

TRANSPPOSITION OF EUROPEAN APPROACHES IN GEORGIA: THE WASTE MANAGEMENT CODE, EXTENDED PRODUCER RESPONSIBILITY (EPR) AND THE CIRCULAR ECONOMY

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Abstract

The paper examines development dynamics of Georgia's waste management system, focusing particularly on the introduction and implementation of the Extended Producer Responsibility (EPR) instrument within the context of the EU-Georgia Association Agreement. The study reviews the legal and institutional framework for waste management that was established after the Waste Management Code was adopted, and assesses how well it aligns with European Union environmental standards. The paper analyses the main types of waste produced in Georgia, including municipal, hazardous, medical, inert, construction and other specific types of waste, and identifies the key challenges facing the system, such as the lack of infrastructure for separate collection and recycling.

This desk research study includes an analysis of legislative and regulatory acts, strategic policy documents, official statistical data and relevant reports, complemented by expert interviews. Particular attention is paid to assessing the performance of Extended Producer Responsibility organization operating in Georgia, based on data from 2023-2024. The findings suggest that implementing the EPR system has led to a significant rise in the collection and recycling of certain waste streams, particularly tires, oils, batteries and accumulators, and waste electrical and electronic equipment.

The paper also identifies several structural and practical challenges, including delayed enforcement of regulations governing certain waste streams, such as packaging waste and end-of-life vehicles; misalignment of interests between businesses and municipalities; and limited analytical capacity of existing waste management information platforms. The study concludes that EPR is a vital policy tool for improving Georgia's waste management system; however, to enhance its effectiveness, it must be strengthened.

Key words: *Georgia, EU Integration, Waste management, Extended Producer Responsibility, Circular Economy, Recycling Policy, Sustainable Development*

Introduction

Environmental protection is a critical priority when it comes to addressing contemporary global challenges. In recent decades, environmental concerns have increasingly taken centre stage in the political agendas of international institutions and sovereign states alike. The signing of the Association Agreement between the European Union and Georgia was a pivotal moment in Georgia's EU integration, prompting comprehensive reforms across multiple

governance sectors. Beyond the political, economic, judicial and trade dimensions, the Agreement outlines sectoral cooperation aimed at modernizing and aligning domestic policies with EU standards, particularly in the environmental domain. (Tchelidze, 2025)

Waste management remains one of the most pressing environmental issues at global and national levels, requiring the development of robust waste management systems and effective regulatory frameworks. While voluntary initiatives by the private sector play a supportive role, they are insufficient for addressing the problem systematically. In this context, public policy plays a strategic role: establishing an adequate legislative framework provides uniform and mandatory rules for all producers, ensures equitable competitive conditions, and facilitates the transition from a linear economic model to a circular economy. The circular economy emphasizes waste prevention, segregation, reuse and recovery, conceptualizing waste as a valuable economic resource rather than a liability. This approach stimulates innovation and the implementation of advanced technologies and methodologies that enhance material recovery and recycling, thereby contributing to sustainable development and resource efficiency.

Extended Producer Responsibility (EPR) is one of the main policy tools used to achieve sustainable waste management goals. This approach is being increasingly integrated into international practices as a means of allocating environmental accountability to producers. At the same time, the development of comprehensive waste management systems, coupled with enhanced public environmental awareness, has led to growing societal and institutional support for legislation based on EPR principles. By shifting responsibility for waste from public authorities to producers, EPR incentivises sustainable product design and facilitates the transition to a circular economy model, in which waste is seen as a resource rather than a liability.

This paper aims to review the development dynamics of Georgia's waste management system, with a particular focus on the introduction and implementation of the Extended Producer Responsibility (EPR) instrument. The research will assess the effectiveness and role of this mechanism in improving the waste management system and identify the institutional, legal and practical challenges impacting the system's operation and development.

There is limited scientific literature related to the research topic, and most existing publications are primarily descriptive and informational. Only a few studies have been identified within this field, none of which provide an in-depth theoretical or empirical analysis of the issue. Consequently, this study is largely based on legislative and regulatory acts, as well as information available on the official websites of the relevant state institutions. Within the framework of the study, the official website of the waste management system was used alongside reports prepared by various international and local organizations examining the practices, challenges and development prospects of waste management and recycling in Georgia. This approach enables a systematic representation of the current state of the sector.

Research Methodology

This study primarily employs a desk research approach within the framework of qualitative research to provide a comprehensive analysis of the legal, institutional, and policy framework governing waste management in Georgia, with particular emphasis on the transposition of European approaches into national legislation. The selected methodological approach enables a systematic examination of the evolution of Georgia's waste management policy, the implementation of the Waste Management Code, and the introduction of the Extended

Producer Responsibility (EPR) system in the context of the country's approximation to the European Union environmental acquis and the transition towards a circular economy.

The research is based on documentary analysis, involving a systematic review and critical assessment of primary and secondary documentary sources. The primary sources include national legislation, subordinate normative acts, strategic policy documents, action plans, and relevant European Union legal instruments regulating waste management, circular economy, and Extended Producer Responsibility. Particular attention is devoted to examining the extent to which EU legislative principles and policy objectives have been transposed into Georgia's legal and institutional framework.

In addition, the study analyses official reports, policy papers, statistical publications, and implementation assessments produced by Georgian public institutions, international organizations, and other stakeholders operating in the waste management sector. These sources provide the empirical basis for evaluating the progress achieved, identifying existing challenges, and assessing the effectiveness of the institutional and regulatory mechanisms established for the implementation of EPR in Georgia.

