Adapting to the EU Waste Framework Directive and Extended Producer Responsibility

A Practical Guide for Producers, Importers and Distributors in the Western Balkans

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ABBREVIATIONS

BD	Brčko District
CE	Circular Economy
CRM	Common Regional Market
CSO	Civil Society Organisation
DRS	Deposit Return System
EEA	European Economic Area
EPR	Extended Producer Responsibility
EU	European Union
FBiH	Federation of Bosnia and Herzegovina
GAWB	Green Agenda for the Western Balkans
NWMP	National Waste Management Plan
OECD	Organisation for Economic Co-operation and Development
PET	Polyethylene terephthalate (Thermoplastic polymer)
POM	Polyoxymethylene
PPP	Polluter pays principle
PRO	Producer Responsibility Organisation
PPW	Packaging and packaging waste
RS	Republika Srpska
SME	Small and medium-sized enterprises
UIN	Unique Identification Number
WB6	Western Balkans Six
WEEE	Waste from electrical and electronic equipment
WFD	Waste Framework Directive
ZSVR	Central Agency Packaging Register in Germany

EXECUTIVE SUMMARY

As the Western Balkans deepen their economic integration with the European Union, businesses in the region face increasing pressure to comply with EU environmental standards, like the Waste Framework Directive (WFD) and Extended Producer Responsibility (EPR). This report offers practical guidance for producers, importers and distributors navigating this transition, based on an assessment of national frameworks and a survey among 146 businesses in the Western Balkans.

The findings reveal a region in transition but unevenly equipped. While Bosnia and Herzegovina, North Macedonia and Serbia have established EPR systems and functioning Producer Responsibility Organisations (PROs), Albania, Kosovo and Montenegro remain at earlier stages of implementation. In these cases, although legal frameworks are often in place, the absence of key bylaws, weak enforcement, and inadequate infrastructure continue to hinder effective application.

Business readiness also varies significantly by company size and market orientation. Large companies and those engaged in international markets are more advanced in their compliance efforts. 73% percent of exporters report having implemented EPR measures, compared to less than half of locally oriented firms.

Meanwhile, over 60% of small businesses report having made little progress, with 78% citing unclear regulations and 73% lacking even a basic understanding of EPR. Circular economy principles instead are adopted by around 55% of the companies.

Despite that more than half of businesses operate independently, collaboration proves to be essential for success. Companies that work with local governments or environmental organisations report higher levels of EPR awareness, implementation success and tangible business benefits. In contrast, companies that operate in isolation consistently demonstrate lower compliance and understanding. This highlights the essential role of intermediary institutions in helping businesses overcome technical, regulatory and financial barriers.

Coordination of efforts is necessary for success in addressing infrastructure investment, enforcement capability, regulatory clarity and cooperative frameworks that promote sustainable business development across the region.

This guide draws on EU legislation, national legal frameworks and first-hand business experiences to provide step-by-step recommendations for EPR implementation and system design. It aims not only to support compliance, but to help businesses unlock new opportunities for innovation, competitiveness, and sustainable growth. By aligning business practices with the EU's circular economy goals, the Western Balkans can position themselves as responsible, forward-looking economies ready to meet both regulatory expectations and market demands.

I

Introduction and Context

WHY THIS GUIDE AND WHO IS IT FOR?

The business landscape in the Western Balkans (WB) is transforming. Companies in the region must adapt to European Union (EU) environmental regulations, which bring both opportunities and challenges as economic integration with the EU deepens. Key regulations shaping waste management and product lifecycle responsibilities include the Waste Framework Directive (WFD) and Extended Producer Responsibility (EPR).

This guide addresses the increasing need for businesses in the WB to align with EU environmental standards. This alignment is not merely a regulatory requirement but represents a fundamental shift toward sustainable business practices and environmental responsibility. The initiative comes at a time when the EU's Green Deal and the Green Agenda for the Western Balkans (GAWB) play a central role in the region's development strategy.

Businesses across the WB are at different stages of their environmental transition. While Bosnia and Herzegovina, North Macedonia and Serbia have established EPR systems, other economies are still in early phases of development. Many businesses, especially small and medium-sized enterprises (SMEs), face challenges due to limited funding and expertise. They must decide what adjustments to make, how to handle the expenses of transition, and how to put new systems into place.

As research for this guide shows that around one third of these companies are SMEs active in the EU market.

