarbonisation index (strategic indicator)</li> <li>• average passenger car emissions (strategic indicator) by the US and the EU</li> <li>• number of cars produced with alternative propulsion technologies (gas, hybrid, and electric)</li> <li>• product carbon footprint</li> <li>• greenhouse gas emissions (Scope 1, 2, and 3)</li> </ul> <p>Environmental management KPIs (for all brands and separately for passenger car and commercial vehicle production):</p> <ul style="list-style-type: none"> <li>• specific emission reduction (strategic indicator)</li> <li>• emissions of volatile organic compounds</li> </ul> <p>Direct NOx- and SO2-emissions (for all brands and separately for passenger car and commercial vehicle production):</p> <ul style="list-style-type: none"> <li>• nitrogen oxides</li> <li>• sulphur dioxide</li> </ul> <p><b>CIRCULAR ECONOMY</b> KPIs circular economy:</p> <ul style="list-style-type: none"> <li>• avoidance of CO2 emissions through the aluminium closed-loop project from 2017</li> <li>• percentage of freshwater demand in locations in vulnerable areas</li> </ul> <p>KPIs environmental management:</p> <ul style="list-style-type: none"> <li>• number of locations certified according to ISO 14001 or EMAS at Volkswagen Group/ VW AG Company</li> <li>• number of production sites certified according to ISO 50001 in the Volkswagen Group</li> </ul> <p>Energy consumption (overall and per car; for all brands and separately for passenger car and commercial vehicle production):</p>	

	<ul style="list-style-type: none"> <li>• electricity</li> <li>• heat</li> <li>• fuel gases for production processes</li> <li>• water</li> <li>• sewage</li> <li>• waste (non-hazardous, hazardous and metallic) for recycling</li> <li>• waste for disposal (non-hazardous and hazardous)</li> <li>• chemical oxygen demand</li> <li>• water intake (divided into sources: ground, surface, and externally sourced)</li> <li>• wastewater discharge (water reservoirs, municipal wastewater treatment plants)</li> <li>• number of countermeasures implemented (in the Maßnahmen@Web system)</li> </ul>
Ford Motor Company	<p>Vehicle fuel consumption and CO2 emissions</p> <ul style="list-style-type: none"> <li>• Ford Corporation's average fuel consumption in the US</li> <li>• CO2 emissions of Ford vehicles in the US, Europe, Switzerland and China on a per-vehicle basis (broken down into passenger cars and commercial vehicles)</li> <li>• average fuel consumption of Ford Corporation in China</li> <li>• CO2 emissions of Ford corporate vehicles in China per vehicle (broken down by passenger cars and commercial vehicles)</li> </ul> <p>Vehicle emissions other than CO2</p> <ul style="list-style-type: none"> <li>• Ford's average NOx and NMOG emissions in the US</li> </ul> <p>Operational energy consumption and CO2 emissions</p> <ul style="list-style-type: none"> <li>• worldwide facility energy consumption (indirect and direct; broken down into renewable and non-renewable electricity from 2021)</li> <li>• worldwide greenhouse gas emissions from facilities</li> <li>• greenhouse gas emissions from worldwide operations</li> </ul> <p>CO2 emissions of purchased goods and services</p> <ul style="list-style-type: none"> <li>• indirect emissions (purchased goods and services; for 2021 only)</li> </ul> <p>Emissions (VOCs and others)</p> <ul style="list-style-type: none"> <li>• volatile organic compounds released by production facilities</li> <li>• emissions reported to the Toxics Release Inventory (TRI) in the US (absolute and per-vehicle values)</li> <li>• emissions reported to the National Pollutant Release Inventory (NPRI) in Canada (absolute and per-vehicle values)</li> </ul> <p>Waste</p> <ul style="list-style-type: none"> <li>• regional waste sent to landfill (absolute value) by region and per vehicle</li> <li>• regional hazardous waste (absolute value) by region and per vehicle</li> <li>• hazardous waste by the method of disposal (absolute value)</li> <li>• non-hazardous waste by disposal method (absolute value)</li> <li>• total waste by disposal method (absolute value)</li> <li>• metal scrap (absolute value by region)</li> <li>• total waste volume and percentage recycled</li> </ul> <p>Water</p> <ul style="list-style-type: none"> <li>• global water consumption per vehicle produced</li> <li>• global water consumption by source</li> <li>• water consumption by region</li> <li>• reuse from local wastewater treatment plant</li> <li>• discharge of process wastewater</li> </ul>
MAN Truck and BUS SE	<p>DECARBONISATION</p> <ul style="list-style-type: none"> <li>• GHG emissions across the value chain: Scope 1, 2, and 3 and other indirect emissions — absolute emissions and relative to the base year 2019</li> <li>• energy consumption in production processes</li> <li>• direct energy consumption (combustion fuels and gases) and indirect energy consumption, including: <ul style="list-style-type: none"> <li>- electricity — total consumption and share of energy from renewable energy sources</li> <li>- thermal energy — total consumption and share of self-generated energy from renewable energy sources and share of purchased energy from renewable energy sources</li> </ul> </li> <li>• direct primary energy consumption (fuel oil, natural gas, diesel, and other)</li> <li>• energy consumption per vehicle</li> <li>• absolute indirect and direct CO2 emissions</li> <li>• CO2 emissions per vehicle</li> <li>• atmospheric pollutants (sulphur dioxide, nitrogen oxides, particulate matter, and volatile organic compounds)</li> <li>• logistics-related CO2 emissions per vehicle produced (in 2016–2021)</li> </ul> <p>CIRCULAR ECONOMY</p> <ul style="list-style-type: none"> <li>• production waste (broken down into hazardous and non-hazardous, and into disposal and recovery)</li> <li>• metal waste</li> <li>• recycling rate</li> <li>• water consumption (total, from external sources, and abstracted by the company for its own use, including well water)</li> <li>• surface water consumption</li> <li>• reused water</li> </ul>

