



Logistics Market Stakeholders in the Context of Sustainable Development and ESG

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Abstract: In recent years, ESG (Environmental, Social, Governance) criteria have gained significant importance in assessing the activities of entities operating in the logistics market. Dynamic regulatory changes, increasing stakeholder pressure, and the need to reduce negative environmental and social impacts have made ESG issues an integral element of logistics system management. This paper aims to identify and analyse key stakeholder groups in the logistics market and to determine their expectations across the environmental, social, and governance dimensions. The study proposes an original stakeholder classification that encompasses actors involved in the value chain and market, as well as institutional and societal stakeholders. The analysis reveals a diversified yet partially overlapping structure of stakeholder expectations across individual ESG dimensions, with corporate governance playing a crucial role as an integrating area that links environmental and social activities. The results may provide a basis for further empirical research and support logistics companies in designing and implementing sustainable development strategies.

Keywords: sustainable development, ESG, logistics market, stakeholder analysis, environmental impacts

1. Introduction

Contemporary logistics systems operate in a dynamic, constantly changing environment, subject to numerous pressures. One of the most significant challenges arises from geopolitical factors. Political instability, armed conflicts, and tensions in various regions of the world increase the risk of disruptions to global supply chains. A high level of globalization means that companies primarily base their operations on semi-finished products and components manufactured in distant locations. Consequently, even local geopolitical disturbances may trigger effects felt several thousand kilometres away (Dolgui & Ivanov 2021).

In this context, the ability to develop resilient supply chains becomes particularly important. Such supply chains are defined by their capacity to anticipate potential disruptions, absorb their impacts, and swiftly restore operational performance. Resilience is achieved, *inter alia*, through the diversification of supply sources, enhanced operational flexibility, the capability to rapidly reconfigure cargo flows, and the timely implementation of pre-established contingency plans. Collectively, these measures help mitigate the effects of unpredictable events and ensure business continuity (Ponomarov & Holcomb 2009, Tukamuhabwa et al. 2015, Ma et al. 2025).

Another major challenge arises from the increasing expectations of customers, both individual and business. These expectations go beyond price considerations and primarily relate to service quality attributes, including high delivery reliability, punctuality, and operational flexibility. In a highly competitive market environment, logistics operators are therefore required to continuously optimise their processes, improve service quality, and systematically monitor competitors' activities to retain existing customers and attract new ones (Stank et al. 2015, Vakulenko et al. 2019).

Social issues are also gaining increasing importance in the functioning of logistics systems. Companies operate within local communities that expect responsible and transparent conduct. Building relationships with local communities, minimising nuisances associated with logistics activities, and engaging in social initiatives are no longer merely image-building efforts but have become prerequisites for social acceptance of logistics operations (Seuring & Müller 2008, Busse et al. 2016b).

Environmental issues constitute another critical challenge. Market participants in the logistics sector are expected to act in accordance with the principles of sustainable development by reducing emissions, lowering energy consumption, deploying low- and zero-emission vehicles, and increasing the use of renewable energy sources. These requirements stem from both social pressure and a growing body of environmental regulations. However, the implementation of environmentally friendly solutions is often associated with additional costs, necessitating appropriate adjustments in operational processes, transport schedules, and financing models (Bouchery et al. 2012, Abbasi & Nilsson 2016, McKinnon 2018).

As indicated by the foregoing discussion, the logistics market currently operates under increasing, multidimensional pressures, including geopolitical, operational, social, environmental, and financial factors. These pressures affect companies through diverse stakeholder groups whose expectations are often divergent and,



in some cases, even conflicting. On the one hand, entities operating in the logistics market are required to ensure high levels of cost efficiency and operational performance; on the other hand, they must respond to growing stakeholder demands related to environmental issues, social responsibility, and corporate governance (Jacyna-Gołda et al. 2018).

In this context, ESG (Environmental, Social, Governance) criteria gain particular importance as a structured framework for assessing corporate performance in non-financial terms and for identifying and comparing the impacts of organisations on the environment, society, and governance structures. These criteria increasingly serve as a common reference point for various stakeholder groups in the logistics market, including customers, employees, business partners, financial institutions, public authorities, and local communities.

The incorporation of ESG criteria is no longer merely a response to tightening regulatory requirements. It has become a key element in building stakeholder trust, enhancing the resilience of logistics systems, and shaping the long-term competitiveness of enterprises. Accordingly, this paper aims to identify and analyse the key stakeholder groups in the logistics market from the perspectives of sustainable development and ESG, and to determine the role of ESG criteria in shaping relationships between stakeholders and companies operating in the logistics sector.

2. Origin and Scope of ESG Criteria

The concept of sustainable development has been a topic of public debate for several decades. Its core premise is the pursuit of economic activity in a manner that limits negative impacts on the natural environment, society, and spatial order. The implementation of this concept encompasses, among other things, the application of environmental standards, the utilization of renewable energy sources, investment planning in accordance with spatial planning principles, and collaboration with local communities. Sustainable development assumes the simultaneous pursuit of economic growth, improvements in societal quality of life, and the preservation of natural resources for future generations (Geissdoerfer et al. 2017, Köhler et al. 2019).

Closely related to this idea is the concept of corporate social responsibility (CSR), which refers to voluntary corporate actions that go beyond legal requirements and encompass environmental, social, and ethical dimensions. CSR practices include, among others, stakeholder dialogue, engagement in local initiatives, provision of decent working conditions, commitment to transparency, and implementation of investments with due regard for spatial order (Jamali & Karam 2018). While CSR has become an important element of corporate strategy, its primary limitation has been the lack of measurability and comparability. CSR activities were largely declaratory and voluntary, hindering objective and transparent evaluation and benchmarking of corporate performance.

At the same time, since the late twentieth century, the socio-economic environment has undergone dynamic changes. Growing public awareness of environmental protection, spatial order, and human rights, combined with escalating climate risks and the need for an energy transition, has led companies to be assessed not solely on financial performance. Whereas traditional corporate analyses were primarily grounded in economic indicators such as profitability, liquidity, and debt levels, increasing attention is now being paid to non-financial aspects of business activity. Initially, environmental and social responsibility initiatives were mainly of a reputational nature; however, over time, they have begun to exert a tangible influence on investment decisions, procurement strategies, and corporate development pathways (Friede et al. 2015, Berg et al. 2022). As consumer and stakeholder awareness has grown, evaluation criteria for products and services have also evolved, with price no longer serving as the sole determinant of market choice. Customers are increasingly willing to accept higher prices, provided that products or services are delivered in a socially and environmentally responsible manner, such as through the use of renewable energy (Kuczynski et al. 2021) or recycled materials (Chamier-Gliszczyński 2011).

Consequently, a need emerged for a set of measurable, comparable indicators to assess the non-financial aspects of corporate activity. This need gave rise to ESG criteria that allow for evaluating how a company affects the environment, shapes social relations, and adheres to the principles of corporate governance. ESG, however, is not merely an assessment tool. ESG criteria also constitute a foundation for strategic management, supporting the identification of operational risks, the development of stakeholder relationships, and the establishment of transparent governance structures. As a result, various stakeholder groups, particularly investors, are increasingly assessing companies through the lens of ESG-related risks, recognising that organisations neglecting environmental, social, or governance issues are more exposed to financial losses, legal sanctions, and reputational damage (Kotsantonis et al. 2016, Aguilera et al. 2019).

