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# Sustainable Logistics in Companies Listed on the Brazilian Stock Exchange Sustainability Index: Application of the SustainLogTrack Methodology

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## ABSTRACT

The fulfillment of the current Global Development (Agenda 2030) requires redesigning business logistics networks due to the significant socio-environmental impacts caused by this sector. Despite rapid growth, logistics management focused on sustainability must overcome relevant barriers, such as the lack of process transparency, supply chain traceability, and the consequent increase in negative environmental impacts. To analyze the sustainable logistics scenario in a sample of Brazilian companies, this research considered the 78 companies that make up the portfolio of the second quarter of 2024 of the Brazilian Stock Exchange's Corporate Sustainability Index (ISE B3). The methodology implemented derives from a previous research stage, in which a business logistics analysis methodology, called SustainLogTrack, was developed. Sustainable Development Goals (SDGs) 9, 11, and 12 were selected for analysis, and each company received scores based on the criteria established by the methodology. The results were extensive and could be evaluated according to business sector, average score by methodology indicator, and average score by selected SDGs. The analysis of these results demonstrates how much logistics still needs to evolve to become truly sustainable in Brazil, as the selected companies operate nationwide, with significant daily volumes moved in their supply chains.

**Keywords:** Agenda 2030; supply chain; sustainable logistics; sustainability; report.

## RESUMO

O cumprimento da atual agenda de desenvolvimento Global (Agenda 2030) carece do redesenho das redes de logística empresarial devido aos grandes impactos socioambientais causados por este setor. Apesar do crescimento em ritmo acelerado, a gestão da logística voltada à sustentabilidade precisa transpor barreiras relevantes diante da falta de transparências nos processos, rastreabilidade das cadeias logísticas e do consequente aumento de impactos negativos ao meio ambiente. Buscando analisar o cenário da logística sustentável numa amostra de empresas brasileiras, foram consideradas, nesta pesquisa, as 78 empresas que compõem a carteira do segundo quadrimestre de 2024 do Índice de Sustentabilidade Empresarial da Bolsa de Valores Brasileira (ISE B3). A metodologia implementada deriva de uma etapa anterior a esta pesquisa, denominada SustainLogTrack, que propõe a análise de logística empresarial baseada em 14 indicadores e um esquema de pontuação que permite analisar empresas de qualquer setor em 5 faixas de performance: inexistente, fraco, regular, bom e ótimo. Foram escolhidos para análise os ODS 9, 11 e 12 e cada uma das empresas recebeu notas de acordo com os critérios estabelecidos pela metodologia. Os resultados foram avaliados de acordo com o setor empresarial, média por indicador da metodologia e média por ODS selecionado. A análise desses resultados demonstra o quanto a logística precisa evoluir para ser efetivamente sustentável no Brasil, já que as empresas selecionadas atuam em território nacional com um volume expressivo sendo movimentado diariamente em suas cadeias.

**Palavras-chave:** Agenda 2030; cadeia logística; logística sustentável; sustentabilidade; reporte.



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## Introduction

Industrial and corporate activities generate negative externalities that compromise human quality of life. The use of natural resources (Kellens et al., 2017), pollution from manufacturing processes, the impacts caused by transportation activities within supply chains (Tella & Balogun, 2021), air, land, water, noise, and visual pollution, as well as the risks of congestion, injuries, and accidents (Abbasi & Nilsson, 2016), have led consumers and the government itself to demand that companies redesign their logistics networks (Frota Neto et al., 2008).

The logistics sector of companies has been growing rapidly year after year, due to increasing demand for goods and commodities. This growth makes logistics management and business sustainability more challenging, owing to a lack of traceability and increasing negative environmental impacts (Gupta et al., 2024). However, these externalities can be reduced through operational improvements (Büttgen et al., 2021) and adjustments related to accessibility, infrastructure, job creation, and the reduction of poverty, hunger, and accidents (Abbasi & Nilsson, 2016).

Corporate commitment to social and environmental issues often occurs through adherence to sustainability and corporate social responsibility initiatives, such as the Global Compact and the Sustainable Development Goals (SDGs). These initiatives represent opportunities through the proposal of strategies accompanied by goals and indicators (Hejer et al., 2015). The SDGs establish specific targets to support countries and organizations in implementing sustainable activities across 17 areas, and to assess their current progress and projections for 2030 (Sustainable Development Report, 2024). The Global Compact is one of the most important corporate social responsibility and sustainability initiatives, involving more than 12,000 companies from a wide range of sectors (Podrecca et al., 2021).

This challenge encompasses not only logistics but also several other fields in which sustainability is a guiding principle: measuring its reach and progress. There is no consensus among researchers and experts on how to measure and monitor its historical evolution. This is largely due to the interdisciplinary and transdisciplinary nature of sustainability. Analyzing and understanding data for environmentally sound planning is complex and involves society in all its dimensions (Bush & Doyon, 2019). It is not enough for companies to commit to sustainability; the public sector must also provide the necessary infrastructure for sustainable actions to be viable.

For example, among the advances already made in corporate logistics, the transportation sector stands out, with the replacement of fossil fuel-powered fleets by electric or biofuel-powered vehicles (Kovačić et al., 2022). As for the diversification of transportation modes in this sector, it also depends on public investment in road infrastructure, which is sometimes neglected by public managers (Kervall & Pålsson, 2023).

These and other measures are reported in sustainability reports published annually by companies. Over the past 20 years, these documents have presented measurable data on organizational sustainability. The many impacts caused by logistics—especially in environmental terms—make the information contained in these reports essential to stakeholders (Uyar et al., 2020), and they demonstrate companies' commitment to environmental issues through green supply chains (Vijayan & Kamarulzaman, 2017). In green logistics, environmental aspects are integrated into logistics management practices to reduce the environmental impacts associated with logistics activities (Dekker et al., 2012). Green logistics performance is significantly associated with sustainability reporting (Uyar et al., 2020). Its dimensions can foster the circular economy while also promoting the country's overall economic development (Uyar et al., 2020). For publicly traded companies,



interest in publishing these reports is even greater, as disclosing sustainability information influences investors' decisions (Al-Amaedeh & Al-Hosban, 2021; Al-Matari et al., 2022).

Considering the opportunities within corporate logistics regarding sustainability, this research aims to assess the sustainable logistics practices of companies listed in the Sustainability Index of the Brazilian Stock Exchange in the context of SDGs 9, 11, and 12. The applied methodology, SustainLogTrack, was developed by Brasil et al. (2025) as part of the first stage of this research. The authors created a set of 14 indicators along with a scoring system that allows for the evaluation and rating of companies according to their sustainable logistics performance as reported in sustainability reports. It is important to note that, although logistics may also relate to other SDGs, the scope of this study is limited to SDGs 9, 11, and 12 due to its link with a previous article.