	<ul style="list-style-type: none"> <li>• used rainwater</li> <li>• wastewater</li> </ul> <p>RESPONSIBLE TRANSPORT AND MOBILITY SOLUTIONS</p> <ul style="list-style-type: none"> <li>• number of connected vehicles<sup>1</sup></li> <li>• number of electric cars (orders and sales broken down by trucks, commercial vehicles, and buses) — for 2021 only</li> </ul>
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Source: Elaborated by the author based on (Directive (EU) 2022/2464 of the European Parliament and of the Council; Consolidated Set of the GRI Standards; ESG Kennzahlen Volkswagen AG; ESG Overview Ford Motor Company; Sustainability Report 2021 Man Truck and BUS).

Tab. 4. Reporting on social factors

GRI Standards	GRI 401: Employment	<ul style="list-style-type: none"> <li>• hiring new employees and employee turnover</li> <li>• benefits offered to full-time employees that are not offered to temporary or part-time employees</li> <li>• parental leave</li> </ul>
	GRI 402: Labour relations	<ul style="list-style-type: none"> <li>• minimum notice periods for operational changes</li> </ul>
	GRI 403: Health and safety in the workplace	<ul style="list-style-type: none"> <li>• health and safety management system and management of impacts related to water discharge</li> <li>• hazard identification, risk assessment and incident investigation</li> <li>• occupational health service</li> <li>• worker participation, consultation and communication on occupational health and safety</li> <li>• training of employees in occupational health and safety</li> <li>• employee health promotion</li> <li>• prevention and mitigation of occupational health and safety impacts directly related to business relationships</li> <li>• employees covered by the occupational safety and health management system</li> <li>• work-related injuries</li> <li>• work-related illness</li> </ul>
	GRI 404: Training and education	<ul style="list-style-type: none"> <li>• average number of training hours per year per employee</li> <li>• employee upskilling programmes and transition assistance</li> <li>• percentage of employees receiving regular performance and career development reviews</li> </ul>
	GRI 405: Diversity and equal opportunities	<ul style="list-style-type: none"> <li>• diversity of supervisors and employees</li> <li>• the ratio of base salary and women's pay to men's</li> </ul>
	GRI 406: Indiscretion	<ul style="list-style-type: none"> <li>• cases of discrimination and corrective actions taken</li> </ul>
	GRI 407: Freedom of association and collective bargaining	<ul style="list-style-type: none"> <li>• operations and suppliers where the right to freedom of association and collective bargaining may be threatened</li> </ul>
	GRI 408: Child labour	<ul style="list-style-type: none"> <li>• operations and suppliers at significant risk of child labour incidents</li> </ul>
	GRI 409: Forced labour and modern slavery	<ul style="list-style-type: none"> <li>• establishments and suppliers at significant risk of incidents of forced labour</li> </ul>
	GRI 410: Security practices	<ul style="list-style-type: none"> <li>• security personnel trained in human rights policies or procedures</li> </ul>
	GRI 411: Rights of indigenous peoples	<ul style="list-style-type: none"> <li>• violations of indigenous peoples' rights</li> </ul>
	GRI 413: Local communities	<ul style="list-style-type: none"> <li>• operations with community participation, impact assessment and development programmes</li> <li>• operations with significant actual and potential negative impacts on local communities</li> </ul>
	GRI 414: Social evaluation of the supplier	<ul style="list-style-type: none"> <li>• new suppliers screened using social criteria</li> <li>• negative social impacts in the supply chain and actions taken</li> </ul>