The importance of ESG criteria continues to grow due to both societal changes and increasing regulatory pressure. A notable example is the European Union, which has been developing a legal framework for non-financial reporting for many years. In 2013, the first regulations on the disclosure of non-financial information

were introduced, initially covering only selected large public-interest entities. Subsequent years brought significant developments, with the introduction of the Corporate Sustainability Reporting Directive (CSRD) in 2023 being particularly important. The CSRD substantially expanded both the scope of the data reported and the number of entities required to disclose it. As a result, ESG criteria have become an integral element of corporate operations within the European Union, and their implementation is no longer solely a societal expectation but also a legal requirement (Martiny et al. 2024).

Environmental issues constitute a core component of the ESG framework and are intrinsically linked to the concept of a low-carbon economy and the global energy transition. Contemporary enterprises face the need to reduce greenhouse gas (GHG) emissions, improve energy efficiency, pursue decarbonisation, and implement technologies based on renewable energy sources. The integration of environmental requirements into corporate development strategies has thus become not only an obligation arising from regulatory frameworks but also a crucial factor in building a competitive advantage and enhancing resilience to rising energy costs and the impacts of climate change (Jacyna et al. 2014, Szczepański et al. 2025).

The environmental component of ESG encompasses corporate activities that affect the natural environment, including emissions of pollutants, energy and water consumption, waste generation, and compliance with environmental regulations. In energy-intensive sectors, particular importance is attached to monitoring GHG emissions, the share of energy derived from renewable sources, and the energy efficiency of operational processes (Lenort et al. 2019). Other examples of environmental indicators include emission intensity, the volume of waste recycled, and the number of environmental regulation violations. The progressive tightening of environmental regulations necessitates infrastructure modernisation, the implementation of emission monitoring systems, and the development of processes aligned with the principles of the circular economy. As a result, environmental indicators currently serve a dual function: they enable ESG-compliant reporting while simultaneously constituting a key element of strategic management (Kotsantonis et al. 2016, OECD, 2020).

The social component of ESG covers a broad range of issues related to a company's interactions with various stakeholder groups, including employees, local communities, customers, and subcontractors. These relationships pertain to both the quality of working conditions, employee safety, and well-being, as well as the impact of corporate activities on the social and spatial environment (Yawar & Seuring 2017, Kiciński & Solecka 2018). The assessment of social aspects aims to determine the extent to which a company operates responsibly and ethically, in accordance with the principles of human rights and social cohesion.

Within the area of employee relations, particular attention is paid to factors such as employment stability, employee turnover rates, and occupational safety, which is measured, for example, by the number of accidents or the Lost Time Injury Frequency Rate (LTIFR). Employee skills development also represents an important dimension, with indicators such as the average number of training hours per employee used to assess investments in human capital. High standards of the working environment not only enhance organisational performance and efficiency but also contribute to building a long-term reputation as a responsible employer. Gender equality constitutes another essential element of the social component. Companies monitor the share of women in total employment and in managerial positions, as well as gender pay gaps. These indicators reflect the organisation's actual commitment to equal opportunities, diversity, and the prevention of discrimination.

The social component also encompasses relationships with the local environment, which are of critical importance in many sectors. In this context, a company's social value is reflected, *inter alia*, in the number of initiatives undertaken for the benefit of local communities and in the level of financial or in-kind support provided. An important element of social responsibility is also adherence to the principles of spatial planning. Investment planning that limits conflicts with residential, environmental, and transport functions contributes to greater social acceptance of projects (Martiny et al. 2024, Chen et al. 2025).

Complementing the social component are relationships with customers. Companies monitor customer satisfaction levels using tools such as Net Promoter Score (NPS) surveys and analyse the number of complaints related to service or product quality. A high standard of customer service constitutes an important factor in building market trust and competitive advantage (Keiningham et al. 2007). The integration of social criteria into corporate management enhances operational stability and strengthens stakeholder relationships (Kotsantonis et al. 2016).

The governance component encompasses principles of corporate governance, management structures, transparency of decision-making processes, and compliance with applicable legal and regulatory requirements. This dimension concerns how a company is managed, supervised, and held accountable for its activities. Governance plays a critical role in ensuring organisational stability, reducing the risk of misconduct, and building public trust.

One of the fundamental elements of sound corporate governance is a transparent management structure. Assessment criteria include, *inter alia*, the share of independent members on supervisory boards, the representation of women in governing bodies, and the frequency of supervisory board meetings, which together reflect the quality of ownership oversight. Companies with well-defined governance structures tend to exhibit greater resilience to conflicts of interest, more effective communication, and more stable long-term policies (Shleifer & Vishny 1997, Eccles et al. 2014, Martiny et al. 2024).

Another key area within the governance dimension concerns ethics and compliance. This includes measures to prevent corruption, abuse, and unethical behaviour within the organisation. Typical indicators comprise the number of confirmed ethical violations, the proportion of employees trained in ethics and regulatory compliance, and the number of reports submitted through whistleblowing systems. High standards of organisational ethics help minimise reputational risk and reduce legal costs associated with regulatory breaches.

The governance dimension of ESG also covers risk management. Companies that apply high standards in this area implement formal risk management systems, which include, among others, ESG-based supplier assessments and continuous monitoring of regulatory compliance. Such systems enable faster threat identification and support decision-making based on a more comprehensive analysis of operational, financial, and reputational risks (Kuzmina et al. 2023, Kukulski et al. 2023).

A vital element of the governance component is financial transparency, which includes, among other things, analyzing the share of taxes paid in the country of operation and assessing the number of jurisdictions in which a company operates. Transparency in this area reduces the risk of a company being perceived as engaging in aggressive tax optimisation practices and, consequently, strengthens investor and other stakeholder trust.

Implementing a sustainable development strategy in supply chains, grounded in ESG principles, provides a solid foundation for justifying business decisions. Such an approach supports the development of a lasting competitive advantage, enabling companies to respond effectively to the growing expectations of both internal and external stakeholders within the supply chain (Motowidlak & Bukowska-Piastryńska 2024). Examples of indicators reported within the ESG framework are presented in Figure 1.

3. Regulations on ESG

The most advanced ESG reporting regulations have been introduced in the European Union. The development of EU regulations in this area has followed a gradual and evolutionary path. The first significant step was Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013 on annual financial statements, consolidated financial statements, and related reports of certain types of undertakings (2013). This directive introduced the obligation to prepare a management report providing a fair review of an entity's development, performance, and position, which, in addition to financial data, also took into account environmental matters and employee-related issues.

This review was general and narrative in nature. The directive did not specify a mandatory set of disclosed data nor a standardised reporting format, granting companies complete discretion in selecting the scope and manner of non-financial disclosures. Additionally, small and medium-sized enterprises (SMEs) were exempt from the obligation to report non-financial information. In practice, reporting requirements applied only to large undertakings that, as of the balance sheet date, met at least two of the following three criteria:

- total assets exceeding EUR 20 million,
- net turnover exceeding EUR 40 million,
- an average number of employees exceeding 250 during the financial year.