However, many companies, especially SMEs lack clear understanding of national waste management legislation and EPR requirements. Additionally, almost 60% of the surveyed companies intend to access new markets. These findings highlight the need for clear and practical guidance to help businesses align with EU environmental standards, fostering sustainable growth and market access.

This guide serves a diverse business community, including:

- **Distributors** managing different product lines.
- **Importers** delivering products to the WB.
- **Manufacturers** producing packaged goods.
- **Retailers** serving end customers.

It also provides useful information for:

- Waste management operators.
- Recyclers.
- Business associations involved in developing efficient waste management systems.

What sets this guide apart is its regional focus, offering recommendations for businesses at different stages — whether they need to comply with legislation, develop new systems or optimize existing practices.

For companies in the Western Balkans operating across borders, understanding different national waste management regulations is essential. Compliance with these regulations not only ensures legal security but also strengthens market positioning in economies that prioritize environmental responsibility.

Implementing EPR can drive innovation in product design, reduce waste management costs, and create new business opportunities in recycling and sustainability.

Moreover, proactive engagement with environmental regulations can enhance a company's reputation, providing a competitive edge in markets where consumers are increasingly concerned about sustainability.

This knowledge can also foster regional cooperation on environmental issues and contribute to sustainable development across the Western Balkans.

Many businesses in the WB face more imminent challenges, and environmental compliance may seem overwhelming, particularly given the limited technological capability and budget limitations. To address these concerns, this guide provides clear and concise explanations, practical solutions that consider existing infrastructure limitations, and examples of best practices from the region.

METHODOLOGY

This guide uses a mixed-methods approach, combining desk research with both qualitative and quantitative methods to ensure comprehensive data collection and analysis across the Western Balkans region. The aim is to assess existing national waste management legislation, identify gaps in implementation, and understand the adjustments companies producing for the EU market need to make to comply with waste management obligations, particularly EPR.

The primary data collection began with qualitative interviews with key stakeholders from each of the six WB economies. Interviewees included representatives from the national chambers of commerce, providing insights into waste management frameworks and institutional challenges.

A comprehensive survey[1] was conducted among 146 companies of varying sizes and sectors across the Western Balkans.[2] The survey gathered information on:

- Current waste management practices
- Levels of legal compliance
- Key implementation challenges
- Support and resources needed for compliance

Statistical analysis of the survey responses provided indicators of companies' readiness and helped identify barriers to implementation. Previous chamber-led surveys were also consulted to strengthen the understanding of regional trends.

The survey and interviews were complemented by an in-depth review of existing legislation, policy documents, environmental reports, and technical standards from both the EU and WB economies. This review established the current regulatory baseline and highlighted discrepancies between local regulations and EU requirements.

Consultations with stakeholders served as both a means of gathering additional data and validating the findings. These sessions brought together representatives from various sectors to reflect on preliminary results, confirm insights, and contribute to practical recommendations tailored to the region.

Case studies were developed featuring businesses that have successfully implemented EU-compliant waste management practices. These examples illustrate feasible approaches and offer inspiration for other companies in the region.

To ensure accuracy and reliability, data was cross-referenced using multiple sources. This process included regular input from Green Economy experts within the WB Chamber of Commerce network.

The research also assessed training needs and capacity gaps. This included evaluating business capabilities and identifying specific skills and knowledge areas requiring support to meet EU compliance standards.

1 See Appendix

2 This analysis is based on a relatively small sample of 146 surveys, with limited financial data and uneven coverage across the six economies. As such, the resulting guidelines should be interpreted as general recommendations rather than economy-specific or fully tailored advice.

II

Understanding Waste Policy Frameworks

WASTE MANAGEMENT POLICIES IN THE EUROPEAN UNION

Waste Framework Directive

The European Union's Waste Framework Directive (WFD Directive 2008/98/EC) defines how waste is managed across the EU, aiming to protect the environment and human health. It promotes the reintroduction of reusable materials into the supply chain, supporting the EU's transition to a circular economy, where materials are reused, repurposed, and recycled instead of discarded.

EU waste legislation is structured into three areas:

1. General frameworks (like the Waste Framework Directive),
2. Regulations on specific waste streams (e.g., packaging, batteries, electronics),
3. Requirements for waste collection, treatment, and reporting.