The companies selected for analysis are part of the second 2024 portfolio of the Corporate Sustainability Index (ISE) of the Brazilian Stock Exchange (B3), an indicator of the average performance of stock prices of companies selected for their recognized commitment to corporate sustainability.

### **Theoretical Framework: Logistics and Sustainability Reports**

The urbanization process directly affects the survival of urban municipalities. In 2022, Brazil had 61% of its population living in urban concentrations (IBGE 2022). Urban sustainability becomes essential for these spaces to remain suitable for human life, since human activities directly interfere with urban sustainability.

There are points that deserve attention regarding urban concentrations and sustainability, but what is directly related to logistics is the fact that urban centers are not self-sufficient in the production of supplies, goods, food, and all materials necessary for their existence (Sotto et al. 2019). The existence of agglomerated cities, which concentrate the production of a certain type of product—recently encouraged in the European Union, especially for small and medium-sized companies—clearly shows their interdependence (Havierníková & Kordoš 2019). This reality requires planned logistics for efficient supply and distribution between points of origin and destination. The competitiveness and efficiency of the activity begin to directly influence delivery results and their environmental impact (Ellram et al. 2020).

Supply and distribution activities fall under logistics, and when they run smoothly, the population does not notice them (Rodrigue 2024); however, when there is any disruption, it becomes clearly noticeable. One of the biggest examples of supply interdependence occurred during the 2018 truck drivers' strike in Brazil, when the food and fuel sectors were heavily affected (IPEA 2018). This strike can be considered one of the most recent examples of Brazil's logistical infrastructure dependence on the road transport mode. Some countries, such as Germany, choose to distribute fuel through pipelines, avoiding road dependence for service stations, ensuring lower costs and greater operational safety (Cerniauskas et al. 2019).

On the other hand, as shown by Nogarotto et al. (2022), the significant reduction in vehicle flow during the COVID-19 pandemic had an immediate impact on improved air quality, reinforcing the importance of public investments in other types of transport and traffic control policies, in addition to indicating the possibility of logistics contributing to sustainability. In Brazil, most transportation occurs through the road mode, and the infrastructure for this mode is the only one that serves the country on a continental scale, even though it is not the most suitable either from a logistical or environmental standpoint (Sotto et al. 2019). Historically, Brazil has not encouraged the use of intermodal transport—such as using both railways and highways to transport the same product—since, among other reasons, road transport requires simpler infrastructure to operate (Brasil & Pansonato 2018).



Transport operations are fundamental for the movement and storage of products, being considered a visible logistics activity, where tracking and monitoring can occur with relative ease (Bowersox et al. 2014). For this activity, logistics relies on five transport modes: road, rail, waterway, air, and pipeline, and the choice varies according to the goods being transported and the availability of the mode in the origin, destination, and along the route (Bertaglia 2020), in addition to depending on the transport structure required to operate: infrastructure, vehicles, and carriers (Alonso-Montolio et al. 2021).

The pursuit of sustainability permeates logistics activities. However, there is no consensus among logistics managers regarding the environmental impact of these activities (Maji et al. 2023). There are green logistics practices that can be used to make operations more sustainable (Čižiūnienė et al. 2024). However, many Brazilian companies still do not adopt them, as these concepts are not yet well disseminated in the field. To communicate what they are doing, many have adopted Sustainability Reports, which include information directly related to logistics activities, such as transportation, storage, and order tracking.

Sustainability reports were proposed in 1997, in Boston, by two non-profit organizations—CERES and the Tellus Institute—in partnership with the UN, as a response to the Exxon Valdez oil spill in 1989. It took two decades for water quality and marine life in the area affected by the Exxon Valdez oil spill to recover (Harwell & Gentile 2014). This proposal is known as the Global Reporting Initiative (GRI), aimed at promoting transparency and dialogue regarding business practices, as well as establishing disclosure standards for such practices (GRI 2025). Sustainability reports prepared by companies follow the GRI guidelines. In Brazil, their preparation and publication are optional. A proposal has been under discussion in the Senate since 2012 to make it mandatory for publicly traded companies to prepare and publish their sustainability reports (Federal Senate 2024). Figure 1 presents the main milestones in the GRI timeline.



Figure 1. Main milestones of the GRI timeline. Source: Own elaboration, based on GRI (2025)..

An analysis of the timeline in Figure 1 shows that the development of the GRI has kept pace with key sustainability milestones, such as the Rio+20 Conference and the incorporation of the SDGs into its guidelines. However, the main objectives of this framework are aimed at the preparation of sustainability reports. The use of GRI standards reinforces the relevance, rigor, and relative transparency of sustainability reports through indicators, materiality, stakeholder inclusiveness, sustainability context, balance, completeness, clarity, comparability, reliability, etc. (Boiral 2013).

## Methodology

The present methodology is based on the findings of Brasil et al. (2025). The authors developed a set of indicators for analyzing sustainable logistics in companies, based on sustainability reports. Table 1 presents the indicators created and their descriptions. The last column corresponds to the group of keywords searched within the reports to address each of the indicators.



Table 1. Sustainability Report Analysis Indicators

<b>CÓD</b>	<b>Indicator</b>	<b>Description</b>	<b>Keywords Searched</b>
<b>9LA</b>	Does it promote clean energy use?	It takes into account both energy used in operations and support for clean energy projects	Biofuels, clean energy, green fuel, renewable energy
<b>9LB</b>	Does it invest in new routing technologies?	It takes into account routing systems for goods transport and supply chain management	Routing, delivery software, tracking, traceability, monitoring
<b>9LC</b>	Does it value workers in the sector?	It takes into account the existence of internal policies focused on employee development (diversity and inclusion policies, career plans, roles and salaries, training, courses, etc.)	Employee, worker, staff, team, internal community
<b>9LD</b>	Does it invest in social and community programs?	It takes into account investments through projects that promote better living conditions for society	Social, community, corporate social responsibility
<b>11LA</b>	Does the company apply sustainable multimodality?	It takes into account investments in sustainable multimodality across the entire logistics chain, including raw material transport or product delivery using different transport modes	Transport, delivery, modal, freight, modes, multimodality
<b>11LB</b>	Are the packaging materials recyclable, biodegradable or compostable?	It takes into account packaging used for finished products or consumed in internal/external processes	Packaging, recyclable, biodegradable, compostable, box, waste, reverse logistics
<b>11LC</b>	Are suppliers local?	It takes into account the hiring of local suppliers (same city, state or country as the company). For local workforce, it corresponds to the same region as the workplace municipality	Suppliers, third parties, local workforce
<b>11LD</b>	Are there internal policies for optimizing natural resource use?	It takes into account company actions regarding preservation and reduced consumption of (water, energy, raw materials, among others) and whether these are shared with employees	Natural resources, inputs, raw materials, training