As a result, Directive 2013/34/EU established a framework for non-financial disclosures that was indicative rather than normative in nature. Reporting under this framework remained highly limited and inconsistent, hindering comparability both across individual companies and across sectors of the economy.

A significant expansion of non-financial reporting obligations occurred with the introduction of Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU concerning the disclosure of non-financial and diversity information by certain large undertakings and groups, commonly referred to as the Non-Financial Reporting Directive (NFRD). This directive introduced amendments to Directive 2013/34/EU by strengthening non-financial reporting requirements, obliging companies to disclose information on environmental, social, and employee-related matters, respect for human rights, and anti-corruption and anti-bribery issues.

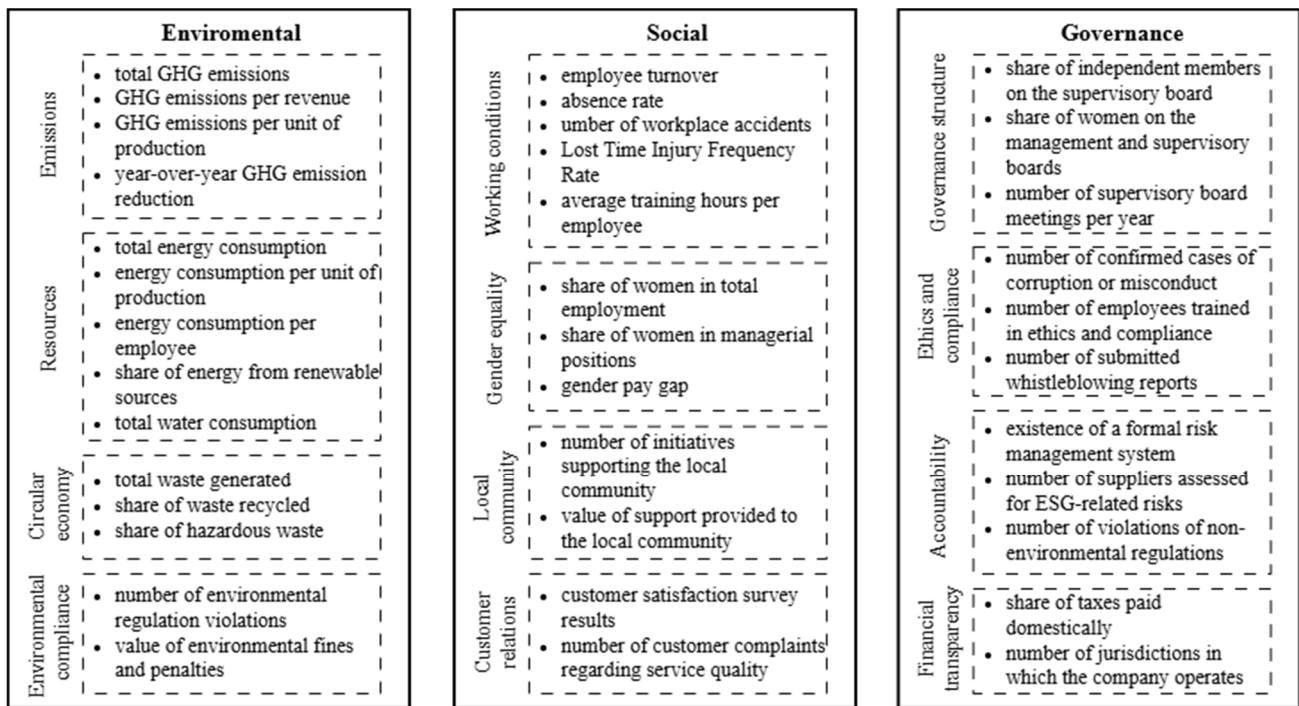


Fig. 1. Examples of ESG indicators

The obligation to disclose such information was imposed on large public-interest entities (e.g., banks, listed companies, and entities designated by Member States as having public relevance) employing more than 500 employees. Companies were required to provide a brief description of their business model, an outline of the policies implemented in the aforementioned areas, along with the results of their application, the principal risks related to these issues, and key non-financial performance indicators. An important feature of the NFRD was the "report or explain" principle, which required companies to provide a clear explanation if they did not apply policies in any of the specified areas.

Although the NFRD broadened the scope of disclosed non-financial information, it granted companies substantial flexibility regarding reporting standards, including the content and formulation of indicators. As a result, reports varied in form and level of detail, as well as in the indicators used, which limited, or even prevented, comparability across companies in terms of their non-financial policies and performance. Furthermore, the NFRD imposed reporting obligations only on large public-interest entities, thereby applying to a relatively limited number of organisations.

A key development in non-financial reporting was the adoption of the CSRD - Directive (EU) 2022/2464 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC, and Directive 2013/34/EU as regards corporate sustainability reporting (2022). This directive was introduced in response to growing expectations from investors, regulators, and society for reliable, comparable, and verified non-financial data. The CSRD significantly expanded the scope of entities subject to reporting obligations. In addition to the entities covered by the NFRD, reporting requirements were extended to large undertakings, small and medium-sized enterprises (SMEs), and non-EU companies with subsidiaries in the EU whose annual turnover within the EU exceeds EUR 150 million.

The directive also substantially increased the level of reporting detail by mandating the application of uniform European Sustainability Reporting Standards (ESRS) to ensure data comparability, high quality, and relevance for investors, regulators, and other stakeholders. The ESRS precisely defines the scope and structure of ESG-related reports and establishes a set of mandatory indicators across environmental, social, and governance dimensions. This enables a comprehensive and objective assessment of corporate performance and the degree of implementation of adopted strategies and policies.

A fundamental element of ESRS-based reporting is the double materiality assessment. Companies are required to identify which ESG issues are most significant in the context of their activities, both in terms of their environmental impacts and the financial risks arising from sustainability-related factors. The outcomes of this assessment determine the scope of further reporting and influence decision-making processes and strategic planning. Closely linked to the double materiality assessment is the obligation to disclose due diligence processes. This requires companies to describe the mechanisms they use to identify, prevent, and mitigate the adverse environmental and social impacts of their operations, in line with recognised international standards.

In this way, the ESRS strengthens a management-oriented approach to ESG, focusing not only on outcomes but also on processes and accountability.

The ESRS also includes thematic standards that structure reporting requirements across the three core ESG areas:

- environment:
 - ESRS E1 – climate change,
 - ESRS E2 – pollution,
 - ESRS E3 – water and marine resources,
 - ESRS E4 – biodiversity and ecosystems,
 - ESRS E5 – resource use and circular economy,
- social:
 - ESRS S1 – own workforce,
 - ESRS S2 – workers in the value chain,
 - ESRS S3 – affected communities,
 - ESRS S4 – consumers and end-users,
- governance:
 - ESRS G1 – business conduct.