<sup>1</sup>Digital connectivity and data exchange are important prerequisites for improving efficiency and safety in the transportation sector and significantly reducing CO2 emissions by controlling entire systems (MAN, 2022).



	GRI 415 Public policy	<ul style="list-style-type: none"> <li>political contributions</li> </ul>
	GRI 416: Health and safety of customers	<ul style="list-style-type: none"> <li>assessment of the impact of products and services on health and safety of service categories</li> <li>cases of non-compliance regarding the impact of products and services on health and safety</li> </ul>
	GRI 417: Marketing and signage	<ul style="list-style-type: none"> <li>requirements for information on products and services and their labelling</li> <li>incidents of non-compliance regarding product and service information and labelling</li> <li>incidents of non-compliance regarding marketing communications</li> </ul>
	GRI 418: Customer privacy	<ul style="list-style-type: none"> <li>legitimate complaints about violations of customer privacy and loss of customer data</li> </ul>
CSRD Directive	<ul style="list-style-type: none"> <li>equal treatment and equal opportunities for all (equal pay, development opportunities, integration of excluded persons, and prevention of violence)</li> <li>working and employment conditions (working time, freedom of association, workers' right to information and consultation, safety and hygiene at work)</li> <li>respect for human rights (fundamental freedoms, democratic principles and norms as established in the International Bill of Human Rights and other fundamental UN conventions)</li> </ul>	
VW Group	<p>PEOPLE IN TRANSFORMATION</p> <ul style="list-style-type: none"> <li>number of countries where the Volkswagen Group operates</li> <li>number of production plants</li> <li>number of Volkswagen Group employees broken down by concern and type of contract</li> <li>age structure of Volkswagen Group employees</li> <li>fluctuation by gender</li> <li>number of trainees</li> <li>share of women in the total number of employees, in management positions and in trainee positions</li> <li>result of the sentiment barometer: share, satisfaction index, and employer attractiveness</li> <li>employee suggestion system</li> <li>attractiveness of the employer in the environment</li> <li>professional development of employees</li> <li>preventive health care and occupational safety</li> <li>accident rate indexes</li> </ul> <p>DIVERSITY</p> <ul style="list-style-type: none"> <li>participation of women in management</li> <li>internationalisation in TOP executives</li> <li>diversity index</li> <li>number of dismissals for discrimination violations</li> </ul>	
Ford Motor Company	<p>DIVERSITY</p> <ul style="list-style-type: none"> <li>number and percentage distribution of salaried employees by gender</li> <li>composition of the Board of Directors — percentage share of individual genders and minorities</li> <li>composition of senior management — percentage share of individual genders and minorities</li> <li>share of women in senior management by region and business unit</li> <li>share of women in middle management by region and business unit</li> <li>share of women in supervisory positions by regions and business units</li> <li>board demographics (number of members by gender and minorities for 2020 and 2021 only)</li> <li>executive demographics (number of members by gender and minorities for 2020 and 2021 only)</li> <li>ethnic data on the US workforce (percentage of each race in the total workforce)</li> <li>share of women in the total number of employees in the US (for 2020 and 2021 only)</li> </ul> <p>HEALTH AND SAFETY</p> <ul style="list-style-type: none"> <li>the global rate of incidents leading to lost work time (per 100 employees)</li> <li>rate of incidents leading to lost work time (per 100 employees) by region</li> <li>the global number of fatalities</li> </ul> <p>EMPLOYEE ENGAGEMENT</p> <ul style="list-style-type: none"> <li>percentage rate of voluntary resignations in major markets</li> <li>number of confirmed harassment allegations by region (for 2021 only)</li> </ul> <p>DIVERSITY OF SUPPLIERS</p> <ul style="list-style-type: none"> <li>total dollar volume of purchases (within the US) from companies owned by minorities, veterans, women, and small businesses</li> </ul>	
MAN Truck and BUS SE	<p>PEOPLE AND CULTURE</p> <ul style="list-style-type: none"> <li>number of employees in total and by business area</li> <li>employee structure (permanent employees, temporary employees, apprentices, passive partial retirement by gender in each case and employees before subcontractors)</li> <li>number of employees (broken down by Germany and other countries)</li> <li>age structure of employees</li> </ul>	