The quantitative evidence used in this study consists exclusively of secondary data. No primary empirical data were collected by the authors through surveys, interviews, or other field research methods. Instead, the analysis relies on officially published statistical datasets, monitoring reports, analytical studies, and evaluation documents prepared by national authorities, international and local organizations, as well as Producer Responsibility Organizations (PROs) operating within Georgia's Extended Producer Responsibility framework. The use of multiple independent sources enhances the reliability of the findings through data triangulation and cross-validation.

Furthermore, the analytical framework incorporates elements of comparative legal analysis, enabling a comparison between the European Union's regulatory approach to waste management and the corresponding legislative and institutional developments in Georgia. This approach facilitates an assessment of the degree of legal approximation, the effectiveness of policy transposition, and the consistency of Georgia's regulatory framework with the objectives of the EU Circular Economy Action Plan and broader environmental governance principles.

The combination of documentary analysis, secondary data analysis, and comparative legal analysis provides a comprehensive methodological framework for assessing the implementation of Extended Producer Responsibility in Georgia. It also enables the identification of key legal, institutional, and practical challenges affecting the country's transition towards a circular economy and supports evidence-based conclusions regarding the effectiveness of ongoing policy reforms.

Overview of the Georgian Waste Management System and Waste Streams

The adoption and implementation of practices from European Union member states in Georgia was driven by environmental obligations and the harmonisation of standards mandated under the Association Agreement. In collaboration with the European Union, the Georgian Parliament developed and subsequently approved the Waste Management Code in 2014, which entered into force on January 15, 2015 (Parliament of Georgia, 2015). Prior to this law's enactment, issues related to waste management were only partially regulated through various sectoral legislative acts and, to some extent, by international conventions.

Following the adoption of Georgia's Waste Management Code, work began on developing a modern, national-level waste management system. The Code establishes a five-

tier waste management hierarchy and sets out the requirements and obligations relating to the collection, transportation, recovery and disposal of hazardous, non-hazardous and inert waste. It also regulates planning, registration, permitting and control procedures within the waste management sector (Parliament of Georgia, 2015).

Based on the Waste Management Code, a comprehensive national waste management planning system was initiated. The Code defined the responsibilities of Georgia’s Ministry of Environmental Protection and Agriculture (MEPA) and facilitated the development of a 15-year National Waste Management Strategy and a 5-year National Waste Management Action Plan. Additionally, it established municipal obligations to prepare Municipal Waste Management Plans. Companies generating waste above legally established thresholds were also required to develop Company Waste Management Plans to ensure compliance with national standards and promote accountability in waste handling.

In 2016, based on the Waste Management Code, Georgia adopted its National Waste Management Strategy (2016-2030) and the first Five-Year National Waste Management Action Plan (2016-2020) (Government of Georgia, 2016).

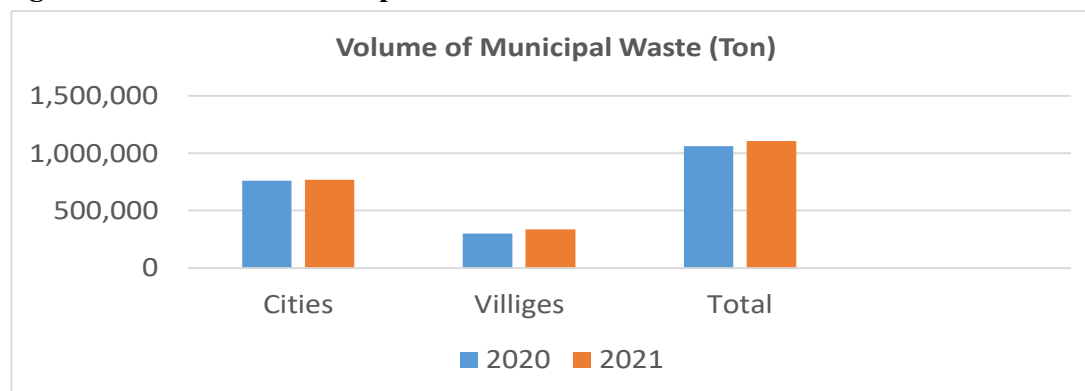
The second National Waste Management Action Plan (2022-2026) introduced additional measures to improve the management of hazardous, plastic, biodegradable, inert, construction and demolition waste, compared to the first Action Plan (MEPA, 2022).

The issue of waste collection and transportation naturally emerged as a significant topic on the country’s political and economic agenda. With regard to municipal waste specifically, comprehensive measures were defined and implemented in phases to align the collection, recycling and disposal systems with international requirements and standards, ensuring the coordination of relevant stakeholders and their active involvement.

It should be noted that data availability for all years is limited to publicly accessible information sources. Accordingly, the study presents an overview of the municipal waste situation based on examples from 2020 and 2021. The volume of municipal waste generated in urban and rural settlements in these years was estimated using the waste generation index, which is derived from data on waste disposed of at landfills and population size.

According to an analysis of the available data, the total volume of municipal waste generated in Georgia in 2020 was 1 061 007 tons, with 760,942 tons originating in urban areas and 300,065 tons in rural areas. This figure increased to 1 104 952 tons in 2021, with 768,257 tons generated in cities and 336,695 tons in rural areas (MEPA, 2023).