Within the context of the CSRD, the EU Taxonomy also plays a significant role. Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 establishes a unified classification system for economic activities and defines which activities may be considered environmentally sustainable. Its primary objective is to create a common language for financial markets and enterprises, enabling the comparison and assessment of activities in terms of their alignment with the climate transition. The EU Taxonomy provides precise assessment criteria that enable the determination of the extent to which a company's activities align with the European Union's environmental objectives. In this sense, the EU Taxonomy may be regarded as an interpretative tool for the data reported in accordance with the CSRD.

By imposing detailed, clearly defined obligations for non-financial reporting, the CSRD has significantly elevated the importance of ESG issues in business activity. Through the requirement to report in accordance with the ESRS, the directive introduces a coherent set of rules that render the disclosure of non-financial information measurable, comparable, and auditable. These standards, in conjunction with the sustainable activity classification system established under the EU Taxonomy, form the foundation of the European sustainable finance framework and constitute a key mechanism for achieving the European Union's climate and social policy objectives. As a consequence, ESG has ceased to be an optional or purely reputational domain and has become a core element of corporate strategy and a fundamental basis for assessing corporate responsibility and competitiveness. For this reason, the CSRD is widely regarded as one of the most important legal acts shaping the contemporary approach to sustainable development within the EU.

Although the CSRD primarily focuses on non-financial disclosure obligations, the direction of EU regulatory development clearly extends beyond informational requirements toward operational ones. An example of such regulation is the Corporate Sustainability Due Diligence Directive (CSDDD/CS3D) – Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859. What distinguishes the CSDDD from the previously discussed legal acts is that it imposes due diligence and reporting obligations not only at the level of the reporting entity itself but also extends them across the entire value chain of the company.

One of the key assumptions of the CSDDD is its broad understanding of the value chain, encompassing both upstream and downstream segments. The upstream segment refers to activities related to sourcing resources, raw materials, components, and services required for operational activities. It thus includes suppliers, subcontractors, and all entities involved in procurement processes. The downstream segment, in turn, covers subsequent stages in the life cycle of a product or service, including distribution processes (Vachon & Klassen 2006). The value chain is divided into upstream and downstream segments, illustrated using the example of a manufacturing company, as shown in Figure 2. By including both segments within the scope of corporate obligations, responsibility for ESG issues extends beyond organisational boundaries to cover the entire product life cycle and all entities associated with its operation (Alkhatib 2017).

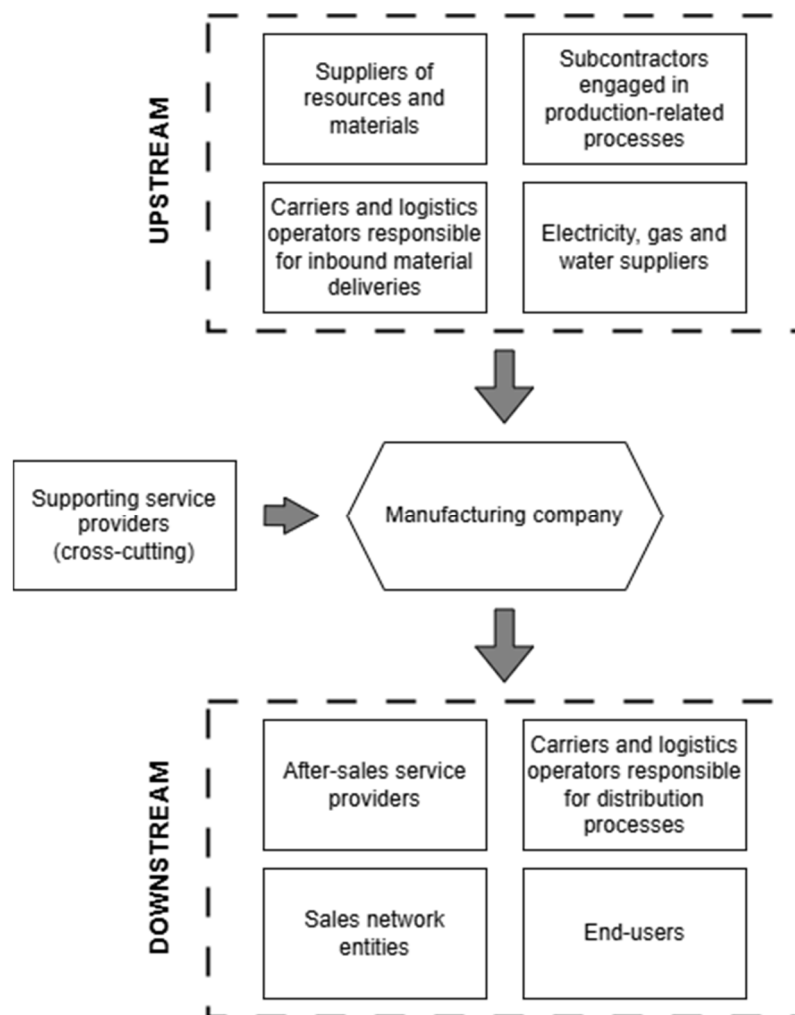


Fig. 2. Division of the value chain into upstream and downstream segments based on the example of a manufacturing company

In the context of the CSDDD, this approach has significant implications. The directive requires companies to identify and assess ESG-related risks, implement preventive policies, conduct supplier audits, apply contractual clauses ensuring compliance with ESG guidelines, and undertake remedial actions in cases of non-compliance. These obligations apply to risks occurring in upstream activities, such as human rights violations in extraction processes, the use of hazardous substances, or inadequate working conditions, as well as to risks arising downstream, including emissions generated during transport and distribution, end-user safety, impacts on local communities, and the consequences of product disposal.

From the logistics sector's perspective, the significance of the CSDDD is particularly pronounced. Logistics serves as a natural link between upstream and downstream processes, and logistics operators play a critical role in both procurement and product distribution. This implies that logistics companies will be required to comprehensively monitor emissions, working conditions, environmental compliance, and operational processes not only within their own operations but also across their subcontractors and business partners.

Consequently, this will necessitate implementing supplier verification mechanisms, developing tools to monitor carbon footprints, adopting environmental certifications, and deploying technologies to track operational data flows throughout the entire value chain.

The inclusion of upstream and downstream segments within the scope of corporate responsibility represents a breakthrough in European sustainable development policy. For the first time at the EU level, it has been formally acknowledged that a company's environmental and social impacts extend beyond its own operations to encompass all stages of the value chain. As a result, the CSDDD transforms ESG from a predominantly reporting-oriented domain into an area of substantive risk management and legal responsibility, encompassing the full range of corporate activities as well as those of affiliated and cooperating entities.

In summary, ESG reporting regulations have undergone a fundamental evolution over the past decade. This process began with the general and narrative requirements introduced by Directive 2013/34/EU, was subse-

quently refined under the more structured, yet still limited, NFRD, and ultimately culminated in the comprehensive and harmonised reporting system established by the CSRD. Currently, the regulatory trajectory is further shaped by the CSDDD, which, for the first time, extends corporate responsibility across the entire value chain, introducing not only disclosure obligations but also concrete operational and managerial requirements.

