

## **APPLICABILITY OF THE ESG APPROACH IN LOCAL FINANCE: THE CASE OF WASTE MANAGEMENT IN BULGARIA**

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**Abstract.** The Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS), effective from early 2024, represent both a significant milestone and a natural continuation of the EU's sustainable development policies established over the past 30 years. Bulgarian municipalities are actively engaged in this process, contributing through the conditions established for implementation and their direct participation in various projects, initiatives, and campaigns. This paper aims to explore the interaction between the public and private sectors in reducing the ecological footprint of waste, with a focus on leading Bulgarian organizations involved in waste management. The findings highlight the contributions of both companies and local authorities in raising environmental awareness and implementing circular solutions within the framework of the ESG approach.

*Keywords:* ESG approach; local finance; waste management; circular economy

**JEL:** Q57, H71, Q53

### **1. Introduction**

The Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS), which came into effect at the beginning of 2024, represent both a significant milestone and a natural continuation of the EU's sustainable development policies established over the past 30 years. The environmental aspects of the ESG (Environmental, Social, and Governance) management approach highlight the importance of collaboration among various stakeholders – business organizations (including employees, managers, and shareholders), civil society, public institutions, and the media – in achieving positive long-term outcomes. Bulgarian municipalities are actively engaged in this process, and their contribution is influenced by both the established conditions for implementation and their direct participation in various projects, initiatives, and campaigns. This study therefore examines the current regulatory framework for waste management – one of the key aspects of sustainable development and the circular economy – at both the EU and national levels. It explores the rules gov-

erning the operation of the waste collection system and the methodology for calculating municipal waste collection fees. The thesis posits that collaboration between the public sector (government and local authorities) and the private sector (represented by leading waste management organizations in Bulgaria) contributes to raising environmental awareness and reducing the ecological footprint of waste in the country. The findings confirm the vital role that companies and local authorities play in enhancing environmental culture and implementing circular solutions within the framework of applicable ESG policies at the community level.

The methodology of the study employs a standard scientific approach, incorporating a literature review to assess the role of society and municipalities in the implementation of ESG practices. It includes content analysis of publicly accessible documents to identify specific legal issues related to the administration of waste collection tax in Bulgaria and to highlight the contributions of business organizations and local authorities to waste management in the country. Additionally, the study utilizes methods such as expert assessment, comparative analysis, the historical method, chronological analysis, critical analysis, quantitative analysis of dependencies, and graphical analysis.

While ESG is a broad concept encompassing various environmental areas – such as climate policies, energy use, pollution, natural resource conservation, and animal welfare, as well as social and governance topics – this research focuses specifically on one aspect of sustainable development and the circular economy: waste management. Other environmental initiatives, including green building, deforestation, and air pollution, which could also benefit from collaboration between businesses and local authorities, fall outside the scope of the study.

## **2. Importance of society and municipalities to implement ESG practices**

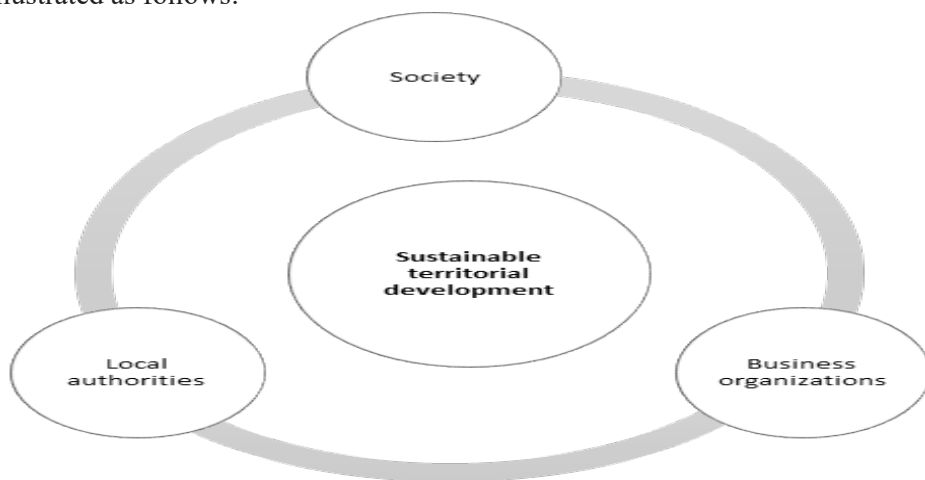
Globally, the pursuit of economic growth has increased the ecological footprint due to unsustainable consumption of natural resources and improper management of production and consumption waste. The European Community acknowledges these issues and, in response, has established an environmental policy, the main objectives of which are set out in Art. 191 of the Treaty on the Functioning of the European Union and aim at achieving sustainable economic growth (Treaties):

- preserving, protecting and improving the quality of the environment;
- protecting human health;
- prudent and rational utilizations of natural resources;
- promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change.