Figure 1. Volume of Municipal Waste

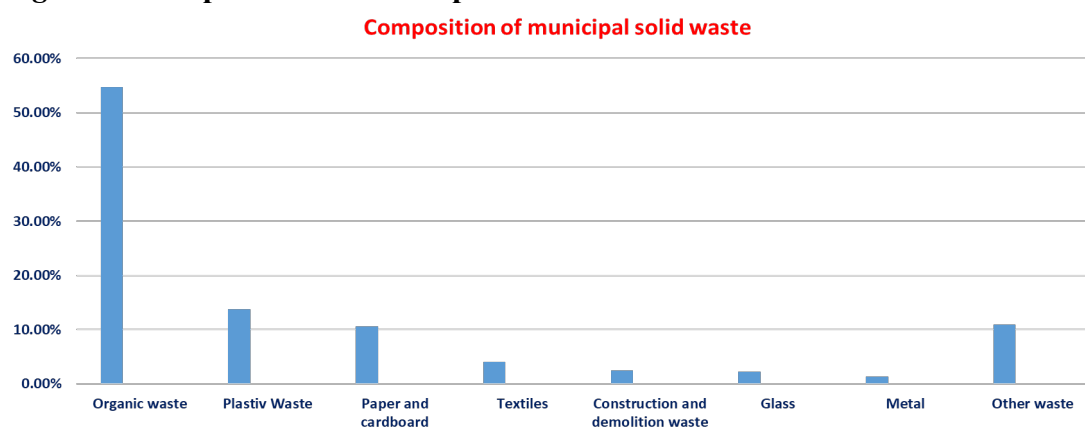


Source: *Mcarmoebli gapartoebuli valdebulebis organizaciebis mier migceuli sedegebis angarisi. 2023 wlis angarisi [2023 Report on the Results Achieved by Extended Producer Responsibility Organizations]*

Analysis of waste composition, conducted to determine the typical structure of waste streams generated and the proportion of various components, indicates that municipal waste in Georgia consists of:

- Organic waste - 54.7%
- Plastic waste - 13.8%
- Paper and cardboard - 10.6%
- Textiles - 4.1%
- Construction and demolition waste - 2.5%
- Glass -2.3%
- Metal - 1.4%
- Other waste -11% (MEPA, 2023)

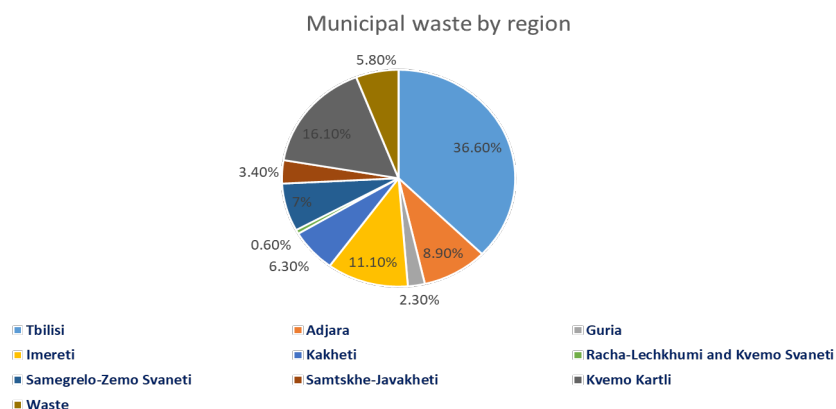
Figure 2: Composition of Municipal Solid Waste



Source: *Mcarmoebli gapartoebuli valdebulebis organizaciebis mier migceuli sedegebis angarisi. 2023 wlis angarisi [2023 Report on the Results Achieved by Extended Producer Responsibility Organizations]*

Regarding municipal waste in 2020 and 2021, the situation is as follows:

Figure 3: Municipal Waste by Region



Source: *Mcarmoebli gapartoebuli valdebulebis organizaciebis mier migceuli sedegebis angarisi. 2023 wlis angarisi [2023 Report on the Results Achieved by Extended Producer Responsibility Organizations]*

Notably, alongside regional data, separate statistics are provided for the capital city, Tbilisi, which highlight the significant challenges associated with municipal waste management within the city. Various studies have projected municipal waste generation and collection for settlements up to 2030 based on Georgia’s population, tourism development forecasts, and expected volumes of specific waste types. These studies estimate an annual increase of 0.6% to 1.2%, underscoring the urgency of addressing this issue in the country (MEPA, 2023).

Currently, Georgia faces challenges in the separate collection of hazardous municipal waste, which is often disposed of alongside non-hazardous waste in landfills, posing risks to the environment and public health. Healthcare institutions are responsible for the management of medical waste and enter into contracts with medical waste management operators. The Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs, in collaboration with the Ministry of Environmental Protection and Agriculture of Georgia, provides regulatory oversight. Despite implemented measures, some medical waste still reaches landfills without prior treatment.

Over 2 million tons of inert, construction and demolition waste are generated annually in Georgia. The small scale of the inert waste recycling industry and limited business interest often result in the uncontrolled disposal of construction and demolition waste. Some of this waste is used for municipal back filling activities. Therefore, establishing an effective system for collecting and processing inert, construction and demolition waste remains a critical challenge for the country.

Key challenges in the field of waste collection and transportation include:

- ensuring nationwide coverage of municipal waste collection services;
- Modernizing waste collection and transportation equipment.
- Implementing separate waste collection
- Development of public-private partnership policies.

It is precisely in this context that the significant responsibility introduced by the Extended Producer Responsibility (EPR) system becomes apparent. Under this system, product manufacturers and/or importers are held accountable for the collection and treatment of specific hazardous waste, thereby safeguarding human health and the environment.