<b>CÓD</b>	<b>Indicator</b>	<b>Description</b>	<b>Keywords Searched</b>
<b>11LE</b>	Are there proper waste management policies?	It takes into account recycling and reuse policies, both for waste generated in production and for waste from marketed products that return to the company	Recycling, reuse, separation, solid waste
<b>11LF</b>	Is there a policy for controlling atmospheric pollutants?	It takes into account internal or supported policies for emission reduction, as well as carbon credit purchases for impact offsetting	Carbon footprint, carbon, emissions, greenhouse gases, climate change
<b>11LG</b>	Are there practices to verify suppliers' alignment with environmental and social standards?	It takes into account supplier chain tracking and compliance analysis with environmental and labor legislation, both in selection and monitoring of supplier actions in these aspects	Supplier selection, social responsibility, suppliers
<b>11LH</b>	Does the company invest in research and development?	It takes into account investments tied to innovation and technology for product/process improvement	R&D, research and development, innovation, technology
<b>12LA</b>	Does the company provide training/awareness on consumption reduction for consumers?	It takes into account external communication of reduction practices, both for the company's marketed products and collective behavior regarding other products and conscious use according to needs	Consumer, information, conscious consumption, reduction, awareness
<b>12LB</b>	Are transportation personnel trained to avoid waste?	It takes into account training conducted on proper product handling practices, such as adequate manipulation and placement during transport and movement	Training, capacity building, waste
<b>SDGs</b>	Is it structured around or does it mention the Sustainable Development Goals?	It takes into account whether reports mention the Sustainable Development Goals and if this content forms part of the document structure	SDGs
<b>GC</b>	Does it mention the UN Global Compact?	It takes into account whether reports mention the Global Compact	Global Compact

Source: Brasil et al. (2025).



The authors established a 0-4 scoring system: reports received a score of 0 (nonexistent) when they contained no mention of the keywords (or when mentioned keywords didn't address the question); 1 (weak) when mentioning but not specifying projects, plans or programs; 2 (average) when mentioning and specifying projects, plans and programs; 3 (good) when mentioning, specifying projects/plans/programs and reporting results; and 4 (excellent) when mentioning, specifying projects/plans/programs, reporting results, and providing at least a 3-year implementation history. When companies presented any historical data related to the analyzed indicators, they automatically received the maximum score of 4. It should be emphasized that indicators were analyzed quantitatively - the assigned scores reflect only the presence or absence of the analyzed variables, not their quality or adequacy.

### *Company Selection For Analysis*

The analysis examined sustainability reports published by companies comprising the Corporate Sustainability Index (ISE B3). The study portfolio (May-August 2024) included 78 companies across various sectors listed on the Brazilian Stock Exchange, selected based on their sustainability commitments. These were generally nationwide companies. Table 2 presents the analyzed companies along with their base year and report type.

Table 2. Portfolio of Companies Selected for Analysis

<b>Company</b>	<b>Year</b>	<b>Report Type</b>	<b>Company</b>	<b>Year</b>	<b>Type</b>
AES BRASIL	2023	Integrated	GUARARAPES	2022	Integrated
ALLOS	2022	Sustainability	HYPERA	2022	Integrated
AMBEV S/A	2022	Annual & ESG	IGUATEMI S.A	2022	Sustainability
AMBIPAR	2022	Sustainability	IOCHP-MAXION	2022	Sustainability
AREZZO CO	2022	Sustainability	IRANI	2023	Integrated
ASSAI	2023	Annual & Sustainability	ITAUSA	2022	Integrated
AUREN	2022	Annual	ITAUNIBANCO	2023	ESG
AZUL	2022	Sustainability	JSL	2023	Integrated
B3	2023	Annual	KLABIN S/A	2022	Sustainability
BANCO PAN	2022	Annual	LOJAS RENNER	2023	Annual
BRADESCO	2022	Integrated	M.DIASBRANCO	2023	Integrated
BRASIL	2022	Agenda 30 Report	MAGAZ LUIZA	2022	Annual
BRF SA	2022	Integrated	MINERVA	2023	Sustainability
BTGP BANCO	2022	Annual	MITRE REALTY	2023	Sustainability
CAMIL	2022	Sustainability	MOVIDA	2023	Integrated
CARREFOUR BR	2023	Annual & Sustainability	MRV	2023	Sustainability
CBA	2022	Annual	NEOENERGIA	2023	Sustainability
CCR SA	2022	Integrated	P.ACUCAR-CBD	2023	Sustainability
CEA MODAS	2023	Integrated	PORTO SEGURO	2023	Sustainability
CEMIG	2022	Annual & Sustainability	RAIADROGASIL	2023	Sustainability
CIELO	2022	Integrated Annual	RAIZEN	2022	Integrated
COGNA ON	2022	Sustainability	REDE D OR	2022	Sustainability
COPASA	2022	Sustainability	RUMO S.A.	2023	Sustainability



Company	Year	Report Type	Company	Year	Type
COPEL	2022	Materiality	SANEPAR	2023	Integrated
COSAN	2023	Sustainability	SANTANDER BR	2023	Annual
CPFL ENERGIA	2023	Annual	SANTOS BRP	2023	Sustainability
CYRELA REALT	2022	Sustainability	SERENA	2023	Integrated
DASA	2022	Sustainability	SIMPAR	2023	Integrated
DEXCO	2022	Integrated	SLC AGRICOLA	2022	Integrated
ECORODOVIAS	2023	Integrated	SUZANO S.A.	2023	Sustainability
ELETROBRAS	2022	Annual	TELEF BRASIL	2023	Integrated
ENAUTA PART	2023	Integrated	TIM	2023	ESG
ENEV	2022	Integrated	TRAN PAULIST	2023	Annual
ENGIE BRASIL	2023	Sustainability	ULTRAPAR	2023	Integrated
FLEURY	2022	Sustainability	USIMINAS	2023	Sustainability
GAFISA	2022	Sustainability	VAMOS	2022	Integrated
GRENDENE	2022	Sustainability	VIBRA	2023	Sustainability
GRUPO NATURA	2022	Integrated	WEG	2023	Integrated
GRUPO SOMA	2022	Annual	YDUQS PART	2022	Sustainability

Source: Authors' own elaboration, 2024.

The analysis considered reports available on company websites at the time of data collection. Most reports (52%) were published in 2023 with 2022 as the base year (Table 2). Naming conventions varied across companies despite frequent structural similarities. Given the non-mandatory nature of standardized reporting titles, the reviewed documents included publications labeled as: "Annual Report," "Integrated Report," "Annual and Sustainability Report," "Annual and ESG Report," or simply "ESG Report." All reports were evaluated as publicly available PDF documents, with external hyperlinks excluded from analysis.