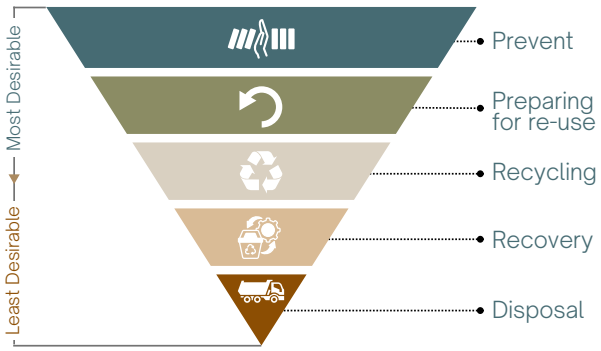
These rules aim to support the EU Green Deal and Circular Economy Action Plan by requiring companies to adopt sustainable, resource-efficient practices. The WFD establishes the overarching legal framework for waste management in the EU. It sets the core principles and requirements for how waste is managed across member states and over time, the EU has introduced amendments to the legislation, refining regulations on how products sold in the European Economic Area (EEA) are reused, repurposed, recycled, or disposed of.

The amended WFD applies to all products placed on the EU market, regardless of their manufacturing origin. As the EU is the largest trade partner for the Western Balkans, companies in the region aiming to access the EU market can benefit from the WFD's definitions related to waste management, including recycling and recovery. It also specifies when waste qualifies as a secondary raw material, enabling stakeholders to differentiate between waste and by-products.

Core Principles of the WFD

The overarching principle of the EU waste policies is the establishment of a **waste hierarchy**, which prioritizes waste prevention as the highest objective. This is followed by preparing for reuse, recycling and other recovery and, as a last resort, disposal as the least desirable option:

Illustration 1: Waste Hierarchy



The WFD also enshrines the polluter pays principle (PPP), which ensures that those responsible for generating waste bear the costs of its proper management. **By shifting** the cost burden from governments and taxpayers to the businesses that create waste, the PPP incentivizes efforts to prevent pollution and reduce waste generation. One of the key mechanisms defined in the WFD to support these objectives is Extended Producer Responsibility (EPR), which places the onus on producers to manage the entire lifecycle of their products.

Extended Producer Responsibility

Extended Producer Responsibility (EPR) is an environmental policy approach that holds producers and importers, placing certain products on the market, accountable for the entire lifecycle of their products, including waste prevention, take-back options and recycling. While EPR systems differ from country to country, they are built on shared core principles, like packaging and product design improvement for greater recyclability or reusability. An EPR system provides producers/importers with the tools to contribute to a circular economy - an economic model focused on reusing and regenerating materials and products. This approach aligns with the environmental goals of the European Green Deal, aiming to make Europe climate-neutral by 2050

Key Elements of EPR [3]

Product Design

- Encourages eco-friendly designs that are easier to recycle, reuse, or dispose of sustainably.
- Promotes the use of recyclable and sustainable materials.

Waste Collection and Management

- Take-back systems: Requires producers to take back products for recycling or disposal.
- Ensures waste is handled in an environmentally responsible way.

Financial Responsibility

- Makes producers fund product collection, recycling, and disposal.
- Provides incentives to promote recycling and the use of recycled materials.

Reporting and Transparency

- Reporting obligations: Mandates producers to document and share data on product volumes, recycling rates, and waste reduction initiatives.

Stakeholder Involvement

- Collaboration: Fosters partnerships among producers, governments, waste management entities, and consumers to achieve shared EPR goals.
- Consumer education: Promotes consumer awareness of sustainable disposal practices.

Legal and Regulatory Framework

- Legislation: Establishes mandatory EPR requirements through relevant laws and policies.
- Compliance enforcement: Ensures adherence to EPR standards and regulations through monitoring and penalties.

3 **Taxually:** A Guide to Extended Producer Responsibility

Evolution of EPR

The concept of Extended Producer Responsibility emerged in the early 1990s to transfer waste management duties from municipalities to producers (Illustration 2). Since then, EPR was formalized in various policies by many countries, creating frameworks to hold producers accountable. The groundwork of EPR was laid with the EU Directive on Packaging and Packaging Waste in 1994.

Since the 2000s, these policies have expanded further to cover a wider range of waste types, with more advanced systems for feedback and compliance monitoring.