Extended Producer Responsibility - Practice in Georgia

Sweden's pioneering role in the Extended Producer Responsibility (EPR) policy has facilitated its gradual expansion across various industrial sectors, setting an example for the effective implementation of environmental strategies. This model has transcended European borders and become increasingly relevant in Georgia. Georgia's National Waste Management Strategy (2016-2030) identifies specific waste streams for EPR, detailing the annual volumes of waste generated in the country, including batteries and accumulators, electrical and electronic waste, waste oils, tires, packaging materials and end-of-life vehicles (Government of Georgia, 2016). Notably, the strategy emphasizes that a significant challenge is the absence of separate collection schemes for municipal waste, leading to most of this waste ending up in landfills.

The Waste Management Code mandates the implementation of the Extended Producer Responsibility (EPR) system at the national level. To facilitate the execution of the legislation and the operationalization of the system, various analytical and practical supporting documents were developed, alongside the implementation of awareness-raising campaigns regarding EPR.

In 2017, the Ministry of Environmental Protection and Agriculture of Georgia initiated the project "Support for the Implementation of the Extended Producer Responsibility

Principle in Accordance with the Waste Management Code." The project was implemented by Georgia's Environmental Outlook (GEO) with the support of the United Nations Development Program (UNDP) and the Government of Sweden (Sida). European expertise was also integrated into the project through the expert assistance of the German organization adelphi and the local consulting company PMO. The *Manual on Extended Producer Responsibility* published within the framework of the project provided a detailed explanation of EPR goals and objectives, approaches, products subject to EPR, financing schemes, system efficiency, and mechanisms for ensuring enforcement by state authorities and EPR organizations (GEO, 2019).

As national officials noted, "The support from the European Union, the United Nations Development Program (UNDP), and the Swedish International Development Cooperation Agency (Sida) is profoundly significant in the process of implementing the Extended Producer Responsibility reform. It is through these reforms that we adopt the best European practices, which will greatly benefit the waste management sector in the future" (Entrepreneur Georgia, n.d.).

The "Manual on Extended Producer Responsibility" proved to be a turning point for Georgia's waste management sector. While EPR had previously remained a theoretical obligation, this manual provided it with a practical framework. Although the "Extended Producer Responsibility - Producer's Guide" was subsequently published in 2021, it was the original EPR Manual that established the intellectual foundation for the technical regulations developed and adopted between 2018 and 2020. It detailed how European directives could be adapted to the Georgian reality. In effect, it served as the first road-map for the private sector, laying the groundwork for institutional dialogue among three key parties: the state (regulator), business (financier), and the municipality (operator). It clearly delineated rights and responsibilities to prevent the duplication of functions. Consequently, the abstract articles of the "Waste Management Code" were transformed into a tangible action plan. Concurrently, meetings were held with central and local government authorities, international and donor organizations, the private sector, chambers of commerce, business associations, and other stakeholders to familiarize them with the requirements of Georgian legislation regarding EPR and best international practices. (GEO, 2019)

To ensure the implementation of Extended Producer Responsibility, the Government of Georgia approved four technical regulations on May 25, 2020:

1. "On the Management of Waste Batteries and Accumulators" (Government Resolution No. 324)
2. "On the Management of Waste Tires" (Government Resolution No. 325)
3. "On the Management of Waste Electrical and Electronic Equipment" (Government Resolution No. 326)
4. "On the Management of Waste Oils" (Government Resolution No. 327). (Waste Management system)

The regulations came into force on September 1, 2020. However, the recycling and recovery targets are mandatory from 2023. (MEPA, 2020).

Legislation governing waste subject to extended producer responsibility provides for the management of two additional waste streams: packaging and end-of-life vehicles. All the streams have been considered when defining the goals to be achieved by Georgia. (Hainrich Boll Stiftung, 2020)

Table 1: Recyclable Waste to be achieved by Georgia

Recyclable waste	By 2020	By 2025	By 2030
Batteries	20%	50%	80%
Oils	50%	75%	90%
Packaging materials	40%	75%	90%
Electrical devices	20%	50%	80%
Tires	50%	70%	90%
Accumulators	60%	80%	90%
End-of-life vehicles	20%	50%	80%

Source: Waste management in Georgia, Heinrich Böll Stiftung, 2020

The remaining two regulations, which concern end-of-life vehicles and the largest volume of packaging waste, have been awaiting approval for several years. The regulation requiring the private sector to manage packaging waste was drafted several years ago with the participation of EU experts. According to the latest data, this regulation was expected to come into force in the first quarter of 2024. However, the timing of the other regulations remains uncertain. (Mcarhoeblis gafarToebuli valdebuleba - ra aperxebssesaputi masalebis narcenebis migebas, 2025)

In July 2024, the rules for calculating the target indicators for waste collection, reuse, recovery, and recycling within the framework of Extended Producer Responsibility were approved.

In accordance with the technical regulations, producers (including importers) are balanced to ensure the separate collection of waste generated from the specific products they place on the Georgian market (tires, oils, batteries and accumulators, electrical and electronic equipment) and its treatment in compliance with environmental requirements according to the annual target indicators defined by the technical regulations. Producers fulfill this obligation either individually or collectively, through Extended Producer Responsibility (EPR) organizations.

Naturally, in the process of studying this issue, institutional mechanisms were of great interest on one hand; however, to create a comprehensive picture, it became necessary to analyze specific achievements.