	<ul style="list-style-type: none"> <li>• costs incurred for training and education</li> <li>• women in management positions (number and % share)</li> <li>• number of accidents causing downtime, accident-incident index, accident severity index</li> <li>• donations</li> </ul> <p><b>SAFETY ON ROADS, PRODUCTS, AND SERVICES</b>                  No indicators, the report describes ongoing projects to ensure the safety of its products for drivers and road users.</p>
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Source: Elaborated by the author based on (Directive (EU) 2022/2464 of the European Parliament and the Council; Consolidated Set of the GRI Standards; ESG Kennzahlen Volkswagen AG; ESG Overview Ford Motor Company; Sustainability Report 2021 Man Truck and BUS).

Tab. 5. Reporting on corporate governance factors

GRI Standards	GRI 201: Corporate governance factors	<ul style="list-style-type: none"> <li>• direct economic value generated and distributed</li> <li>• financial effects and other risks and opportunities arising from climate change</li> <li>• liabilities for defined benefit plans and other pension plans</li> <li>• financial assistance received from the government</li> </ul>
	GRI 202: Market presence	<ul style="list-style-type: none"> <li>• ratio of standard starting wage by gender to local minimum wage</li> <li>• percentage of senior executives hired from the local community</li> </ul>
	GRI 203: Indirect impact on the economy	<ul style="list-style-type: none"> <li>• investment in infrastructure and supported services</li> <li>• significant indirect economic impacts</li> </ul>
	GRI 204: Procurement practices	<ul style="list-style-type: none"> <li>• percentage of spending on local suppliers</li> </ul>
	GRI 205: Countering corruption	<ul style="list-style-type: none"> <li>• operations assessed for corruption risks</li> <li>• communication and training on anti-corruption policies and procedures</li> <li>• confirmed cases of corruption and actions taken</li> </ul>
	GRI 206: Anti-competitive behaviour	<ul style="list-style-type: none"> <li>• legal actions on anti-concern behaviour</li> <li>• antitrust and monopoly practices</li> </ul>
	GRI 207: Taxes	<ul style="list-style-type: none"> <li>• tax governance, control and risk management</li> <li>• stakeholder engagement and management of tax concerns</li> </ul>
CSRD Directive	<ul style="list-style-type: none"> <li>• the role, composition and expertise of the entity’s administrative, management and supervisory bodies with respect to sustainability issues</li> <li>• internal control and risk management systems used by the entity</li> <li>• business ethics and corporate culture (anti-bribery and corruption, animal welfare)</li> <li>• the entity’s activities and commitments related to political influence (including lobbying)</li> <li>• management and quality of relations with customers, suppliers and communities affected by the entity’s activities (including payment practices)</li> </ul>	
VW Group	<p><b>LEGACY</b></p> <ul style="list-style-type: none"> <li>• Together For Integrity programme</li> <li>• Infopoint</li> <li>• Code of Conduct</li> <li>• anti-corruption</li> <li>• reported violations</li> <li>• Business Partner Due Diligence audits</li> <li>• Management culture (keeping the rules, error culture, and righteous behaviour)</li> </ul> <p><b>RESPONSIBILITY FOR SUPPLY CHAINS AND THE ECONOMY</b></p> <ul style="list-style-type: none"> <li>• number of direct suppliers of the Volkswagen Group</li> <li>• number of countries where the Volkswagen Group has direct suppliers</li> <li>• number of sustainable purchasing network experts</li> <li>• number of suppliers with completed SAQ (self-assessment questionnaire)</li> <li>• improvements at suppliers based on SAQ (self-assessment questionnaire)</li> <li>• number of production facilities for which a human rights risk assessment has been conducted</li> <li>• suppliers with a certified environmental management system according to ISO 14001 and/or EMAS</li> <li>• buyers who have participated in qualification activities on sustainability</li> <li>• suppliers who have received sustainability training</li> <li>• average violations of sustainability requirements by region</li> <li>• due diligence inspections of business partners</li> <li>• suppliers who have completed an e-learning module on sustainability</li> </ul>	