## Results and Analysis

Using the indicator coding system from the SustainLogTrack methodology (Brasil et al., 2025)<sup>1</sup>, Table 3 was created to record the scores for each company. The year of the report and the business sector of the analyzed companies were added to this table. The evaluation was conducted through keyword searches as proposed by the methodology for the 78 companies comprising the Stock Exchange Sustainability Index. Three additional pieces of information were included: the participation of analyzed companies in the Global Compact, references to the Sustainable Development Goals in the reports, and the number of employees at each company. In Table 3, companies are organized according to their industry sector.





Table 3. Organization and Evaluation of Selected Companies

1

Cod <sup>2</sup>	Sector Classification	Company	Year	Type	Indicator														Average	SDGs	GC	N. <sup>o</sup> DE <sup>3</sup>
					9LA	9LB	9LC	9LD	11LA	11LB	11LC	11LD	11LE	11LF	11LG	11LH	12LA	12LB				
1	Public Utility / Electric Power / Electric Power	AES BRASIL	2023	Integrated	4	0	4	3	0	2	1	3	4	4	4	2	0	0	2,21	Yes	Yes	670
2	Financial / Real Estate	ALLOS	2022	Sustainability	4	0	4	4	0	3	4	3	3	3	2	1	1	0	2,29	Yes	Yes	2240
3	Non-Cyclical Consumption / Beverages / Beer and Soft Drinks	AMBEV S/A	2022	Annual & ESG	3	0	3	4	3	3	1	3	3	3	3	3	3	0	2,50	Yes	Yes	32401
4	Public Utility / Water and Sanitation / Water and Sanitation	AMBIPAR	2022	Sustainability	3	1	1	3	3	3	0	2	3	3	1	3	1	2	2,07	Yes	Yes	14000
5	Cyclical Consumption / Retail / Textiles, Clothing and Footwear	AREZZO CO	2022	Sustainability	1	3	3	3	2	4	0	0	4	3	3	3	0	0	2,07	Yes	Yes	8004
6	Non-Cyclical Consumption / Retail and Distribution / Food	ASSAI	2023	Annual & Sustainability	2	3	4	3	0	4	1	1	4	4	3	1	1	0	2,21	Yes	Yes	80350
7	Public Utility / Electric Power / Electric Power	AUREN	2022	Annual	2	1	3	3	0	1	3	3	1	2	1	2	0	0	1,57	Yes	Yes	459

<sup>2</sup> The abbreviation COD stands for "Code".

<sup>3</sup> The abbreviation No. DE stands for "Number of Direct Employees".



8	Industrial Goods / Transportation / Air Transportation	AZUL	2022	Sustainability	0	1	4	4	0	3	1	1	3	4	0	1	0	1	1,64	Yes	Yes	13861
9	Financial / Miscellaneous Financial Services / Miscellaneous Financial Services	B3	2023	Annual	0	0	3	4	0	0	0	3	3	3	3	1	3	0	1,64	Yes	Yes	2760
10	Financial / Financial Intermediaries / Banks	BANCO PAN	2022	Annual	0	3	3	3	1	0	3	2	3	3	3	3	0	0	1,93	Yes	Yes	3282
11	Financial / Financial Intermediaries / Banks	BRADERSCO	2022	Integrated	4	0	4	4	0	0	1	2	4	4	4	3	0	1	2,21	Yes	Yes	88381
12	Financial / Financial Intermediaries / Banks	BRASIL	2022	Agenda 30 Report	3	0	4	4	0	4	0	4	4	3	2	4	0	0	2,29	Yes	Yes	85953
13	Non-Cyclical Consumption / Processed Foods / Meats and By-products	BRF SA	2022	Integrated	4	1	4	3	0	3	0	4	4	4	4	1	2	0	2,43	Yes	Yes	96227
14	Financial / Financial Intermediaries / Banks	BTGP BANCO	2022	Annual	3	0	3	3	0	0	1	1	3	4	3	3	0	0	1,71	Yes	Yes	5999
15	Non-Cyclical Consumption / Processed Foods / Miscellaneous Foods	CAMIL	2022	Sustainability	3	0	3	3	0	3	2	0	3	3	3	2	3	0	2,00	Yes	Yes	8133
16	Non-Cyclical Consumption / Retail and Distribution / Food	CARREFOUR BR	2023	Annual & Sustainability	1	1	3	3	3	4	0	0	4	4	3	1	3	0	2,14	Yes	Yes	133940
17	Basic Materials / Mining / Metallic Minerals	CBA	2022	Annual	3	1	3	3	1	3	3	3	4	4	3	3	0	0	2,43	Yes	Yes	6639



18	Industrial Goods / Transportation / Highway Operation	CCR SA	2022	Integrated	4	0	3	3	3	0	3	1	4	4	3	2	0	0	2,14	Yes	Yes	16481
19	Cyclical Consumption / Retail / Textiles, Clothing and Footwear	CEA MODAS	2023	Integrated	1	3	3	3	0	3	1	1	3	3	3	3	1	0	2,00	Yes	Yes	15000
20	Public Utilities / Electric Power / Electric Power	CEMIG	2022	Annual & Sustainability	3	0	3	4	0	0	1	3	4	3	4	4	0	0	2,07	Yes	Yes	4969
21	Financial / Miscellaneous Financial Services / Miscellaneous Financial Services	CIELO	2022	Integrated Annual	4	1	4	3	0	4	0	1	4	3	3	3	0	0	2,14	Yes	Yes	5045
22	Cyclical Consumption / Miscellaneous / Educational Services	COGNA ON	2022	Sustainability	1	0	3	4	0	0	0	1	1	1	1	1	0	0	0,93	Yes	Yes	23044
23	Public Utilities / Water and Sanitation / Water and Sanitation	COPASA	2022	Sustainability	2	0	4	4	0	0	0	1	3	2	2	2	1	0	1,50	Yes	Yes	10186
24	Public Utilities / Electric Power / Electric Power	COPEL	2022	Materiality	4	0	3	3	3	0	1	1	1	3	3	4	0	0	1,86	Yes	Yes	5875
25	Oil, Gas and Biofuels / Oil, Gas and Biofuels / Exploration, Refining and Distribution	COSAN	2023	Sustainability	3	1	4	3	0	3	1	3	0	4	1	2	0	0	1,79	Yes	Yes	56486
26	Public Utilities / Electric Power / Electric Power	CPFL ENERGIA	2023	Annual	4	0	4	4	0	3	0	4	4	4	3	4	0	0	2,43	Yes	Yes	16028