The specifics and importance of this process require innovative management approaches not only for natural resources (Nikolova-Alexieva, & Tomova, 2020), but also for capital (Trifonova, 2023) and human resources (Idriz & Geshkov, 2023) across business organizations, regional, national economies, and at the community

level. In this sense, the implementation of circular economy strategies involves evaluating environmental, social and governance (ESG) performance, with waste management being a key objective in the transition to a circular economy (Roleders, Oriekhova, & Zaharieva, 2022). Business organizations play a leading role in reducing environmental impact and enhancing public welfare through the sharing of resources, knowledge and technology (Varamezov, 2024). However, practical experience shows that applying the ESG criteria at company level, while necessary is not sufficient – an observation shared by many researchers studying sustainable economic growth (Altagi, 2021; Miloiu et al., 2023; Stoyanova-Asenova et al., 2024).

According to Sapozhnikov (2024) and Sepetis et al. (2024) it is essential to transform corporate governance models and implement them not only at the central public administration level, but also within local government structures. This idea is based on the premise that society, business organizations and central and local authorities – as well as the broader European community – do not merely interact but can support each other in achieving sustainable outcomes. The process can be illustrated as follows:



**Figure 1.** Contribution of society, business organizations and local authorities to sustainable territorial development at the local level  
*Source:* Adapted from Gatune, Deboer & Mudde (2018)

The ESG management approach alongside corporate social responsibility, forms the foundation of sustainable development at the local level, where the range of stakeholders is diverse. According to (Biolcheva & Valchev, 2023) primary stakeholders include: investors, employees, customers and suppliers. Secondary stakeholders who are also influential include analysts (e.g. rating agencies and financial analysts, researchers), media, social networks, influencers, and environmentalists.

In addition, various opportunities for increasing economic growth through entrepreneurship based on business innovation are known (Panteleeva, 2023). They can be successfully implemented in public sector management Focusing on the inter-relationships between the three main agents – local authorities, business organizations, and the public – which is the objective of this study, the following dependencies are derived:

**First:** Through budget allocations for social, infrastructure, environmental expenditures local authorities create conditions for improving the quality of life and business climate. These favourable conditions foster a business-friendly environment and contribute to higher quality of life and leading to the development of a community that is eco-conscious and publicly engaged.

**Second:** From the standpoint of the local population, favourable living conditions include opportunities for career development, transport connectivity to economic centres, quality public services, and a clean environment. These conditions help cultivate a community that is socially committed and aligned with ESG values.

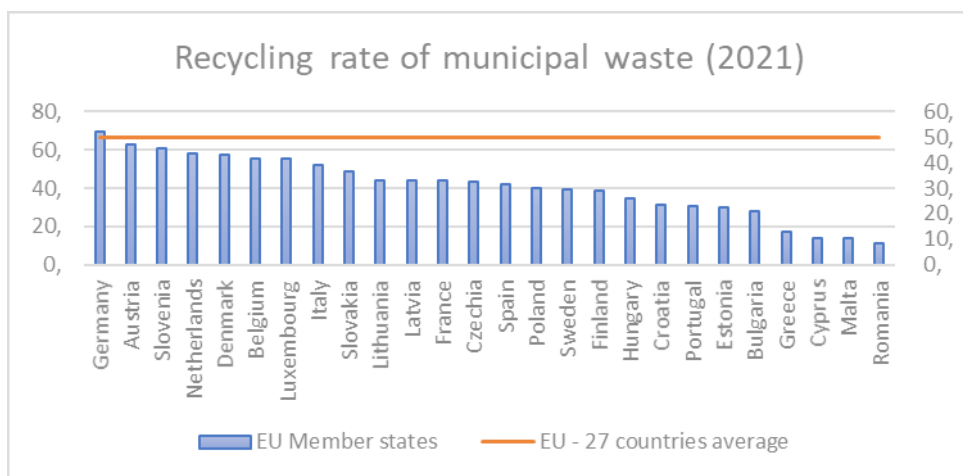
**Third:** The creation of jobs by engaging the economically active population in the business processes is a shared responsibility of business organizations and state institutions. These processes require sustainable provision of production resources (human, natural, capital), which in turn create the prerequisites for business cooperation. This cooperation further engages stakeholders in the process of forming a favorable business climate and a business environment dedicated to addressing social issues. The potential financial benefits for business are diverse and nowadays this added value can also be assessed through artificial intelligence. The model proposed by (Biolcheva & Sterev, 2024) could be adapted and successfully implemented at the local government level.