	<ul style="list-style-type: none"> <li>• available supplier ratios</li> <li>• complaint mechanism cases (by region; by topic: social, compliance, environment, and cross-cutting topics)</li> <li>• termination of cooperation with suppliers</li> <li>• complaint mechanism cases: direct supplier</li> <li>• list of countries identified as countries with higher human rights risks (TOP 15)</li> </ul>
Ford Motor Company	<p><b>PRODUCT SAFETY</b></p> <ul style="list-style-type: none"> <li>• Ford and Lincoln nameplates with an overall rating of five stars in US NCAP and European NCAP (for 2020 and 2021 only)</li> <li>• number of safety recalls (US market)</li> <li>• number of recalled passenger cars in the US</li> </ul> <p><b>SUPPLY CHAIN MANAGEMENT</b></p> <ul style="list-style-type: none"> <li>• number of working conditions assessments completed by the end of 2021 by region</li> <li>• number of supplementary working conditions assessments completed by the end of 2021 by region</li> <li>• number of audits performed at suppliers (for 2021 only)</li> <li>• results of supplier audits – number of nonconformities in initial audits in 2021, by category: management systems, employees, health and safety, environment and ethics, and detailed subcategories (for 2021 only)</li> <li>• supplier audit results – Initial and final (average value)</li> </ul>
MAN Truck and BUS SE	<p><b>COMPLIANCE, ETHICS AND INTEGRITY</b></p> <ul style="list-style-type: none"> <li>• compliance indicators (for 2021):</li> <li>• a tool for validating business partners</li> <li>• compliance training</li> <li>• compliance helpdesk</li> <li>• Together4Integrity</li> <li>• additional indicators</li> </ul> <p><b>ACCOUNTABILITY IN THE VALUE CHAIN</b></p> <p>No indicators, the report describes various initiatives to improve sustainability performance across the value chain</p>

Source: Elaborated by the author based on (Directive (EU) 2022/2464 of the European Parliament and the Council; Consolidated Set of the GRI Standards; ESG Kennzahlen Volkswagen AG; ESG Overview Ford Motor Company; Sustainability Report 2021 Man Truck and BUS).

ing, according to the Capgemini report, the automotive sector is currently ahead of other industries in meeting global sustainability standards. However, only 9% of the 500 analysed automotive companies can be classified as high-performing “sustainability leaders”, as 91% of them have not yet reached sustainability maturity (Capgemini, 2020). This means a very high potential for development in this area. The following tables illustrate how environmental, social and governance factors of the three automotive companies (VW Group, Ford Motor Company, and MAN Truck & BUS SE) are reported based on GRI standards against the requirements of the CSRD based on sustainability reports.

### 3.1. ENVIRONMENTAL FACTORS

Environmental factors (Table 3) are the most extensive group of indicators reported under ESG in the analysed companies.

The main environmental reporting points of the automotive companies analysed above include energy consumption, water consumption, the amount of wastewater generated, CO2 emissions, greenhouse gas emissions, and the amount of waste generated. None of the above companies address the issue of materials used in production processes (a GRI item)

or biodiversity (a GRI item and a CSRD requirement) in their reports. The environmental assessment of suppliers is included by Volkswagen and Ford corporations in the Corporate Governance section and is not part of the reporting of environmental indicators. In addition, a number of indicators presented by the companies go beyond those proposed by GRI or the CSRD requirements. Examples of such indicators include issues related to certification of environmental management systems (Volkswagen), alternative drives (Volkswagen, MAN), corporate fuel consumption (Ford), or recycling rates (MAN).

### 3.2. SOCIAL FACTORS

Social factors illustrate the relationships linking the company with its employees and other groups, such as local communities, contractors or customers (Table 4).

The main points of social reporting by the automotive companies analysed above include employee numbers, structures and turnover, type of contract, preventive health care, occupational safety (including accidents and incidents), diversity, discrimination and bullying, and training and education. None of the above companies address the issues of social evaluation of suppliers, freedom of association, marketing

and labelling, or child labour (GRI) in their reports. In addition, several indicators presented by the above companies that go beyond those proposed by GRI or CSRD. Examples of such indicators are issues related to the mood barometer, the employee suggestion system, the attractiveness of the employer in the environment (Volkswagen), the volume of purchases from companies owned by veterans, women, small businesses (Ford), or donations (MAN).

### 3.3. CORPORATE GOVERNANCE FACTORS

Factors regarding corporate governance in the analysed companies are depicted in the table below (Table 5).