Research

During the research, the electronic waste management system was examined, as well as institutional mechanisms. This platform provides comprehensive information on various issues, including Extended Producer Responsibility (EPR). Consequently, the activities of EPR-registered organisations were analysed based on their performance results in 2023 and 2024.

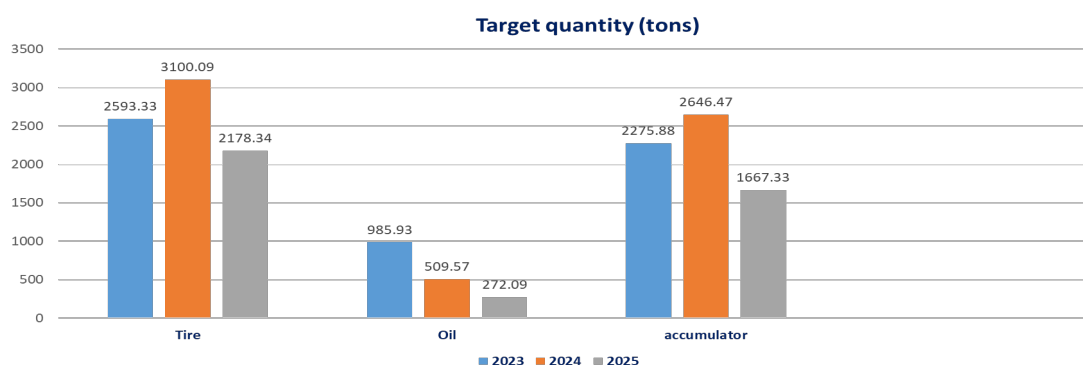
Operating under the Ministry of Environmental Protection and Agriculture of Georgia, the waste management platform contains all relevant legislation and registration procedures related to waste management. Unfortunately, collection points are not displayed separately, nor is detailed information provided on their locations. However, the platform presents specific information regarding EPR organisations authorised by the Ministry, including:

1. Tegeta Green Planet: collective compliance scheme for waste oils, waste tires and waste accumulators.
2. The Waste Management Business Association - operates a collective compliance scheme for waste oils, waste tires and waste accumulators.
3. Georgian Producers Extended Liability Association - operates a collective compliance scheme for waste oils, waste tires, waste accumulators, and waste electrical and electronic equipment.
4. Amboli 2: individual compliance scheme for waste accumulators.

Alongside organisational information, the platform provides details of contact persons and contact information, as well as compliance schemes. However, it lacks specific information on the operational activities of these organisations. This complicates the systematic collection and analysis of information on EPR organisations, and highlights the need to improve the waste management system platform further. Nevertheless, it is important to note that these EPR organisations have highly developed, comprehensive websites that provide clear, detailed information on their activities.

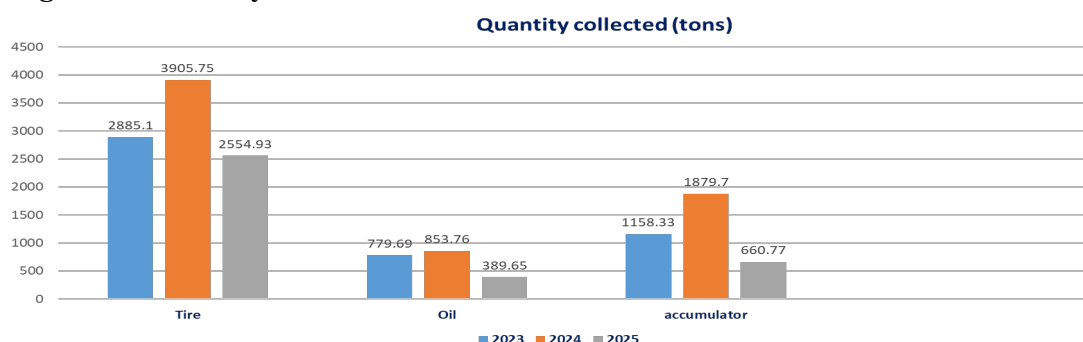
The “Tegeta Green Planet” runs a trilingual website in Georgian, Russian and English - <https://tgp.ge/en>. According to data from 2022-2025, the organisation has enrolled around 350 producers from the tire, oil, and battery sectors. Tegeta Green Planet has clearly defined plans and initiatives intended for implementation over a multi-year period. These include attracting private investment in waste management infrastructure, identifying and collaborating with licensed recycling plants and transport operators, establishing and equipping collection points, and creating new employment opportunities. An analysis of the organization’s activities over the years reveals the following trends: (Tegeta Green Planet)

Figure 4: Target Quantity



Source: <https://tgp.ge/en>

Figure 5: Quantity Collected



Source: <https://tgp.ge/en>

Although the organisation has not yet fully achieved the annual collection targets set out in its operational plans, its current progress is encouraging. Tegeta Green Planet is making consistent efforts to align its activities with institutional obligations and international standards. It has published the Eco-Tips Book, (Presentation of the book “Eco-Tips” took place in 11 schools in Tbilisi, 2025) which provides comprehensive information on environmental topics and eco-friendly practices. The book explains the concept of Extended Producer Responsibility (EPR) and details the management of automotive waste. It also highlights the importance of environmentally responsible behaviours. The organisation has also developed informational posters and shared them on social media.

Tegeta Green Planet actively seeks partners to promote pollution prevention and reduction, sustainable resource use, and mitigation of global warming, and provides the necessary application forms for collaboration. Preliminary recycling contributions have been outlined by product category for 2025, offering interested stakeholders comprehensive guidance.