The progressive tightening of regulations reflects the growing importance of environmental, social, and governance issues in business operations, as well as the need to ensure transparency and comparability of corporate disclosures. This evolution clearly illustrates a shift in emphasis, from broadly defined reporting duties, through detailed and standardised reporting frameworks, to regulations that impose tangible responsibility for managing ESG-related risks throughout the value chain. Consequently, this development constitutes not only a legislative change but also a transformation in how corporate responsibility and the role of enterprises in sustainable development are conceptualised.

A summary of European legal acts on non-financial reporting is presented in Table 1.

Table 1. Comparison of European legal acts on non-financial reporting

Legal act	Scope of data	Entities covered	Entry into force
Directive 2013/34/EU	Environmental matters and employee-related issues. No specification of the required scope of data or the formulation of concrete indicators	Mandatory reporting only for large undertakings, small and medium-sized enterprises could be exempted	Member States were required to transpose the directive into national law by 20 July 2015 at the latest
Directive 2014/95/EU (NFRD)	Obligation to disclose policies, outcomes, risks, and non-financial indicators in the areas of environmental matters, social issues, human rights, and anti-corruption	Large public-interest entities employing more than 500 employees	Financial years starting on or after 1 January 2017
Directive 2022/2464 (CSRD)	Broad scope of ESG disclosures; obligation to report all required information in accordance with the uniform ESRS	Entities covered by the NFRD	Financial years starting on or after 1 January 2024
		Large enterprises	Financial years starting on or after 1 January 2025
		Listed SMEs and companies employing more than 50 employees and/or generating net sales revenues exceeding EUR 8 mln and/or with a balance sheet total of at least EUR 4 mln	Financial years starting on or after 1 January 2026 (listed SMEs may defer the new obligations by two years)
		Non-EU companies with a subsidiary in the EU whose annual turnover within the EU exceeds EUR 150 million	Financial years starting on or after 1 January 2028
Directive 2024/1760 (CSDDD/CS3D)	Obligation to conduct due diligence in the areas of human rights, social and labour issues, environmental protection, and responsible governance; extension of corporate responsibility beyond the company's own operations; reporting requirements covering the entire value chain, including the supply chain	Companies employing more than 3,000 employees with an annual turnover exceeding EUR 900 million	From 26 July 2028
		Companies employing more than 1,000 employees with an annual turnover exceeding EUR 450 million	From 26 July 2029

4. ESG Criteria in the Context of Logistics Market Stakeholder Needs

4.1. Structure of stakeholders in the logistics market

A logistics system may be defined as a purposefully organised, structured, and interconnected set of elements whose function is to ensure the efficient flow of material streams and the associated information flows within a given economic system. It comprises subsystems of procurement, production, transport, and warehousing, as well as the relationships between enterprises and their supply and distribution markets. The logistics system enables the optimisation of logistics processes, thereby determining the efficiency of flows within the economy and supporting the achievement of both operational and strategic objectives of economic entities (Rushton et al. 2017, Wasiak et al. 2019, Jacyna et al. 2019).

Due to the need to coordinate diverse processes, their spatial dispersion, complex organisational structures, the integration of multiple transport technologies, and the interaction of numerous actors, logistics systems are characterised by a high degree of complexity. As a consequence, the logistics market comprises multiple stakeholder groups whose objectives, expectations, and levels of influence on corporate operations may differ and, in some cases, even conflict (Yawar & Seuring 2017, Busse et al. 2016a). Stakeholders may be classified in various ways, for example, by their position within the product life cycle (e.g., upstream and downstream, as illustrated in Figure 2) or by the extent of their impact on a company's operational capacity. In this paper, a stakeholder classification is proposed for a representative manufacturing or trading company that incorporates ESG criteria (Figure 3).

The first group consists of internal stakeholders, that is, entities operating within the organisation. This group includes supervisory and management bodies such as the supervisory board, the management board, and senior executive management. It also comprises the company's employees as a whole, along with organisations representing their interests, including trade unions. Internal stakeholders are directly interested in the company's development, as its stability and growth affect their professional and economic situations. At the same time, it should be emphasised that their expectations are not always aligned. For instance, employees seek safe working conditions, employment stability, and fair remuneration, whereas from the perspective of management, operational efficiency and the maximisation of financial performance are of primary importance (Jacyna-Golda et al. 2018).

Another group comprises value chain stakeholders, among whom logistics and support service providers can be distinguished. These entities exert significant influence on a company's operational continuity and efficiency. Within the group of logistics service providers are actors involved in the execution of logistics processes on both the supply (upstream) and distribution (downstream) sides. This includes, *inter alia*, carriers responsible for transporting raw materials, materials, and components required for production, as well as entities that perform transport services for the distribution of finished goods to end customers. In this analysis, attention is focused on external carriers that provide transport services on behalf of the company. Where a company operates its own transport assets and employs its own drivers, these resources are classified as internal stakeholders (Rinaldi et al. 2014).

Logistics service providers also include other entities involved in transport and warehousing processes, such as freight forwarders, logistics operators, and managers of logistics facilities (e.g., warehouses, transshipment terminals, and fulfillment centers). This group also encompasses fleet management entities when a company relies on external transport assets while simultaneously employing its own drivers. All these entities provide operational services whose continuity and quality directly affect the company's ability to carry out production and distribution processes. Delays in the delivery of raw materials and components may disrupt production, while inefficient distribution of finished goods restricts access to sales markets and reduces the company's competitiveness (Tatarczak & Gola 2025).

Value chain stakeholders also include providers of business support services. These entities do not deliver logistics services in the strict sense but create the conditions necessary for conducting business activities. They primarily include financial institutions, such as banks, as well as other entities that provide financing for corporate operations. Closely linked to the financial sector are insurance companies, which help mitigate operational risks. An important role is also played by suppliers of technologies and technical solutions, encompassing production, transport, and digital technologies, including information systems that support the management of logistics processes. These entities constitute natural business partners, delivering solutions tailored to the specific characteristics and needs of individual companies (Wachnik et al. 2021).