27	Cyclical Consumption / Civil Construction / Real Estate Development	CYRELA RE-ALT	2022	Sustainability	1	0	3	3	1	0	1	1	3	3	3	3	2	0	1,71	Yes	Yes	5005
28	Healthcare / Medical-Hospital Services, Tests and Diagnostics / Medical-Hospital Services, Tests and Diagnostics	DASA	2022	Sustainability	1	0	4	3	0	2	0	1	3	3	0	3	2	0	1,57	Yes	Yes	50000
29	Basic Materials / Wood and Paper / Wood	DEXCO	2022	Integrated	4	4	4	4	1	4	4	4	4	4	4	3	0	1	3,21	Yes	Yes	13810
30	Industrial Goods / Transportation / Highway Operation	ECORODOVIAS	2023	Integrated	4	0	3	3	0	0	0	0	4	3	3	3	3	0	1,86	Yes	Yes	5500
31	Public Utilities / Electric Power / Electric Power	ELETROBRAS	2022	Annual	3	1	4	4	0	0	1	2	0	3	3	2	2	0	1,79	Yes	Yes	10020
32	Oil, Gas and Biofuels / Oil, Gas and Biofuels / Exploration, Refining and Distribution	ENAUTA PART	2023	Integrated	0	0	3	3	0	0	1	0	1	4	4	1	1	0	1,29	Yes	Yes	163
33	Public Utilities / Electric Power / Electric Power	ENEVA	2022	Integrated	3	1	3	3	0	0	3	3	2	4	3	4	0	0	2,07	Yes	Yes	1490
34	Public Utilities / Electric Power / Electric Power	ENGIE BRASIL	2023	Sustainability	4	2	4	4	0	0	1	1	4	4	2	3	0	0	2,07	Yes	Yes	97000
35	Healthcare / Medical-Hospital Services, Tests and Diagnostics / Medical-Hospital Services, Tests and Diagnostics	FLEURY	2022	Sustainability	4	1	4	3	3	0	0	1	4	4	3	3	0	0	2,14	Yes	Yes	13600



36	Cyclical Consumption / Civil Construction / Real Estate Development	GAFISA	2022	Sustainability	0	0	4	3	0	3	3	1	3	1	3	0	0	1	1,57	Yes	No	469
37	Cyclical Consumption / Textiles, Clothing and Footwear / Footwear	GRENDENE	2022	Sustainability	4	0	4	3	0	3	3	2	4	4	3	1	0	0	2,21	Yes	Yes	16735
38	Non-Cyclical Consumption / Personal and Cleaning Products / Personal Care Products	GRUPO NATURA	2022	Integrated	4	3	3	3	1	3	2	2	3	4	3	4	1	0	2,57	Yes	Yes	16365
39	Cyclical Consumption / Retail / Textiles, Clothing and Footwear	GRUPO SOMA	2022	Annual	4	3	4	4	1	3	3	3	3	3	3	2	1	0	2,64	Yes	Yes	14076
40	Cyclical Consumption / Retail / Textiles, Clothing and Footwear	GUARARAPES	2022	Integrated	4	1	4	3	0	4	0	3	4	1	3	3	1	1	2,29	Yes	Yes	31155
41	Healthcare / Retail and Distribution / Medicines and Other Products	HYPERA	2022	Integrated	1	0	2	2	0	1	3	3	3	1	2	4	0	0	1,57	Yes	Yes	10783
42	Financial / Real Estate Operations / Real Estate Operations	IGUATEMI S.A	2022	Sustainability	3	0	3	4	0	3	1	3	3	3	2	2	1	1	2,07	Yes	Yes	1239
43	Cyclical Consumption / Automobiles and Motorcycles / Automobiles and Motorcycles	IOCHP-MAXION	2022	Sustainability	1	0	4	3	0	1	1	4	2	4	2	2	0	1	1,79	Yes	No	16984
44	Basic Materials / Packaging / Packaging	IRANI	2023	Integrated	4	1	4	2	0	3	2	3	4	4	3	3	1	0	2,43	Yes	Yes	2302



45	Financial / Diversified Holdings / Diversified Holdings	ITAUSA	2022	Integrated	3	1	3	3	1	0	0	1	0	1	0	3	0	0	1,14	Yes	Yes	166249
46	Financial / Financial Intermediaries / Banks	ITAUUNI-BANCO	2023	ESG	2	0	3	4	2	2	4	2	4	4	3	3	3	0	2,57	Yes	Yes	92897
47	Industrial Goods / Transportation / Road Transportation	JSL	2023	Integrated	4	2	4	2	0	0	4	2	4	3	4	2	2	2	2,50	Yes	Yes	27454
48	Basic Materials / Wood and Paper / Paper and Pulp	KLABIN S/A	2022	Sustainability	3	0	4	4	3	3	2	3	2	3	3	3	0	1	2,43	Yes	Yes	18482
49	Cyclical Consumption / Retail / Textiles, Clothing and Footwear	LOJAS RENNER	2023	Annual	4	1	3	3	0	3	3	3	3	4	4	2	2	1	2,57	Yes	Yes	25705
50	Non-Cyclical Consumption / Processed Foods / Miscellaneous Foods	M.DIAS-BRANCO	2023	Integrated	4	1	4	4	0	4	3	4	4	3	2	3	2	2	2,86	Yes	Yes	16680
51	Cyclical Consumption / Retail / Home Appliances	MAGAZ LUIZA	2022	Annual	3	3	3	3	0	3	1	3	3	4	2	3	2	1	2,43	Yes	No	38742
52	Non-Cyclical Consumption / Processed Foods / Meats and By-products	MINERVA	2023	Sustainability	4	4	3	3	0	1	2	3	4	4	3	3	0	1	2,50	Yes	Yes	23207
53	Cyclical Consumption / Civil Construction / Real Estate Development	MITRE REALTY	2023	Sustainability	4	2	3	3	0	0	3	4	3	2	3	3	0	3	2,36	Yes	Yes	542