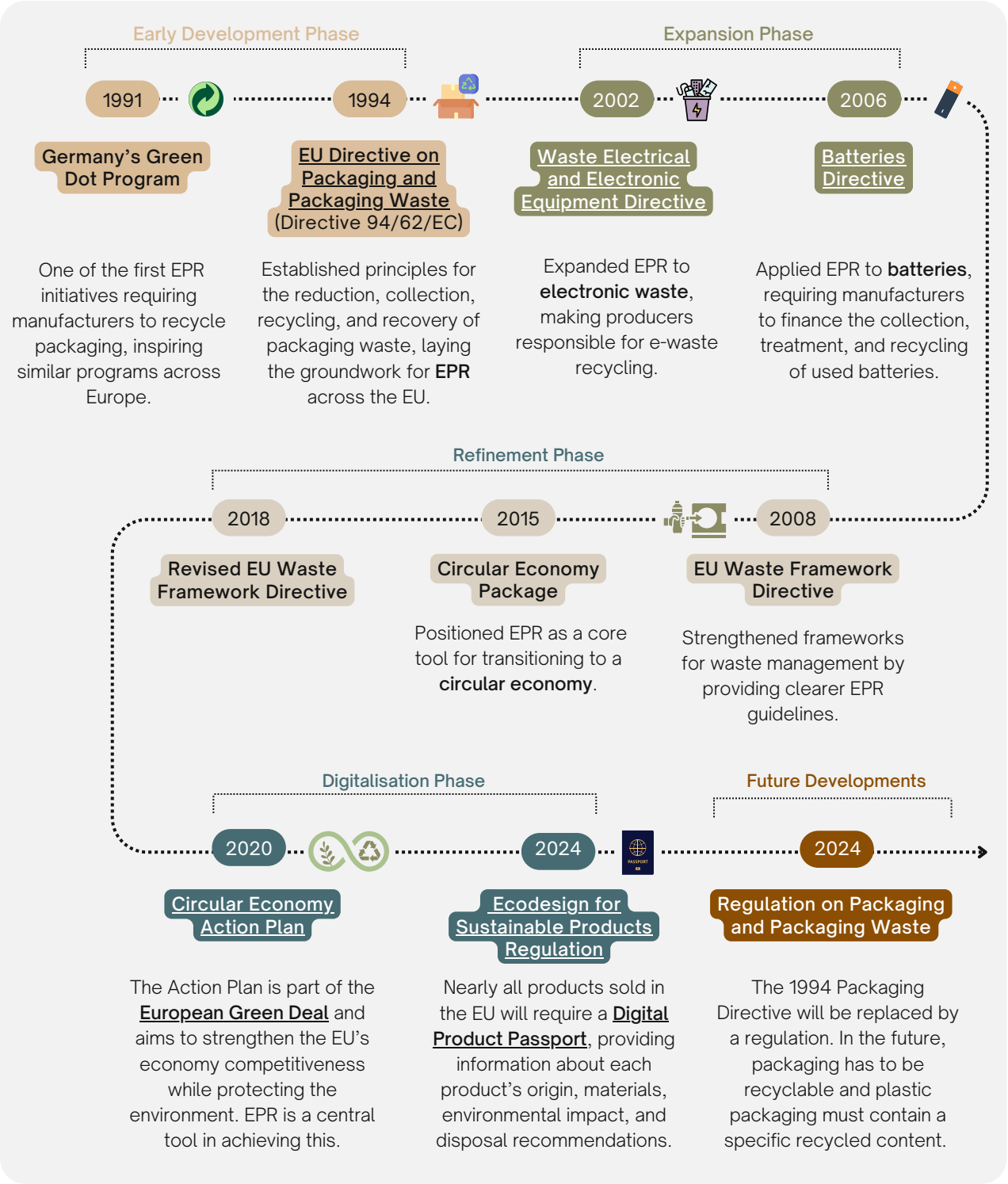
For instance, initially focused on packaging waste, EPR broadened its scope to address electronic waste, driven by the surge in electronic devices. Some countries have also incorporated EPR frameworks for managing battery waste, ensuring safe disposal and reducing environmental risks. The rise in plastic pollution prompted the inclusion of plastic waste in EPR, pushing producers to adopt sustainable packaging. Additional areas of focus include tyre waste and used oil management solutions.