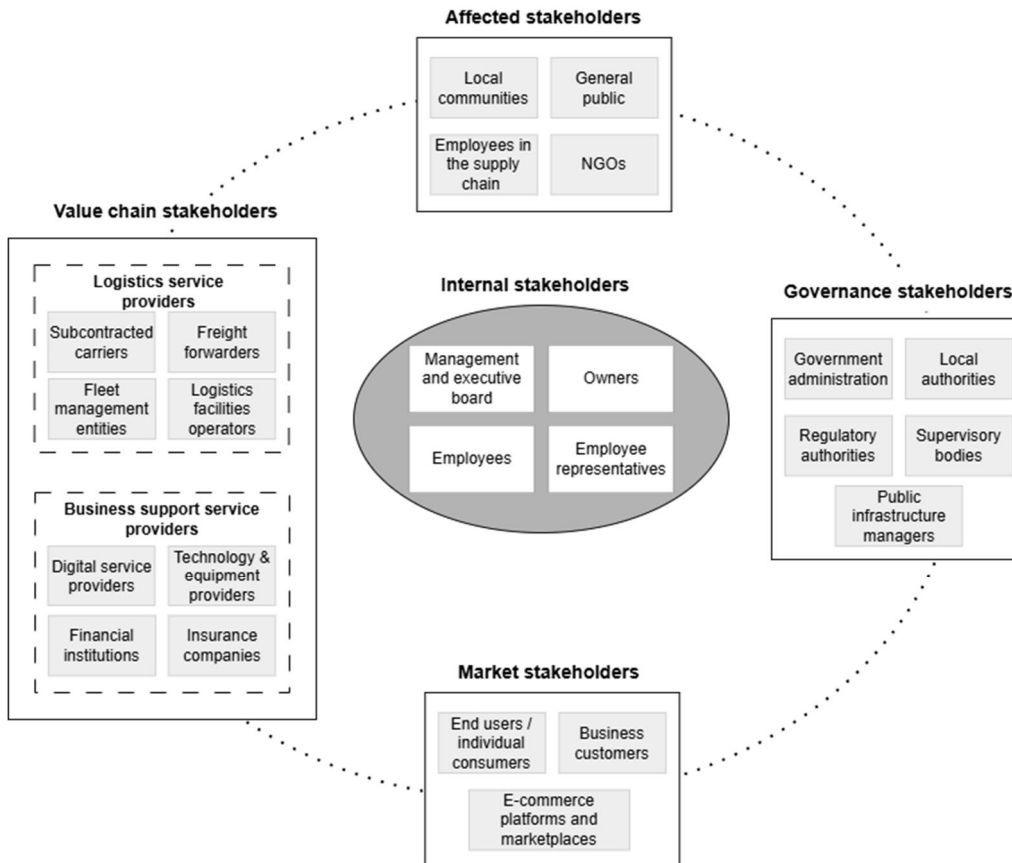


Fig. 3. Structure of logistics market stakeholders in the context of ESG criteria

Another essential stakeholder group consists of the recipients of a company's products and services. This group comprises individual customers and end-users who purchase products through distribution channels, such as retail networks or e-commerce platforms. Individual customers are the direct users of products and services. In contrast, business customers (such as other enterprises, public institutions, wholesalers, and retail chains) typically purchase on a larger scale and play a significant role in ensuring revenue stability. The group of recipients also includes e-commerce platforms and marketplaces, which have become key components of modern distribution networks in recent years (Mangiaracina et al. 2015).

Another group consists of governance-related stakeholders, encompassing the institutional environment in which a company operates. This group includes entities that shape the legal and regulatory framework for business activity at both the international, particularly the European Union, and national levels. In EU Member States, regulations adopted by EU institutions, such as the European Parliament, are transposed into national legal systems and supplemented by domestic legislation. Governance stakeholders also include local authorities, whose decisions significantly influence local conditions for business operations, including spatial planning and infrastructure development. Furthermore, this group comprises supervisory and control bodies (e.g., audit institutions and tax authorities), whose actions may have a substantial impact on a company's operations.

The final group, which is particularly important from an ESG perspective, consists of so-called affected stakeholders - entities and social groups that do not directly participate in a company's economic activities but are nevertheless affected by them. This group includes the general public and local communities, for whom the impacts of corporate activity are typically most tangible. These impacts may relate, inter alia, to the natural environment, residents' quality of life, traffic intensity, and spatial order. Affected stakeholders also include subcontractor employees, external carriers, and operators of logistics facilities. Although the company does not directly employ these individuals under analysis, corporate decisions on scale of operations, order volumes, and contractual conditions may significantly influence their employment and working conditions.

In addition, affected stakeholders include non-governmental organisations (NGOs), which represent social and environmental interests and serve as a societal oversight role over business activities. The importance of these entities for a company depends on the scope of their activities, their level of engagement, and their role in public debate (Yawar & Seuring 2017, Zheng et al. 2022).

4.2. Expectations of logistics market stakeholders

Stakeholder relationship management is one of the key elements of contemporary business operations, particularly in the logistics sector, which is characterized by a high level of operational complexity and a significant impact on the socio-economic environment. Individual stakeholder groups can significantly influence a company's operational efficiency, financial stability, and reputation. From an ESG perspective, identifying and analyzing stakeholders' mutual expectations and requirements is particularly important, as it shapes the direction of corporate actions across the environmental, social, and governance dimensions (Motowidlak & Bukowska-Piastrzyńska 2024). A synthesis of the key ESG-related expectations of logistics market stakeholders is presented in Table 2.

Table 2. ESG-related expectations of key stakeholder groups in the logistics market

Stakeholders			Expectations		
			Environmental	Social	Governmental
Value chain stakeholders	Logistics service providers	Subcontracted carriers, freight forwarders, fleet management entities, logistics facilities operators	Reduction of environmental impacts associated with logistics operations	Realistic and predictable operational requirements affecting workload and occupational safety	Stability and predictability of cooperation, precise allocation of responsibilities, transparent contractual and settlement rules
	Business support service providers	Technology, equipment, and digital service providers	–	–	Stability and predictability of cooperation
		Financial institutions and insurance companies	–	–	Risk minimization, financial stability, and predictability
Market stakeholders	End users / individual consumers	Reduction of environmental impacts related to the provided services	–	Competitive service costs, transparent offer, and reliability of deliveries	
	Business customers, e-commerce platforms, and marketplaces		–	Competitive service costs, reliability of deliveries, stability of cooperation, transparent pricing, and settlement rules	
Affected stakeholders	Local communities	Reduction of environmental impacts at the local level	Good neighborliness, compliance with spatial planning, and support for local social initiatives	Social dialogue and transparency of decision-making	
	General public	Reduction of environmental impacts and improvement of energy efficiency	Respect for social interests, gender equality	Ethical conduct and transparency	
	Employees in the supply chain	–	Stable employment, safe working conditions, decent remuneration	Ethical conduct and transparency, transparent remuneration principles	
	NGOs	Reduction of environmental impacts	Willingness to engage in dialogue and cooperation, respect for social interests	Ethical conduct and transparency	

Table 2. cont.

Stakeholders		Expectations		
		Environmental	Social	Governmental
Internal stakeholders	Management and the executive board	Reduction of environmental impacts and improvement of energy efficiency	–	Strategic risk management, stability, predictability, continuous development, and operational efficiency
	Owners		–	Value protection, risk minimization, and long-term financial stability
	Employees	–	Stable employment, safe working conditions, decent remuneration	Ethical conduct and transparency, transparent remuneration principles
	Employee representatives	–	Willingness to engage in dialogue, stable employment, safe working conditions, decent remuneration,	Ethical conduct and transparency, transparent remuneration principles
Governance stakeholders	Government administration	Achievement of climate policy objectives, improvement of energy efficiency	–	Regulatory and legal compliance, continuous development
	Local authorities	Reduction of environmental impacts and improvement of energy efficiency	Cooperation, compliance with spatial planning, and support for local social initiatives	Regulatory and legal compliance, transparency
	Regulatory authorities	Achievement of climate policy objectives	–	Regulatory and legal compliance
	Supervisory bodies	–	–	Regulatory and legal compliance, transparency
	Public infrastructure managers	Reduction of environmental impacts of the transport sector	Reduction of traffic congestion	Compliance with infrastructure usage rules

For entities classified as logistics service providers, stakeholder expectations encompass all three ESG pillars. In the environmental dimension, particular importance is attached to reducing the negative impacts of transport and warehousing activities on the natural environment. These expectations primarily relate to reducing greenhouse gas emissions, noise, and vibrations generated by transport operations. Responses to these challenges include investments in low- and zero-emission vehicles, optimising transport routes, and implementing solutions to improve the energy efficiency of logistics processes.