In summary, the public sector plays an essential role in the processes related to environmental protection and climate change mitigation. This role is implemented through strategic documents and legislation at both the national level (laws, ordinances, and decrees) and the European level (directives, regulations, and decisions). The most significant of these are:

- Council Directive 80/778/EEC: Relating to the quality of water intended for human consumption.
- European Parliament and Council Directive 94/62/EC: On packaging and packaging waste.
- Council Directive 1999/31/EC: On the landfill of waste.
- Directive 2006/12/EC (Waste Framework Directive): Of the European Parliament and of the Council on waste.
- Directive 2008/98/EC: On waste and repealing certain Directives.
- Bulgarian Circular Economy Transition Strategy 2022 – 2027.
- Waste Management Act.
- Environmental Protection Act.

Since Bulgaria’s accession to the EU, national legislation has been harmonized with European laws and nowadays the Strategy for Transition to a Circular Economy 2022 – 2027 serves as a prerequisite for developing and updating national regulations. It outlines three strategic objectives and 11 specific targets, which are part of the national package of measures, in line with the European Commission’s package of measures aimed at the transition to a circular economy as a catalyst for global competitiveness and sustainable economic growth (Strategy for Transition to a Circular Economy – Project, 2022).

According to Eurostat data in 2021 Bulgaria ranks 22nd among EU member states in terms of Recycling rate of municipal waste (28.2%), This figure is 21.6 percentage points lower than the European average (see Figure 2). These unsatisfactory results, especially when compared to countries with similar socio-economic development in Central and Eastern Europe (CEECs), are attributed to the lack of reforms in the regulatory framework for waste management, the inefficient operation of the waste collection system, and the flawed methodology for calculating municipal waste collection taxes.



**Figure 2.** Recycling rate of municipal waste

**Note.** Data for Ireland is missing

*Source:* Eurostat

### 3. Legal issues in the administration of waste collection tax in Bulgaria

In Bulgaria, waste collection is the responsibility of the local authorities and is governed by the current legislation, including the Local Taxes and Fees Act. Under this Act, each municipality develops and adopts an Ordinance on the determination and administration of local fees and prices of services and rights on its territory.

Taxpayers pay a fee for the services provided, including the collection and transportation of household waste to treatment facilities and installations, waste processing, and maintenance of public cleanliness in residential areas. This fee is the primary source of funding for the foregoing services, although other budgetary sources are also provided for by law, such as funds from: The Environment Programme or other European programs; the Municipal Enterprise for Management of Environmental Protection Activities; recovery of household waste; fines and property penalties under the Waste Management Act or other relevant laws. However, practice shows that the municipal waste fee remains the key financial contributor to these services. As of mid-2024, the municipal waste fee is determined based on the amount of household waste generated and is proportionally calculated in ppm relative to the tax assessment or the book value of the real estate. This is done annually as part of a Plan-Account.

Decree No. 93 of the Council of Ministers of April 4, 2024 approved the Ordinance on the Procedure for the Preparation and Template of the Plan-Account for Costs Related to Municipal Waste Services. Article 10 of this Ordinance states that the primary basis for determining the waste fee is the amount of generated municipal waste (Council of Ministers of the Republic of Bulgaria, 2024). The Ordinance allows Municipal Councils to apply other criteria for determining the fee, depending on the services provided. These criteria include:

- For the collection and transportation of household waste to treatment facilities, the fee can be based on the individual amount of household waste, measured using designated bags, the number and capacity of necessary waste containers, or the number of service users in a property.

- For waste treatment in facilities and installations the same criteria mentioned above apply, with an emphasis on an individualized approach to fee determination, following the “polluter pays” principle – those who generate more waste contribute more financially.

- For maintaining cleanliness of the territories for public use, the fee can be determined based on the number of service users in the property or the property’s area.