Eventually, the EU Waste Framework Directive (WFD Directive 2008/98/EC) introduced EPR schemes as an economic tool to achieve the objectives laid out in the Directive. The WFD outlines requirements for how EPR schemes should be designed and implemented by the EU Member States. These include:

- Incorporating end-of-life costs into product prices,
- Ensuring a level playing field for all producers (including SMEs and e-commerce companies),
- Promoting recyclability, reusability, reparability, and reducing hazardous substances in product design,
- Improving transparency and governance in how EPR systems are managed.

The WFD leaves flexibility for the EU ember states in how they implement these obligations, but correct and full transposition is essential to avoid market distortions, trade restrictions or competition issues.

Illustration 2: Evolution of EPR policies in Europe



Financial and Operational Impacts of EPR on Businesses

Shifting the responsibility for post-use product management to businesses has significant financial and operational implications. Under EPR, producers and importers must cover the costs of managing the waste associated with the products they place on the market. This includes:

- **Waste management fees** paid to Producer Responsibility Organisations (see → How EPR works in practice),
- **Compliance charges** related to registration, reporting, and monitoring,
- **Investments in product redesign**, especially to improve recyclability, reusability, or to eliminate hazardous substances.

Additionally, businesses are required to implement systems for tracking materials used in products and packaging and must report on waste generation, collection, and recycling activities. These obligations apply regardless of company size and represent a particular challenge for SMEs without internal compliance departments.

For many businesses, adapting to EPR requirements means re-evaluating entire supply chains. This may involve substituting conventional packaging materials with eco-friendly, recyclable alternatives, modifying product design, and collaborating with suppliers and waste operators to ensure downstream compliance.

However, despite the costs and administrative demands, EPR also presents opportunities. It encourages businesses to:

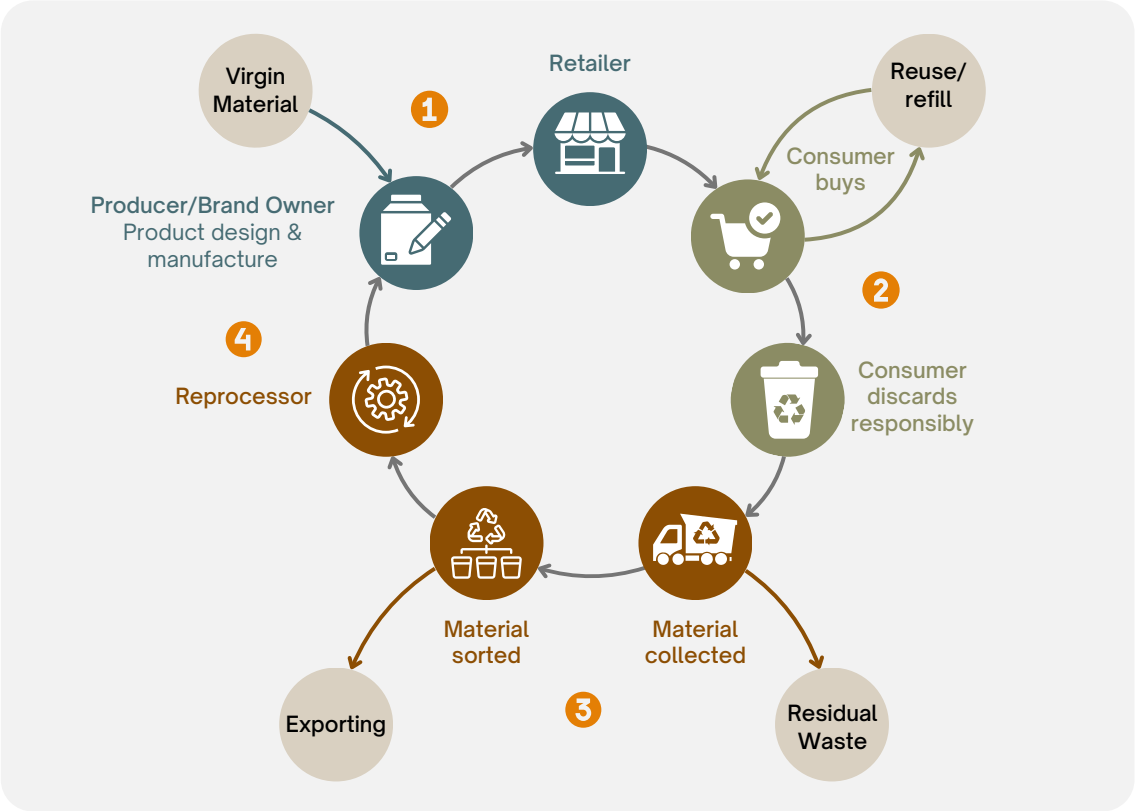
- **Innovate** in the field of sustainable product and packaging design,
- **Respond to consumer demand** for more environmentally responsible products,
- **Strengthen their brand reputation** by demonstrating commitment to sustainability.