54	Cyclical Consumption / Miscellaneous / Car Rental	MOVIDA	2023	Integrated	4	3	4	4	0	0	4	4	4	4	4	3	2	1	2,93	Yes	Yes	6425
55	Cyclical Consumption / Civil Construction / Real Estate Development	MRV	2023	Sustainability	4	0	3	3	0	0	2	3	3	4	3	3	3	0	2,21	Yes	Yes	18876
56	Public Utilities / Electric Power / Electric Power	NEOENERGIA	2023	Sustainability	4	1	3	4	0	0	4	4	4	4	3	4	4	0	2,79	Yes	Yes	15693
57	Non-Cyclical Consumption / Retail and Distribution / Food	P.ACUCAR-CBD	2023	Sustainability	4	3	4	3	3	3	0	2	4	4	3	3	3	1	2,86	Yes	Yes	39908
58	Financial / Pensions and Insurance / Insurers	PORTO SEGURO	2023	Sustainability	4	1	4	3	0	0	3	3	4	4	3	3	2	0	2,43	Yes	Yes	12300
59	Healthcare / Retail and Distribution / Medicines and Other Products	RAIADROGASIL	2023	Sustainability	4	0	4	4	2	4	3	4	4	4	3	1	0	1	2,71	Yes	Yes	57216
60	Non-Cyclical Consumption / Processed Foods / Sugar and Alcohol	RAIZEN	2022	Integrated	4	3	4	4	4	0	3	2	3	4	4	3	0	2	2,86	Yes	Yes	46629
61	Healthcare / Medical-Hospital Services, Tests and Diagnostics / Medical-Hospital Services, Tests and Diagnostics	REDE D OR	2022	Sustainability	2	0	3	4	0	3	1	4	4	4	3	4	0	0	2,29	Yes	Yes	71026
62	Healthcare / Medical-Hospital Services, Tests and Diagnostics /	RUMO S.A.	2023	Sustainability	3	1	4	3	4	0	3	2	3	4	4	3	0	1	2,50	Yes	Yes	7905



	Medical-Hospital Services, Tests and Diagnostics																					
63	Public Utilities / Water and Sanitation / Water and Sanitation	SANEPAR	2023	Integrated	4	0	2	3	0	0	0	3	3	3	2	3	3	1	1,93	Yes	Yes	6121
64	Financial / Financial Intermediaries / Banks	SANTANDER BR	2023	Anual	4	0	4	3	1	0	0	4	4	3	3	1	2	0	2,07	Yes	Yes	55877
65	Industrial Goods / Transportation / Support and Storage Services	SANTOS BRP	2023	Sustainability	3	0	3	3	0	0	0	4	4	4	3	3	2	1	2,14	Yes	Yes	3272
66	Public Utilities / Electric Power / Electric Power	SERENA	2023	Integrated	3	0	3	4	1	0	0	2	3	4	3	3	0	0	1,86	Yes	No	358
67	Financial / Diversified Holdings / Diversified Holdings	SIMPAR	2023	Integrated	4	1	4	4	1	0	4	3	4	4	4	2	2	1	2,71	Yes	Yes	49218
68	Non-Cyclical Consumption / Agribusiness / Agriculture	SLC AGRICOLA	2022	Integrated	4	3	4	3	0	0	0	2	3	4	3	3	0	0	2,07	Yes	Yes	4035
69	Basic Materials / Wood and Paper / Paper and Pulp	SUZANO S.A.	2023	Sustainability	4	1	4	3	3	4	4	3	4	4	4	3	1	0	3,00	Yes	Yes	20627
70	Communications / Telecommunications / Telecommunications	TELEF BRASIL	2023	Integrated	4	1	3	3	0	1	3	4	4	4	4	3	3	1	2,71	Yes	Yes	33252
71	Communications / Telecommunications / Telecommunications	TIM	2023	ESG	4	1	4	4	3	0	4	2	3	4	3	4	3	0	2,79	Yes	Yes	9630





72	Public Utilities / Electric Power / Electric Power	TRAN PAU-LIST	2023	Annual	4	1	4	4	2	0	4	1	4	4	3	4	0	0	2,50	Yes	Yes	1606
73	Oil, Gas and Biofuels / Oil, Gas and Biofuels / Exploration, Refining and Distribution	ULTRAPAR	2023	Integrated	4	1	4	4	2	0	0	1	3	4	2	3	2	1	2,21	Yes	Yes	9468
74	Basic Materials / Steel and Metallurgy / Steel	USIMINAS	2023	Sustainability	2	2	4	3	2	0	3	4	3	3	3	3	0	0	2,29	Yes	No	13928
75	Cyclical Consumption / Miscellaneous / Car Rental	VAMOS	2022	Integrated	3	1	4	3	0	0	4	2	3	4	4	2	0	0	2,14	Yes	Yes	2816
76	Oil, Gas and Biofuels / Oil, Gas and Biofuels / Exploration, Refining and Distribution	VIBRA	2023	Sustainability	3	0	4	3	3	4	1	2	4	4	2	3	1	0	2,43	Yes	Yes	3526
77	Industrial Goods / Machinery and Equipment / Engines, Compressors and Others	WEG	2023	Integrated	3	1	4	4	1	3	0	2	4	4	3	4	0	0	2,36	Yes	Yes	40793
78	Cyclical Consumption / Miscellaneous / Educational Services	YDUQS PART	2022	Sustainability	3	0	4	3	0	0	4	0	3	3	2	3	0	0	1,79	Yes	Yes	15932
Indicator Averages					3,01	0,97	3,50	3,33	3,33	1,55	1,71	2,31	3,22	3,41	2,81	2,65	1,00	0,40	2,19			19995 04

Source: Own elaboration, 2024.



All the companies analyzed have either structured or mentioned the Sustainable Development Goals (SDGs) in their reports. Although this is a positive indicator, these reports are not always structured based on the SDGs. The findings of Van der Waal & Thijssens (2019) show that corporate engagement with the SDGs is still limited.

Regarding the United Nations Global Compact, only 5% of the companies analyzed did not mention the initiative. However, similar to what occurs with the SDGs, in most cases, there is only a mention, without any development of plans or projects based on the initiative. Van der Waal & Thijssens (2019) reveal that the involvement of the companies analyzed in their research with the Global Compact is more symbolic than substantive.

Based on the data from Table 3, Chart 1 presents the areas of activity of the selected companies.