Similarly, the NGO Waste Management Business Association (WMBA) maintains a bilingual (Georgian and English) website - <https://wmba.com.ge/> however, only the Georgian version was accessible during the research period. The WMBA platform effectively consolidates all relevant legislative acts, facilitating stakeholder engagement and operational transparency. The organisation maintains a broad network of partners and is actively pursuing future collaborations with waste transport operators. It explicitly demonstrates its readiness to cooperate with authorised physical and legal entities for the collection and transportation of waste oils, tires and batteries. Consequently, registration within the official electronic waste management system is a primary requirement for engagement in waste management activities.

The activities of the “Georgian Producers Extended Liability Association” are thoroughly documented on the Wasteless website - <https://wasteless.ge/home/ka/> which is available in both Georgian and English. The organisation works with 13 contractors who are responsible for managing conventional and LED lamps, crushed glass, industrial oils, plastics, mercury-containing lamps, tires, rubber products and accumulators. Information on the locations of external electronic waste collection boxes, including those installed in cinemas, is publicly accessible. (Wasteless)

Since March 2025, the organisation has expanded its public awareness efforts through a new eco-friendly podcast format, continuing to educate the Georgian population on waste management issues. The podcast can be subscribed to on a dedicated YouTube channel (Ecomegobruli podkasti) which hosts 16 thematic videos. Although subscriber numbers are currently modest, the videos have relatively high viewership, indicating significant audience engagement. Furthermore, the organisation has introduced a system of incentive prizes linked to its activities, with the aim of increasing public interest and participation in its initiatives.

Finally, the activities of the non-profit organisation Amboli 2 are highlighted on its Facebook page, as well as on widely recognised Georgian platforms such as Marketer.ge and Entrepreneur Georgia. Amboli 2 received its authorisation from EPR in 2023 and has since been operating actively, demonstrating positive dynamics and efforts to expand its activities within Georgia and internationally, particularly in the collection and recycling of accumulators.

Overall, analysis of the waste management system indicates that the official platform plays a significant role in consolidating legislative and administrative information. However, it provides limited insight into the practical activities of EPR organisations, which makes the

systematic collection and analysis of operational data difficult. It can be observed that all authorised EPR organisations are actively engaged in waste collection and recycling, placing considerable emphasis on partnerships, public awareness campaigns and alignment with international standards. At the same time, these organisations differ in terms of the scale of their operations and their modes of communication. Nevertheless, the dynamic growth observed suggests a positive trajectory that is likely to enhance waste collection and recycling in line with established target indicators in the future.

During this research, particular attention was given to analyzing the reports concerning the outcomes achieved by Extended Producer Responsibility (EPR) organizations, based on the reports for 2023 and 2024.

It is noteworthy that EPR organizations are required to submit a detailed report on the completed activities to the Ministry of Environmental Protection and Agriculture of Georgia by April 30 of the year following the reporting period. These reports are subsequently published on the Ministry’s official website by May 31 of each year.

As of 2023, the EPR electronic registry lists over 11 200 registered producers and importers. Among them, 7 948 are involved in electrical and electronic equipment, 1027 in tires, 1227 in batteries and accumulators, and 1000 in oils.

The obligation to meet target collection volumes was introduced in 2023. Accordingly, the following amounts of waste were collected by Extended Producer Responsibility (EPR) organization during 2023: Waste tyres: 5 873 tons; Waste oils: 2 301 tons; Waste batteries and accumulators: 2 340 tons; Waste electrical and electronic equipment: 614 tons (Mcar-moeblis gapartoebuli valdebulebis organizaciebis mier migceuli sedegebis angarisi, 2023 wlis angarisi, 2024)

According to the 2024 report, the EPR electronic registry recorded 15 288 producers and importers. Compared to 2023, the number of registered producers/importers has increased across all waste streams - Electrical and electronic equipment: 10 988; Tires: 1 303; Batteries and accumulators: 1 724; Oils: 1 273. (Mcar-moeblis gapartoebuli valdebulebis organizaciebis mier migceuli sedegebis angarisi, 2024 wlis angarisi, 2025)

Table 2: Key EPR Indicators in Georgia (2023-2024)

2023		Total	2024		Total
Electrical and electronic equipment	7 948	11 200	Electrical and electronic equipment	10 988	15 288
Tires	1027		Tires	1 303	
Batteries and accumulators	1227		Batteries and accumulators	1 724	
oils	1000		oils	1 273	

Source: Mcarmoeblis gapartoebuli valdebulebis organizaciebis mier migceuli sedegebis angarisi. 2024 wlis angarisi [2024 Report on the Results Achieved by Extended Producer Responsibility Organizations]

The primary focus is on the four organisations under study and their registered producer-importer members, with respect to specific waste streams such as oils, tires and batteries/accumulators. The collection and recycling performance of each organisation is analysed separately. Overall, the number of collection and recycling points increased across Georgia as a whole. Concurrently, the total quantities of specific waste collected and recycled

by the four organisations in 2024, by waste stream, are as follows: (Mcarmoebulis gapartoebuli valdebulebis organizaciebis mier migceuli sedegebis angarisi. 2024 wlis angarisi, 2025)

Table 3: Collection and Recycling Results of EPR Organizations (2024)

2024	Waste type	Collected (ton)	Recycled (ton)
	Waste tires	10 031	8 451
	Waste oils	3 146	2 777
	Waste batteries and accumulators:	2 977	2 947
	Waste electrical and electronic equipment	1 540	1 446

Source: Mcarmoeblis gapartoebuli valdebulebis organizaciebis mier migceuli sedegebis angarisi. 2024 wlis angarisi [2024 Report on the Results Achieved by Extended Producer Responsibility Organizations]

A comparison of the indicators clearly shows that progress has been made in terms of the quantity of waste collected in 2023. Unfortunately, the 2023 report did not provide any statistical data on recycled waste. However, although the 2024 figures are not yet fully released in terms of recycling, they indicate a positive trend. It should also be noted that both the collection and recycling volumes are expected to increase by 2030, which highlights the significant responsibility of EPR organizations in this regard.