The individual approach to determining the municipal waste fee is based on specific formulas for each component of the fee. These formulas consider various factors, including the historical total amount of waste generated, the estimated costs of the service in the municipality, the anticipated annual amount of household waste, and the number, carrying capacity, and price of waste collection bags per property. Additionally, the frequency of waste transportation and the possibility of separately collecting waste in designated bags or containers (for materials such as paper, cardboard, glass, metal, plastic, etc.) are considered.

When determining the number of service users for residential properties, the fee includes owners, individuals with established property rights, and tenants as defined by the Condominium Ownership Act. For businesses, the same principle

applies: owners, individuals with established property rights, concessionaires, and tenants are included, with each person liable for their proportional share of the fee. If the fee is based on the area of the property, both stagnant and undeveloped land are considered, allowing for additional differentiation based on property type, the economic activity conducted, or the location within the municipality.

When determining the number of users of the service in the property for citizens, the owners, persons with established property rights or current addresses, tenants or occupants within the meaning of the Condominium Ownership Act are included. For enterprises on the same principle, owners, persons with established property rights, concessionaires, tenants, or persons to whom the properties are provided for management are included, in both cases the persons are liable for their ideal parts. If the fee is determined according to the area of the immovable property, the stagnant and undeveloped area of both the property and all properties on the territory of the municipality is considered, and additional differentiation is possible according to the type of property, the economic activity carried out there or the area where it is located.

Legislative provisions allow for a range of approaches to determine the financial commitment of each obligated party, including strategies aimed at reducing environmental footprints. However, while these approaches are theoretically sound, their practical implementation requires advancements in e-government and digitalization within local administrations to facilitate information exchange between institutions (such as civil status registries, property registries, and local tax authorities) and encourage proactive engagement by taxpayers. Unfortunately, these processes remain underdeveloped in Bulgaria (Lazarova et al., 2022) and in this sense cannot be fully used. Currently, the National Statistical Institute (NSI), in coordination with the Minister of Finance, provides electronic information regarding individuals at their current addresses and properties within municipal settlements to establish the number of users for property services.

Other weak points that can also be identified in the course of the work of the municipal administration and contribute to the application only of the leading basis for determining the waste collection tax, are:

- There is no official measurement regarding the volume of waste collection containers, which is indicated in liters (e.g. 1100 liters for the “Beaver” type), while according to the Ordinance, household waste is defined per kilograms;
- It is not specified whether only persons who have reached the age of majority or infants, children and youth are considered when determining the users of the property;
- For villa properties that are used seasonally, it is difficult to determine the real number of users;
- There are some ambiguities concerning the easements related to the right

of use, right to build, and the right of passage outlined in Article 264 of the Tax and Insurance Procedural Code. These ambiguities affect both the property tax assessment and the tax liability.

The above suggests that weaknesses in the normative acts that could be challenged in court lead to financial losses for the revenue administration. The draft of the new methodology for preparing a plan-account for the necessary costs related to municipal waste fees, as outlined in the Local Taxes and Fees Act (Bulgarian Industrial Association, 2024), still leaves many unresolved issues. As a result, local authorities tend to rely on traditional methods for determining and administering local fees and service prices. Their reluctance stems from criticism of the proposed ideal model for calculating waste collection fees based on the volume of waste generated, which demands substantial initial investments in technology and equipment. In the absence of readiness for such changes, many administrations opt for simpler methods, such as basing fees on the number of property users. This approach risks depriving municipalities of essential financial resources and leads to an unfair distribution of burdens among obligated parties. Consequently, the reform of household waste collection in Bulgaria has been delayed for years, particularly until local authorities become more actively engaged in European Union ESG processes. Currently, municipal participation in environmental protection, climate change initiatives, and the circular economy is largely limited to partnerships with leading waste management organizations in Bulgaria, focusing on reducing environmental impacts.

#### **4. Contribution of business organizations and local authorities to waste management in Bulgaria**

The separate collection of various waste streams is a key responsibility of local authorities, and their collaboration with private sector organizations engaged in waste management is crucial in this effort (Zahariev et al. 2024). While the personal responsibility for the separate collection of different types of waste – such as packaging (paper, cardboard, metals, plastics, glass), plastic bottles, clothing, textile materials, green waste, bio-waste (from schools, kindergartens, children’s kitchens, retail outlets, markets, restaurants, catering establishments, and hotels), bulky and construction waste, tires, electronic and electrical equipment, used motor oils, and batteries and accumulators – falls on each citizen, company, or non-governmental organization, municipalities are committed to the utilization of this waste, typically with the support of private organizations. The following table illustrates the morphological composition of waste streams and highlights the role of economic agents in their collection and recovery, following the example of Sofia, the largest municipality in Bulgaria.