In the social dimension, logistics service providers expect realistic and predictable operational requirements, such as advance notification of order schedules. Placing orders with sufficient lead time enables carriers and logistics operators to plan work effectively, allocate resources appropriately, and ensure safe and legally compliant working conditions. It should be emphasised that excessive time pressure and unrealistic operational demands may directly contribute to the deterioration of working conditions and the safety of employees engaged by these entities.

From a governance perspective, the expectations of logistics service providers focus on the stability and predictability of cooperation, a clear allocation of responsibilities for individual processes, and transparent financial settlement rules, including timely payments. Meeting these expectations requires applying high management standards, transparent contractual procedures, and consistent adherence to the principles of corporate governance.

Providers of business support services, such as technology suppliers and digital solution providers, financial institutions, and insurance companies, articulate similar expectations. For this group, the stability of business relationships and the predictability of corporate actions are crucial. In the case of financial and insurance institutions, active management of operational, financial, and governance-related risks also plays a crucial role, as it directly influences assessments of corporate credibility and the terms under which financing and insurance coverage are provided.

Another essential stakeholder group comprises market stakeholders, including both individual and business customers of products and services. From their perspective, the competitiveness of the offer, its transparency, and the clarity of cooperation terms are of primary importance. Delivery reliability and the stability of business relationships are particularly critical for business customers and e-commerce platforms, for whom operational continuity is a prerequisite for conducting business activities. At the same time, environmental expectations are gaining increasing relevance, especially those related to the production and distribution of goods in ways that limit negative environmental impacts, including reductions in greenhouse gas emissions.

Affected stakeholders, in particular, include local communities. Their expectations focus on minimising the adverse effects of business activities on residents' quality of life, including reductions in air and water pollution, noise, vibrations, and transport traffic intensity. A key element of relations with this group is the conduct of social dialogue, which enables communication about planned investments and the consideration of residents' concerns and needs. These expectations are directly aligned with the concept of CSR.

Corporate activities also affect society at large, particularly for large enterprises with extensive operational reach. The expectations of this group primarily concern environmental protection, improvements in energy efficiency, and respect for social interests, including gender equality. Within the governance dimension, transparency and ethical conduct of business operations are of key importance.

The group of affected stakeholders also includes non-governmental organisations (NGOs), which act as social observers and watchdogs of corporate activities. From their perspective, a company's willingness to engage in dialogue, cooperate, and conduct business in accordance with social and environmental principles is of particular importance. These expectations largely align with those of society as a whole, encompassing reducing negative environmental impacts, transparency, and ethical conduct.

Employees constitute a significant stakeholder group. This group includes both individuals directly employed by the company (internal stakeholders) and those employed by cooperating entities, such as subcontractors or external carriers (affected stakeholders). The expectations of these groups largely overlap and relate to employment stability, safe and legally compliant working conditions, and fair remuneration. From a governance perspective, employees also expect transparent remuneration policies and ethical behavior from the employer. Employee organisations and trade unions further emphasise the importance of social dialogue on issues of relevance to the workforce.

Within the group of internal stakeholders, company owners, supervisory boards, and senior managers play particularly significant roles, responsible for defining development directions, making key strategic decisions, and overseeing organisational performance. Their expectations are primarily concentrated on the governance dimension, which constitutes the foundation of effective and responsible corporate management. In this context, long-term financial stability is of critical importance, understood not only as the ability to generate profits but also as the company's resilience to market, regulatory, and macroeconomic changes.

From the owners' perspective, protecting and enhancing corporate value in the long term are of primary importance. Their expectations include effective management of financial, operational, and reputational risks, as well as ensuring transparency of decision-making processes and internal control mechanisms. Owners also expect the company to be managed in compliance with applicable regulations and best practices in corporate governance, thereby reducing the risk of legal sanctions and reputational losses while strengthening investor and other stakeholder trust.

Senior management, including executive board members and top-level managers, formulates expectations for operational stability, the predictability of actions, and the continuous development of business activities. This encompasses the development of organisational competencies, the implementation of technological and organisational innovations, and the adaptation of the business model to growing sustainability and ESG requirements. From a management perspective, access to effective tools for monitoring corporate performance and the risks associated with environmental, social, and regulatory factors is also critical.

In the context of ESG, the expectations of owners and senior management extend beyond traditionally understood financial objectives. Increasingly, they involve integrating ESG criteria into decision-making processes, development strategies, and risk management systems. This approach aims not only to ensure regulatory compliance but also to build long-term competitiveness, enhance corporate reputation, and strengthen

resilience to market disruptions. As a result, owners and senior executives play a key role in shaping an organisational culture grounded in responsibility, transparency, and sustainable development.

The final group consists of governance stakeholders, that is, entities responsible for shaping the legal and institutional frameworks within which companies operate, and thus for defining the conditions for conducting business activities in the logistics sector. This group includes, in particular, public administration bodies, local authorities, regulatory and supervisory institutions, and managers of public infrastructure. Their expectations of enterprises are primarily focused on the governance dimension, although they also encompass environmental and social issues.

Government administration and national authorities expect companies to contribute to the implementation of public policy objectives, particularly in areas such as climate and energy policy. This entails adapting operational activities to requirements for greenhouse gas emission reduction, energy efficiency improvements, and the implementation of solutions supporting the transition toward a low-carbon economy. At the same time, from a governance perspective, key expectations include compliance with applicable legal regulations, timely and accurate fulfilment of tax obligations, and stable corporate development, which translates into job creation and increased public revenues.

Local authorities, as a crucial component of the institutional environment for logistics enterprises, articulate expectations that extend beyond formal legal compliance. On the one hand, they expect a reduction in the negative environmental impacts of business activities, including improvements in the energy efficiency of logistics facilities and transport means. On the other hand, social expectations are of considerable importance, encompassing openness to dialogue and cooperation, conducting operations in accordance with the principles of spatial planning, supporting local social initiatives, and respecting good-neighbour standards. Within the governance dimension, local authorities place particular emphasis on transparency in corporate actions and on the alignment of business activities with local regulations and development strategies.

Regulatory authorities and supervisory institutions primarily focus on ensuring that corporate activities comply with sector-specific, environmental, transport, and financial regulations. In the ESG context, their expectations encompass achieving climate policy objectives, reliable non-financial reporting, and transparency in decision-making and operational processes. For this stakeholder group, the effective functioning of management control mechanisms is crucial, as it reduces the risk of regulatory non-compliance.

A vital role within the group of governance stakeholders is played by managers of public infrastructure, including the backbone infrastructure that supports logistics systems. Their expectations have both environmental and social dimensions. These include reducing the negative environmental impacts of transport activities, particularly concerning emissions, noise, and infrastructure degradation, as well as minimising traffic intensity and its adverse effects on users of public space. From a governance perspective, strict adherence to the rules governing the use of public infrastructure is crucial.