Among the various waste streams, waste tires are the most significant. Currently, the recycling sector for tires is underdeveloped, and it is not possible to recycle large quantities efficiently. Nevertheless, there is potential to produce rubber and other materials from this waste, which highlights the need for new investments and the establishment of additional recycling facilities. Legislative provisions also allow for the export of waste tires, which could be a future option. However, there is currently greater emphasis on using them as an energy source in production processes. For example, experts cite a cement plant in Georgia that is installing new furnaces to utilize the energy generated by incinerating waste tires.

The situation with packaging materials and end-of-life vehicles is different. Packaging materials play a significant role in everyday life, serving to protect and store products, and to promote them. They are expected to be lightweight yet durable, and can be made from plastic, metal, glass, paper, wood, or a combination of different materials. Once the contents have been used, the packaging becomes waste that must be disposed of properly.

To address the environmental issues associated with packaging waste, European countries began implementing specific measures as early as the 1990s. These measures included the introduction of extended producer responsibility (EPR), waste management hierarchies and other economic instruments, as well as the relatively recent circular economy approach. This has positioned EU countries as leaders in the recycling sector. Legislation is increasingly setting higher and more ambitious targets for the recovery of valuable materials and the efficient use of resources. The recycling rate for packaging waste initially stood at 25%, was later increased to 55%, and reached 65% by 2018.

According to statistics, approximately 195 000 tons of packaging waste were generated in Georgia in 2017, the vast majority of which ended up in the environment or landfills. The volume of packaging waste increases annually. Georgia can leverage Europe's long-standing experience to establish recycling schemes through private and public initiatives. Currently, recycling is at a specific stage of development; however, the existence of end-user

infrastructure indicates potential for further sector growth. Municipalities must implement separate collection systems, which require waste containers, garbage trucks, and sorting facilities. Clearly, one of the primary prerequisites for success is the active participation and engagement of the public in waste separation. (Mcarmonoblis gapartoebuli valdebuleba saqartvelosi, 2019)

In this regard, it must be noted that the recycling of packaging materials is hindered by disputes over technical regulations. Business entities have criticized changes made to the original version of the regulations - which were initially developed by municipalities in collaboration with EU experts - attributing these modifications to the municipalities' limited understanding of the core of the issue. While municipalities perceive this matter merely as a mechanism for sanitary cleaning, it involves the interests of both the business sector and society. The issue is addressed under the "Polluter Pays" principle, which consistently places businesses in a position of investment rather than profit-making, thereby highlighting the responsibility of waste generators as well.

The situation regarding end-of-life vehicles is equally challenging. The annual number of end-of-life vehicles is approximately 12,000, the vast majority of which are abandoned on the streets of Georgia. This situation is unacceptable, as ELVs are classified as hazardous waste and, without proper treatment, can lead to environmental degradation. With the implementation of the Extended Producer Responsibility principle, the final owner will have the opportunity to utilize a network of collection points covering the entire territory of Georgia. Delivering the end-of-life vehicle to an authorized collector free of charge will become a prerequisite for deregistering the vehicle. This approach will encourage the neutralization and dismantling of waste, as well as the reuse/recycling of approximately 80% of metals and other valuable materials contained within the vehicle.

Conclusions

The research revealed that establishing and developing a waste management system in Georgia is closely linked to the obligations arising from the Association Agreement with the European Union, as well as the process of aligning environmental policies with European standards. Adopting the 'Waste Management Code' and developing relevant strategic and regulatory documents created a legal and institutional framework for establishing a modern waste management system. However, the research findings indicate that the practical implementation of this framework is still associated with significant challenges.

The study demonstrated that introducing the Extended Producer Responsibility (EPR) system in Georgia is one of the most important policies for improving the management of specific and hazardous waste. Analysis of data from 2023–2024 confirms that EPR organisation activities have increased waste collection and recycling rates, particularly for tires, oils, batteries and electrical and electronic equipment. Concurrently, positive trends are evident in infrastructure expansion, partnership network strengthening, and public awareness enhancement.

Despite the progress achieved, the research highlights systemic and structural challenges that hinder the waste management system from operating at full capacity. These include insufficient development of the separate collection of municipal waste and limited capacity in the recycling industry for certain waste streams, particularly tires and construction waste. There has also been delayed implementation of regulatory technical standards for packaging waste and end-of-life vehicles. Another challenge is the lack of clear coordination and delineation of responsibilities between state institutions, municipalities and the private sector.

In conclusion, further development of the waste management system in Georgia and enhancement of the EPR mechanism's effectiveness require a comprehensive, consistent policy approach. This entails strengthening institutional capacities, promoting investment in recycling infrastructure, refining legislative regulations and implementing them in a timely manner, and ensuring active public engagement in waste separation and environmentally friendly practices. Meeting these preconditions will lay the foundation for a circular economy-based waste management system in Georgia, achieving long-term environmental, social and economic benefits.