**Table 1.** Morphological composition of waste streams

<b>Waste streams</b>	<b>Responsibility for collection and recovery</b>	<b>Main representatives</b>
<b>packaging – paper and cardboard, metals, plastics and glass</b>	Local government through private organizations	Ecobulpack Bulgaria AD
		Ecopack Bulgaria AD
		Bulecopack AD
		Ecobulpack AD
		Eco Partners AD
		Ecocollect AD
Ecomax Ltd.		
<b>plastic bottles with a capacity of up to 3 litres.</b>	Local government	X
<b>clothing and textile materials</b>	Local government through private organizations	Texside Bulgaria Ltd.
		Techcycle Ltd.
		M-tex Textile Recycling Ltd.
<b>green waste (for compost)</b>	Local government	X
<b>Biowaste</b>	the specific organization through a municipal company or a licensed private company	X
<b>bulk and construction household waste</b>	households through local authorities	X
<b>tires</b>	citizens through retail outlets (repair car shops and points)	X
<b>electronic and electrical equipment</b>	citizens through private organizations	Eltechresurs AD
		Ecobultech AD

<b>engine oils</b>	citizens through private organizations	Oil Recycling Ltd.
<b>batteries and accumulators</b>	citizens through private organizations	Ecobatteries AD

*Source:* author's interpretation based on data from Sofia Municipality

Each municipality is required to adopt and implement an Ordinance on Waste Management and Maintenance and Protection of Cleanliness, developed in accordance with national and European legislation and organize separate collection of different waste streams, which reflects the municipality's contribution to reducing the ecological footprint and other environmental protection measures on its territory. The table demonstrates that Sofia Municipality has established a comprehensive separate collection system that engages all economic agents, including public institutions, citizens, businesses, and private organizations focused on the recovery of specific waste types. A 2018 study by the Enterprise for Management of Environmental Protection Activities (EMEPA) indicates that households are the primary source of municipal waste, contributing approximately 90% of the total. In this context, paper, cardboard, plastic, and glass constitute 8.5%, 11.5%, and 4.5% of the waste structure, respectively (Ministry of Environment and Water, 2024). These figures confirm that these materials, along with textile waste, are significant sources of pollution, prompting local government efforts toward their separation and recycling. The leading companies that support this process in Bulgaria are the joint-stock companies "Ecobulpack Bulgaria", "Ecopack Bulgaria", "Bulecopack", "Eco Partners", "EcoCollect" and "Ecomax". Adhering to environmental norms and the principles outlined in the Local Taxes and Fees Act, these organizations plan, organize, and establish integrated systems for separate collection, temporary storage, sorting, processing, and transportation of packaging waste from households, commercial, and public facilities to recycling enterprises.

Ecobulpack Bulgaria utilizes a two-container model for separate collection: yellow containers for waste from paper, plastic and metal packaging (types Beaver – 1100 litres and Igloo – 1700 litres and 1800 liters) and green containers for glass packaging waste (type Igloo – 1400 litres). These containers are located on the territory of 21 municipalities in the country (Stolichna, Bozhurishte, Razgrad, Targovishte, Kostinbrod, Belovo, Kostenets, Krichim, Lesichovo, Laki, Maritsa, Septemvri, Bolyarovo, Elhovo, Nessebar, Nova Zagora, Pomorie, Sliven, Straldzha, Tundzha and Yambol) as stated on their official website. The organization contributes to the process of forming a circular economy through cooperation with local authorities, companies that trade in packaged goods and citizens.

Ecopack Bulgaria AD is considered a market leader in waste recycling and recovery, with over 200 partnerships with Bulgarian municipalities built over the

years. The company employs an individual (specific) three-container model for separate collection: blue for paper and cardboard, yellow for metal and plastic, and green for glass using Igloo type containers of 1100 litres and 1500 litres. The container fleet used relies on its own specialized waste collection equipment and flatbed trucks, and the process of packaging waste management is supported by 17 sorting plants, of which 14 owned and 3 rented. In addition to municipalities, the company also cooperates with Hotel, Restaurant, and Café/Catering (HORECA) sector, households and retail outlets to maximize the coverage of end-of-life waste.