The main reporting points of the corporate governance of automotive companies include integrity, ethics and honesty, supply chain management and product safety. None of the companies address economic, local community or tax (GRI) indicators in their reports. An example of indicators beyond those indicated in the table above are issues related to product safety (Ford).

## DISCUSSION

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The surveyed corporations report largely on the indicators contained in the GRI standards or the CSRD, but not all of them are included in their sustainability reports. These embrace reporting on materials used in production processes (a GRI element), biodiversity indicators (a GRI element and a CSRD requirement), social assessment of suppliers, freedom of association, marketing and labelling, or child labour (GRI), and economic, community or tax indicators (GRI).

On the other hand, the surveyed companies report on indicators that go beyond the GRI guidelines and the CSRD. In the area of the environment, these include issues related to the certification of environmental management systems (Volkswagen), alternative drives (Volkswagen, MAN), the corporation's fuel consumption (Ford), or the recycling rate (MAN). In the area of social indicators, the corporations additionally report issues related to the mood barometer, employee suggestion system, the attractiveness of the employer in the environment (Volkswagen), the volume of purchases from companies owned by veterans, women and small businesses (Ford), and donations (MAN). In corporate govern-

ance, one company additionally reports on product safety issues (Ford).

The described deviations may be the result of a mismatch between the universal CSRD and GRI guidelines and the specific characteristics of the automotive industry. The Global Sustainability Standards Board, which is responsible for the GRI guidelines, is working on sector-specific recommendations for 40 sectors, starting with those with the greatest sustainability impacts, which have not yet been officially developed for the automotive industry (GSSB, 2021). The GRI sector standards should consider current challenges and trends in the related industry, e.g., the electrification of drives or the development towards autonomous driving, which raises a number of legal and ethical issues that need to be addressed. To facilitate and, at the same time, standardise the reporting of ESG indicators, corporations under study can use the piloted but not yet approved version of the GRI Automotive Sector Supplement (Chamberlain, 2013).

The analysed sustainability reports cover the year 2022, and thus, they do not consider the European Sustainability Reporting Standards (ESRS) published in December 2023 (arising from the CSRD). It will only be possible to test for their application once the 2024 reports have been published. The currently published ESRS are dedicated to all industries, and the development of sectoral ESRS was scheduled in the European Commission's work programme for 2024, although recent reports herald a postponement of two years (ESGinfo.pl, 2023).

## CONCLUSIONS

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The research analysed reports of sustainability-related activities presented by three major automotive corporations. Based on the study, the main difficulty in reporting non-financial indicators is the lack of uniform guidelines on how to calculate metrics and their scope, which leads to different interpretations of existing guidelines. As a result, the lack of clarity in the data poses problems for comparison over time and between different organisations.

The European Union, recognising that no existing standards or frameworks on their own meet the Union's sustainability reporting needs and following the publication of the CSRD had been working on the development of mandatory European Sustainability Reporting Standards (ESRS), which were published in December 2023.

The results of the analysis allow for the formulation of the following conclusions: GRI represents a practical translation of ESG concepts to the operational level, directly applicable to companies regardless of their size. In addition, published sector standards for selected industries (currently, still absent for the automotive industry) enable consistent and complete reporting regarding the sustainability impact of individual sectors; So far, the indicators reported by the analysed companies provide a good starting point for reporting ESG indicators according to the CSRD, although a definitive assessment will not be possible until one year after the publication of the ESRS.

The surveyed companies report environmental indicators to the widest extent, confirming findings from the literature study, indicating that the market offers a myriad of climate information frameworks. This is related to the numerous environmental requirements placed on the automotive industry, which vehicle manufacturers have had to meet for years. However, the indicators refer to different time periods and are presented in a variety of units and for different business units, which makes it impossible to compare them directly, despite the fact that all the analysed companies are from the same industry. On the other hand, past practices in reporting sustainability activities may be helpful in developing reporting systematics in line with the ESG concept. The indicators identified by the automotive corporations as “ESG indicators” are often rooted in already implemented management systems, which is the first step to meeting the CSRD requirements.

ESG topics are also reflected in corporate strategies, which indicates the high priority placed on the issue, and existing reporting practices can be helpful in developing reporting systematics in line with the ESG concept. The research shows that the automotive industry is partially ready to report on sustainability indicators, and the time pressure associated with the introduction of mandatory reporting will increase work in this area.

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