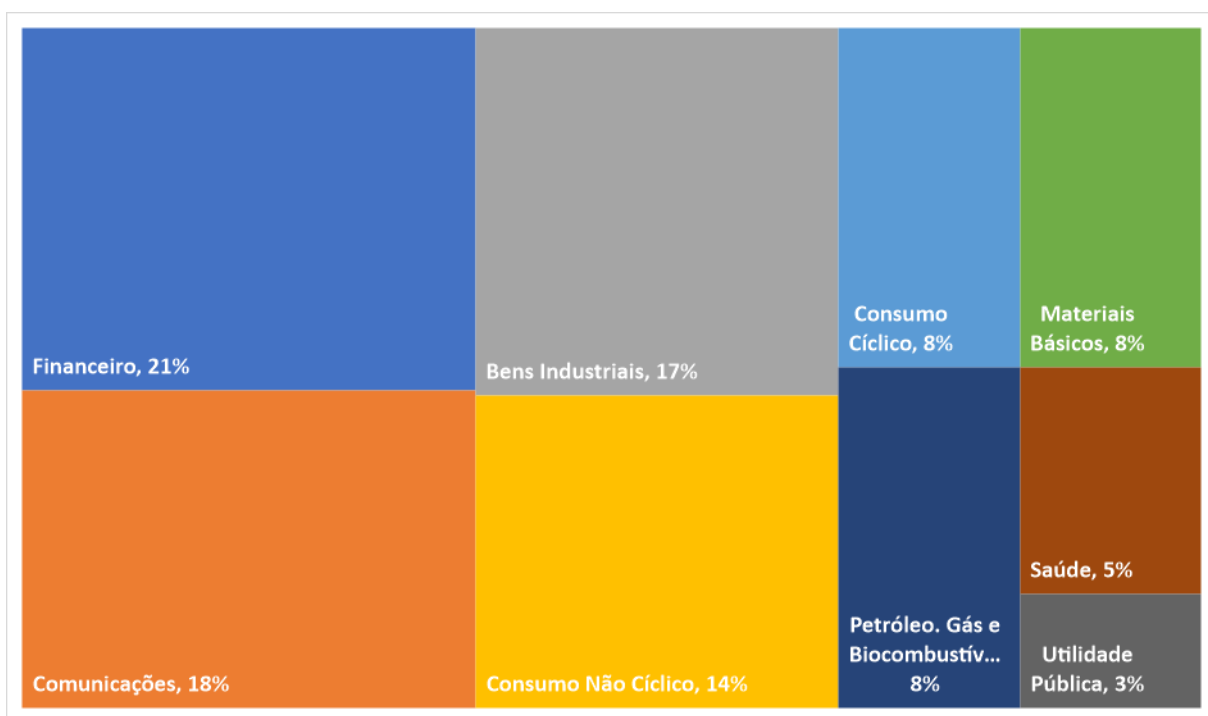


Figure 1. Areas of activity of the selected companies. Source: Own elaboration, 2025..

The sample investigated covers a high representativeness of the sectors of companies listed on the stock exchange. Together, these companies represented a market value of BRL 2,553,811,176,004.50 in July 2024 (B3 2024). This amount corresponds to 23% of Brazil's 2023 GDP (IBGE 2024). Therefore, it is clear that any result achieved by these companies has a direct impact on the country.

Another important piece of information regarding the selected companies is related to the number of employees, which represents just over 1,999,504 people — only 0.984% of the Brazilian population, according to the 2022 Census. This means that relatively few people work in companies whose market value represents more than 20% of the country's GDP.

Regarding the indicators analyzed, these are presented in Tables 1 and 2 and in Figure 3, showing overall results by indicator, followed by the outcome for each sector, and finally, a value for each of the three SDGs analyzed. Table 1 shows the average results for each of the indicators.



Table 1. Average scores obtained by the companies analyzed

Indicator	Indicator													
	9 LA	9 LB	9 LC	9 LD	11 LA	11 LB	11 LC	11 LD	11 LE	11 LF	11 LG	11 LH	12 LA	12 LB
<b>Indicator Averages</b>	3,01	0,99	3,49	3,34	0,84	1,55	1,71	2,30	3,26	3,40	2,83	2,66	0,99	0,42

SOURCE: Own elaboration, 2025..

The assigned values follow the same 0-to-4 scale used in the applied methodology. The colors visually identify the results considered weak (red, below 1); good (yellow, between 1 and 2.9); and excellent (green, above 3). A total of 4 indicators were classified as weak, 5 as good, and 5 as excellent, which highlights the need for improved sustainable logistics practices in at least 9 indicators in order to reach parameters considered "excellent."

Table 2 presents the results of the companies according to their macro-sector. The averages obtained by each company for each indicator are shown, including the sector's final average, listed in the table in descending order of score.

Table 2. Results by macro-sectors

Sector	Indicator															Average
	9LA	9LB	9LC	9LD	11LA	11LB	11LC	11LD	11LE	11LF	11LG	11LH	12LA	12LB		
<b>Communications</b>	4,00	1,00	3,50	3,50	1,50	0,50	3,50	3,00	3,50	4,00	3,50	3,50	3,00	0,50	2,75	
<b>Basic Materials</b>	3,33	1,50	3,83	3,17	1,67	2,83	3,00	3,33	3,50	3,67	3,33	3,00	0,33	0,33	2,63	
<b>Non-Cyclical Consumption</b>	3,36	2,00	3,55	3,27	1,27	2,55	1,27	2,09	3,55	3,73	3,09	2,45	1,64	0,55	2,45	
<b>Healthcare</b>	2,50	0,33	3,50	3,17	1,50	1,67	1,67	2,50	3,50	3,33	2,50	3,00	0,33	0,33	2,13	
<b>Industrial Goods</b>	3,00	0,67	3,50	3,17	0,67	1,00	1,33	1,67	3,83	3,67	2,67	2,50	1,17	0,67	2,11	
<b>Cyclical Consumption</b>	2,63	1,25	3,50	3,19	0,25	1,69	2,06	2,19	3,06	3,00	2,88	2,31	0,88	0,56	2,10	
<b>Financial</b>	2,92	0,54	3,54	3,54	0,46	1,23	1,62	2,46	3,31	3,23	2,69	2,46	1,08	0,23	2,09	
<b>Public Utilities</b>	3,36	0,57	3,21	3,57	0,64	0,64	1,36	2,36	2,86	3,36	2,64	3,14	0,79	0,21	2,05	
<b>Oil, Gas and Biofuels</b>	2,50	0,50	3,75	3,25	1,25	1,75	0,75	1,50	2,00	4,00	2,25	2,25	1,00	0,25	1,93	

SOURCE: Own elaboration, 2025.