References

- Saqartvelos Parlamenti. (1996). *Saqartvelos kanoni garemos datsvis shesakheb* [Law of Georgia on Environmental Protection] [Law]. <https://www.eiec.gov.ge/Ge/Documents/ViewFile/955>
- Saqartvelos Parlamenti. (2015). *Narcenebis martvis kodeqsi* [Waste Management Code][Law]. <https://parliament.ge/en/legislation/7328>
- Narchenebis martvis 2016-2030 tsliis erovnuli strategia da 2022-2026 tsliis erovnuli samoqmedo gegma. *National Waste Management Strategy 2016-2030 and National Action Plan 2022-2026*. <https://mepa.gov.ge/Ge/PublicInformation/34073>
- Resolution of the Government of Georgia N160 01.04.2016 (<https://matsne.gov.ge/ka/document/view/3242506?publication=0>)
- Ministry of Environmental Protection and Agriculture of Georgia. (2020). *Legislation on extended producer responsibility*. <https://waste.mepa.gov.ge/Legislation/Index>
- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Closing the Loop - An EU Action Plan for the Circular Economy. COM(2015) 614 final, December 2, 2015. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52015DC0614>
- Tchelidze, G. (2025). “EU Enlargement Package 2024 and Environmental Policy Challenges in Enlargement Countries. Case of Georgia”, 5th USBED CONFERENCE, CONFERENCE BOOK, Istanbul. DOI <https://doi.org/10.5281/zenodo.175511078>. <https://usbed.org/conference-archive/>
- Tchelidze, G., Tretiacov, O. (2025). “The Challenge of Raising Public Awareness for the Development of a Circular Economy”, Challenges, Processes, and Policies for a Circular Economy that Works for Consumers, EDITURA UNIVERSITĂȚII, ALEXANDRU IOAN CUZA” DIN IAȘI. DOI: 10.47743/ECO4ALL.2025.1.7. https://eco4all.org/wp-content/uploads/2025/12/Volum-Conferinta_10-DECEMBRIE-2025.pdf
- Mcarmoeblis gapartoebuli valdebulebis organizaciebis mier migceuli sedegebis angarisi. 2023 wlis angarisi [2023 Report on the Results Achieved by Extended Producer Responsibility Organizations] <https://mepa.gov.ge/Ge/Files/ViewFile/54091>
- Mcarmoeblis gapartoebuli valdebulebis organizaciebis mier migceuli sedegebis angarisi. 2024 wlis angarisi [2024 Report on the Results Achieved by Extended Producer Responsibility Organizations] <https://mepa.gov.ge/Ge/Files/ViewFile/54091>
- Mcarmoeblis gapartoebuli valdebuleba saqartvelosi [Extended Producer Responsibility in Georgia]. <https://geo.org.ge/wp-content/uploads/2019/02/mwarmoeblis-gafartoebuli-valdebuleba-saqartveloshi.pdf>
- Mcarmoeblis gapartoebuli valdebuleba - gzamkvlevi mcarmoebeltatvis [Extended Producer Responsibility - A Guide for Producers]. <https://www.undp.org/ka/georgia/publications/mcarmoeblis-gapartoebuli-valdebuleba>

- Mcarmoebulis gapartoebuli valdebulebis saxelmzgvanelo [Manual on Extended Producer Responsibility (EPR)]. https://geo.org.ge/wp-content/uploads/2019/02/EPR-manual_GEO.pdf
- Narchenebis martvis sistema [Waste management system]. <https://waste.mepa.gov.ge/Legislation/Index>
- Entrepreneur Georgia. (n.d.). *Extended producer responsibility reform in Georgia*. <https://www.entrepreneur.com/ka/siakhleebi-da-tendentsiebi/mtsarmoeblis/356937>
- Georgian Public Broadcaster (1TV). (n.d.). *Meeting on extended producer responsibility with public and private sector participation*. <https://1tv.ge/news/mwarmoeblis-gafartoebuli-valdebulebis-temaze-sajaro-da-kerdzo-seqtoris-monawileobit-shekhvedra-gaimarteba/>
- Heinrich Böll Stiftung. (2020). *Waste management in Georgia*. <https://ge.boell.org/ka/2020/06/25/narchenebis-martva-sakartveloshib>
- BM.ge. (n.d.). *Extended producer responsibility: What hinders adoption of packaging waste regulation*. <https://bm.ge/news/mtsarmoeblis-gafartoebuli-valdebuleba-ra-aferkhebs-shesafuti-narchenebis-reglamentis-mighebas>
- Ministry of Environmental Protection and Agriculture of Georgia. (2023). *2023 report on the results achieved by extended producer responsibility organizations*. <https://mepa.gov.ge/Ge/Files/ViewFile/54091>
- Ministry of Environmental Protection and Agriculture of Georgia. (2024). *2024 report on the results achieved by extended producer responsibility organizations*. <https://mepa.gov.ge/Ge/Search/SearchResult?page=3&pageSize=10>
- Tegeta Green Planet. *Official website*. <https://tgp.ge/>
- Tegeta Green Planet. *Eco-Tips book presentation*. <https://tgp.ge/en/news/presentation-of-the-book-eco-tips-took-place-in-11-schools-in-tbilisi>
- Waste Management Business Association. *Official website*. <https://wmba.com.ge/>
- Georgian Producers Extended Liability Association. *Wasteless platform*. <https://wasteless.ge/>
- Georgian Producers Extended Liability Association. (2025). *Eco-friendly podcast* [YouTube channel]. <https://www.youtube.com/@ეკომეგობრული>