Consequently, governance stakeholders perceive companies not only as economic entities but also as participants in the implementation of public policies and as components of the state's institutional system. Their expectations focus on regulatory compliance, transparency, responsible risk management, and active contributions to achieving climate and social objectives. In this context, corporate governance plays an integrative role, linking environmental and social requirements into a coherent model of responsible business management.

In summary, the various stakeholder groups in the logistics market are characterised by differentiated, yet in many cases overlapping, expectations across the ESG dimensions. Figure 4 illustrates how the expectations of individual stakeholder groups align with specific ESG dimensions, enabling a synthetic representation of their interrelationships and the identification of both areas of shared interests and potential tensions.

An analysis of the structure of expectations indicates that not all stakeholder groups attach equal importance to all ESG dimensions. For example, employees of individual entities and their representatives (e.g., trade unions) tend to focus primarily on the social and governance dimensions. From their perspective, key issues include employment stability, occupational safety and working conditions, fair remuneration, equal treatment, and transparent and ethical management practices. Environmental issues are not articulated directly by this group, although they remain indirectly linked to managerial decisions and work organisation.

A similar, but narrower, expectation profile characterises providers of business support services, such as financial institutions, insurance companies, and suppliers of digital and technological services. Their expectations are mainly focused on the governance dimension and relate to a company's financial stability, the predictability of cooperation, transparency in decision-making processes, and effective risk management. For this group, environmental and social expectations are of secondary importance and are considered primarily through the lens of their impact on operational and reputational risk.

In contrast, stakeholder groups whose expectations span all three ESG dimensions include affected stakeholders (such as local communities and non-governmental organisations), local authorities, logistics service providers, and transport infrastructure managers. This indicates that these actors share a broad space for cooperation and for articulating everyday needs and objectives related to sustainable development.

A key conclusion from the analysis is that the governance dimension serves an integrative function relative to the other ESG dimensions. Managerial decisions regarding strategy, resource allocation, stakeholder relations, and systems of control and reporting significantly determine a company's ability to mitigate adverse environmental impacts and achieve social objectives. In this sense, governance does not merely represent one of three equivalent ESG pillars, but rather serves as a mechanism enabling their coherent and effective implementation.

At the same time, the overlap of stakeholder expectations across individual ESG areas, as illustrated in Figure 4, indicates significant potential for cooperation among stakeholder groups. Shared expectations regarding transparency, ethical conduct, reducing negative environmental impacts, and the stability of business relationships may provide a foundation for coordinated initiatives to advance sustainable development.

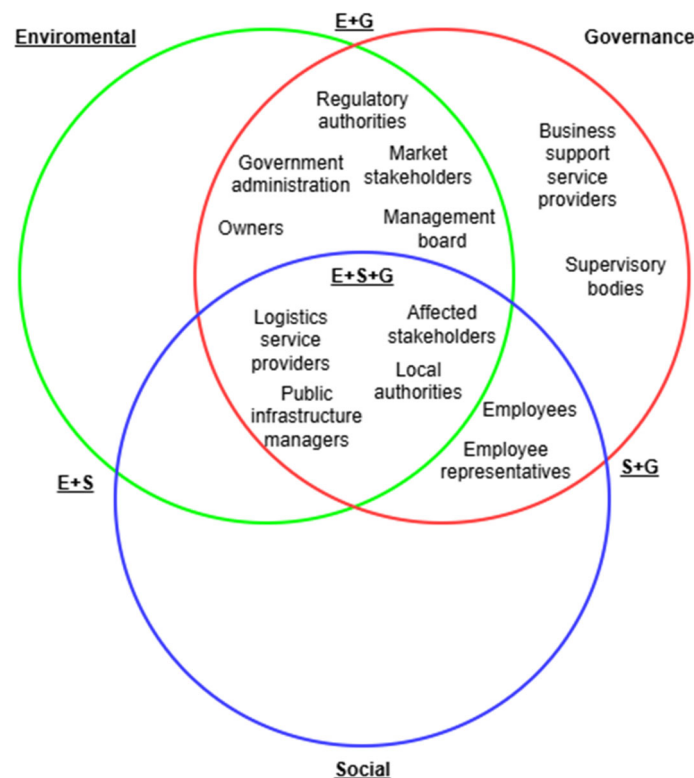


Fig. 4. Stakeholder expectations across ESG dimensions

5. Conclusions

The conducted analysis confirms that ESG criteria currently constitute one of the key reference frameworks for the functioning of enterprises in the logistics market, both in regulatory and operational terms. Dynamic geopolitical developments, growing customer requirements, increasing environmental pressure, and an expanding legal framework mean that considering environmental, social, and governance factors is no longer optional but has become an integral part of the development strategies adopted by logistics market participants.

The analysis of the logistics market stakeholder structure demonstrates that logistics systems are characterised by high complexity and significant diversity among actors influencing corporate activities. The proposed stakeholder classification, incorporating ESG criteria, provides a structured framework for understanding the relationships between enterprises and their environments, facilitating the identification of stakeholder groups whose expectations are critical to achieving sustainable development objectives. In particular, the distinction between internal stakeholders, value chain stakeholders, market stakeholders, affected stakeholders, and governance stakeholders enables a more precise allocation of expectations across ESG dimensions.

The regulatory analysis further confirms that the European legal framework, especially the CSRD and CSDDD directives, fundamentally reshapes the approach to ESG by shifting the focus from voluntary reporting to mandatory, standardised, and auditable disclosure, combined with the requirement for effective management of environmental and social risks. Including both upstream and downstream segments within the scope of corporate responsibility underscores the logistics sector's particularly important role in achieving sustainable development goals.

The results of the stakeholder expectation analysis indicate that not all stakeholder groups articulate requirements across the three ESG dimensions to the same extent. Specific stakeholders, such as employees and providers of business support services, tend to focus primarily on social and governance issues, while environmental issues are of only indirect relevance to them. In contrast, other groups, most notably logistics service providers, local communities, non-governmental organisations, local authorities, and infrastructure managers, formulate expectations that simultaneously encompass environmental, social, and governance aspects. This suggests the existence of shared areas of interest that may serve as a basis for cooperation in implementing pro-environmental and pro-social initiatives.

A key conclusion emerging from the analysis is the central role of corporate governance within the ESG framework. Governance performs an integrative function by shaping environmental and social actions through strategic decision-making, risk management systems, internal control mechanisms, and transparent decision-making processes. This implies that the effective implementation of ESG criteria in the logistics sector largely depends on the quality of governance and the organisation's capacity for long-term planning and coordinated action across the entire value chain.

In conclusion, ESG criteria should be regarded not merely as a reporting tool but primarily as a strategic framework for managing stakeholder relationships in the logistics market. Their effective integration into a company's business model may enhance supply chain resilience, reduce regulatory and reputational risks, and foster long-term competitiveness. In this sense, ESG emerges as a key factor shaping the future of the logistics market and the relationships among its participants.

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