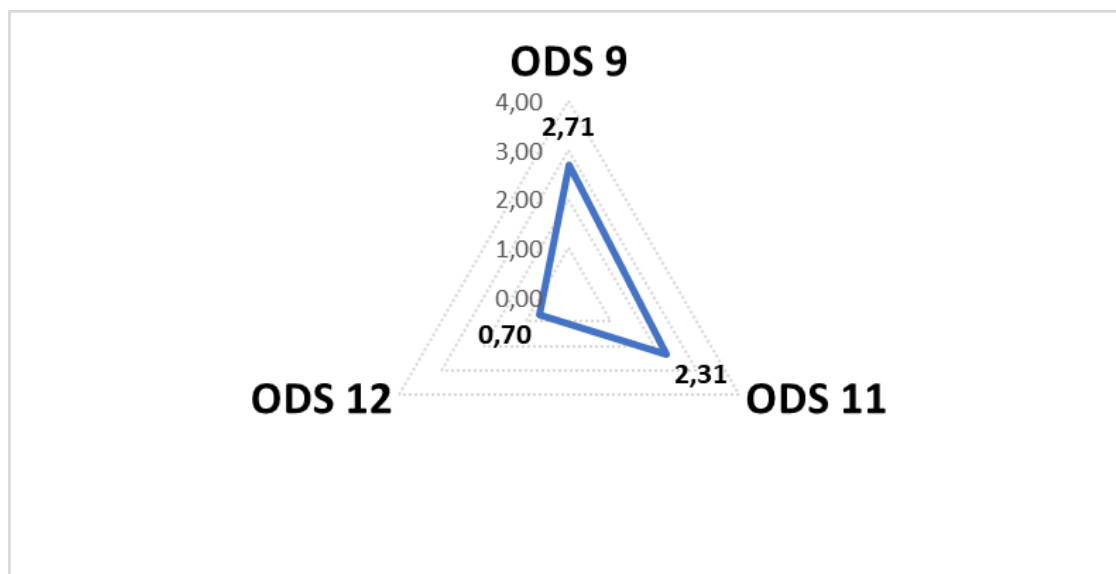
Regarding the results presented in Table 2, the scores obtained by the companies indicate the need to strengthen sustainable practices within the Oil, Gas and Biofuels sector, particularly in structuring sustainable logistics in the context of the analyzed SDGs. None of the sectors individually achieved an average score above three. The Communications sector had the highest average in the sample analyzed (2.75); however, it is worth noting its low scores in indicators 9LB (1.0), 11LA (1.50), 11LB (0.50), and 12LB (0.50). It is important to highlight that almost all sectors analyzed showed low scores in these indicators.

The lowest overall result was found in the Oil, Gas and Biofuels sector (average score of 1.93). The greatest weaknesses identified were in urban logistics (11LA: 1.25) and traceability (11LH: 0.25). The Basic Materials (2.63) and Non-Cyclical Consumption (2.45) sectors occupy intermediate positions, with scores above 3 in indicators 9LA, 9LC, and 9LD, and below 2 in indicators 12LA and 12LB.

The Financial (2.09) and Public Utilities (2.05) sectors showed weak performance, especially in indicators related to responsible consumption (SDG 12). Higher scores were recorded in indicators 9LA, 9LC, 9LD, and 11LF, following the same trend as other sectors analyzed.

The Healthcare, Industrial Goods, and Cyclical Consumption sectors also occupy intermediate positions, with higher scores in indicators 9LA, 9LC, and 9LD. The lowest scores varied across these sectors. For the Healthcare sector, the lowest scores were in indicators 12LA and 12LB (both 0.33). For the Industrial Goods sector, the lowest were in indicators 11LA and 12LB (both 0.67); and for the Cyclical Consumption sector, the lowest scores were also found in 11LA (0.25) and 12LB (0.56).

Only three companies achieved a score of 4: two in the Communications sector (9LA, promotion of clean energy use, and 11LF, air pollutant control) and one in the Oil, Gas and Biofuels sector (11LF, air pollutant control). Regarding the results per SDG analyzed, Graph 2 presents the average scores for each of the three SDGs.



Graph 2. Average Score by Analyzed SDG. Source: Own elaboration, 2025..

According to the data from the SDG Dashboard (Sustainable Development Report 2024), in the Brazilian context as of September 2024: for SDG 11, there are still challenges to be addressed; for SDG 9, there are significant challenges; and for SDG 12, the challenges remain considerable. When comparing this information with the results presented in Graph 2, SDG 12 is in the same condition as identified in the analysis of companies



that are part of the Stock Exchange Sustainability Index: many challenges must be overcome to achieve the SDG by 2030. As for SDGs 9 and 11, the order appears reversed compared to the analysis proposed by the selected methodology, in which SDG 11 had better results on the dashboard than SDG 9. However, the dashboard includes actions from all sectors of society, whereas this analysis is limited to logistics practices only.

Given the results presented, the need for commitment from both the private sector and public investment is reinforced. Multimodality, a variable highlighted here, depends on public infrastructure, which is often unavailable, especially in developing countries. Therefore, it is emphasized that sustainability is a collective responsibility: civil society, businesses, governments, and NGOs.

Another point observed in the reports is that some companies consider the logistics sector as being solely represented by the transport segment, without encompassing all the processes and areas included in the logistics chain. Internal contradictions in sustainability logistics policies were also noted, such as companies with robust recycling programs that do not use biodegradable packaging.

It is worth highlighting that the indicators more closely related to social aspects of logistics received higher scores. Since companies comply with Brazilian labor legislation, they obtained high scores in the evaluated criteria. A similar result was found in the study by Jayarathna et al. (2021). When exploring sustainability indicators specific to the logistics sector through sustainability reports, the authors stated that economic performance and energy are the most important indicators for the logistics sector, but that sustainability reports tend to focus more on the social dimension (Jayarathna et al. 2021).

When analyzing environmentally sustainable logistics and exploring related themes and challenges from the perspective of logistics service providers, Abbasi & Nilsson (2016) concluded that, from this group's perspective, sustainability issues are more inclined toward economic concerns. According to the authors, clients of logistics service providers do not prioritize environmental solutions when they conflict with profitability (Abbasi & Nilsson 2016).

## Conclusions

The SustainLogTrack methodology applied in this study provided a comprehensive overview of sustainable logistics practices by companies operating in various sectors in Brazil. Although the word "logistics" was rarely used in the analyzed reports, the set of keywords assigned to each indicator made the investigation feasible. The methodology's potential to assess companies of any size or sector and its ability to transform qualitative data into quantitative results through a scoring system are especially noteworthy.

The findings of this study reveal key challenges sustainability faces within the logistics chain. Understanding the breadth and impact of this sector within companies is essential to ensure that reported sustainability efforts are not limited solely to the transportation of raw materials and goods. Information about this sector is often scattered throughout publications, and many of the areas comprising logistics processes are fragmented.

Another issue concerns the mention of SDGs in reports without referencing logistics in the proposed objectives and targets. Development agendas evolve over time in response to society's needs. It is crucial that logistics be explicitly included as part of these commitments. When analyzed, the objectives and targets already encompass a range of logistics measures that are not directly attributed to the sector. Including logistics in this framing would help companies better recognize the full scope of the logistics chain and ensure that planning within the sector addresses all dimensions in a comprehensive manner.

As a continuation of this study, future research could identify new contributions of sustainable logistics to the remaining targets of SDGs 9, 11, and 12, as well as monitor progress toward achieving these goals by 2030.



Another potential avenue would be to regionalize the analysis within Brazil to determine what has already been accomplished in each state, thus gaining deeper insight into the urban infrastructure challenges for sustainable logistics across the country.

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