Bulecopack is considered to be a pioneer organization in the recovery of packaging waste in Bulgaria with its 20 years of experience. The organization utilizes a two-container model for separate waste collection, featuring yellow containers for packaging made of paper, plastic, and metals, and green containers for glass packaging. The containers include “Chest” type with a volume of 1100 liters and “Igloo” types ranging from 1100 to 2500 liters. Similar to its competitors, Bulecopack collaborates with companies that trade in packaged goods, public institutions (e.g., schools) to raise awareness among children about the benefits of separate waste collection, and with numerous municipalities, totalling 61 as of mid-2024, including Sofia Municipality and smaller towns.

Eco Partners Bulgaria AD, with its 8-year history, is the youngest packaging waste recovery organization on the Bulgarian market, which has quickly managed to establish business relationships with companies to fulfill their obligations for the recycling of packaging waste and partnerships with a number of municipalities (21), including Varna, Pernik, Blagoevgrad, Veliko Tarnovo, Gabrovo, Pleven, Gorna Oryahovitsa, Svishtov, Polski Trambesh, Breznik, Tran, Suhindol, Zemen, Zlata-ritsa, Elena, Tryavna, Lyaskovets, Byala, Avren, Vetrino, Kovachevtsi, as well as various volunteer, non-governmental and charitable organizations. Similar to most organizations, Eco Partners employs a two-container model for separate collection, utilizing yellow “Igloo” containers for paper, plastic, and metal waste (1700 liters) and green “Igloo” containers for glass packaging of the same size. Characteristic of the company is the development of an innovative approach to the collection of glass packaging from retail outlets (e.g. HORECA, shopping centers, exhibition spaces) and events (weddings, corporate events, concerts, festivals), which increases its prospects for market penetration, respectively. and contributes to solving a number of environmental problems.

Ecocollect AD focuses on assisting companies in Bulgaria to fulfil their obligations for the separate collection and recovery of packaging waste mandated by national legislation. Since 2013 the company has expanded its portfolio to include 700 enterprises. The established membership network combines the implementation of the objectives set out in the legislation with the achievement of maximum economic efficiency for all stakeholders. In accordance with national priorities, the company strives to develop partnerships with local authorities. Its approach

includes a combined type of separate collection of packaging waste, using both containers and bags. The latter are distributed to households in smaller settlements to optimize collection costs. The two-container model for separate waste collection is also used here, consisting of yellow “Igloo” or “Beaver” containers for paper, plastic, and metal waste, and green containers for glass packaging.

Ecomax Ltd. seeks modern and sustainable solutions to current environmental challenges, focusing on its corporate clients through activities in various sectors: management of recyclable (trade and treatment of secondary raw materials) and non-recyclable (hazardous and non-hazardous industrial waste) waste as well as environmental engineering and ancillary activities and services (complex maintenance of production facilities, demolition of buildings and removal of construction waste, supply of technical gases). According to its subject of activity, the company also provides services for waste collection and transportation of municipal solid waste, exclusively for municipalities.

## **5. Conclusion**

The study of literature, normative and strategic documents on the problem and practical cases reveals that a symbiotic relationship between local government and nature is achievable with the tools of public authority and business. The implementation of modern and sustainable ESG management approaches at both the business and community levels exemplifies effective solutions to contemporary environmental challenges and promotes sustainable territorial development. These decisions must be economically viable and effective for businesses while benefiting other stakeholders as well. In Bulgaria, the process of integrating these approaches is ongoing and requires further development and improvement. The contribution of leading organizations engaged in waste management is significant, as they work to promote sustainable development and a circular economy through recycling initiatives and by fostering environmentally responsible behaviour within society. Our findings indicate a preference for the two-container model over the three-container model for separate waste collection. This preference is attributed to the significant advantages of the two-container system, which simplifies the categorization of packaging into two groups. This ease of separation encourages citizens to participate in home collection and increases the volumes of collected recyclables. Additionally, the compact design of the containers facilitates their placement within municipal infrastructure. While the separation and recycling of paper, cardboard, plastic, and glass at the municipal level are well-developed, with active participation from citizens and private organizations, there are ample opportunities to expand and optimize the collection system for other waste streams (e.g., tires, batteries, and organic waste) for which local governments hold sole responsibility. All this highlights the essential role of both business and local authorities in enhancing the environmental culture within society and implementing circular solutions. Fur-

thermore, it underscores the necessity for innovative approaches and the adoption of best practices to advance ESG policies at the municipal level in Bulgaria.

### Acknowledgment

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