In highly regulated markets such as the EU, non-compliance with EPR obligations can lead to penalties, product bans, and damage to brand reputation — risks that are particularly serious for exporters aiming to access or expand within the EU market.

The EPR Lifecycle: From Raw Material to Recycling

At the core of EPR is the idea that producers retain responsibility for their products well beyond the point of sale, including collection, recycling, and final disposal. This principle is not only about financial contributions but also about shaping a product's entire lifecycle to align with the goals of the circular economy (Illustration 3).

Illustration 3: The EPR Lifecycle



1. The lifecycle begins with the extraction and use of virgin raw materials, which are transformed into finished products by producers and brand owners. Once manufactured, these products are introduced to the market and distributed to consumers, often through retail channels.

2. Consumers play a pivotal role in this cycle. Depending on the product, they may choose to reuse or refill it where systems allow, or dispose of it once its usefulness has ended.

3. At this point, the product enters the waste collection and sorting system. Here, materials are separated: some may become residual waste, which cannot be recovered and is sent for disposal, while others continue through the value chain for further processing.

4. Reprocessing facilities treat sorted recyclable materials and convert them into secondary raw materials. These materials are then reintroduced into manufacturing processes, thereby reducing dependency on virgin inputs. In some instances, sorted materials are exported for reprocessing elsewhere, depending on national infrastructure and market conditions.

What distinguishes EPR from traditional waste systems is the continued responsibility of producers throughout this cycle. Producers are held accountable not only for financing waste management operations but also for influencing product design, ensuring recyclability, and contributing to systems that enable reuse and recovery.

By creating a closed-loop model where materials are continuously repurposed rather than discarded, EPR supports the broader objectives of the circular economy. It reduces environmental impact, minimises resource depletion, and shifts industry practices toward sustainability making producers active participants in long-term waste reduction rather than passive actors.

How EPR works in practice

EPR systems are typically implemented through Producer Responsibility Organisations (PROs). These entities are designed to help producers fulfill their legal obligations under EPR schemes in an efficient and coordinated way.

PROs are usually established by:

- Individual producers or importers,
- Industry associations,
- Consortia of companies within a particular sector that recognize the need for a collective approach to waste management.

By joining a PRO, producers share responsibilities that would otherwise fall on each company individually. PROs take on both logistical and often financial tasks, helping to streamline operations and reduce costs through economies of scale. This collaborative model can result in better environmental outcomes while lowering the administrative burden on businesses.

The main functions of PROs include:

- Establishing and managing networks for the collection, sorting, and recycling of waste materials,
- Coordinating efforts between producers, waste management companies, recyclers, and local authorities to ensure proper handling of end-of-life products,
- Managing the financial side of EPR by collecting fees from member producers, which are then used to fund waste treatment and recycling operations,
- Overseeing data collection and reporting, including tracking waste volumes, recycling rates, and ensuring compliance with national and EU regulations.

PROs also play a critical role in ensuring transparency and accountability in EPR schemes. They compile and publish reports that are used by regulators to monitor compliance, set performance benchmarks, and adjust policies where needed. PROs also handle reporting and transparency, compiling and sharing data on waste volumes, recycling rates, and regulatory compliance with regulations. This collective management approach not only simplifies compliance for businesses but also enhances the effectiveness of waste reduction and recycling initiatives across industries.

NATIONAL WASTE MANAGEMENT SYSTEMS IN THE WESTERN BALKANS

By endorsing the Green Agenda for the Western Balkans (GAWB) in Sofia in 2020, the region committed to aligning with the European Green Deal's ambition of achieving carbon neutrality by 2050. The adoption of the Sofia Declaration was followed by a 2021-2030 implementation action plan.

This was a step forward for the region but also a commitment embedded in the Economic and Investment Plan for the Western Balkans backed by the green and digital transition. **The Western Balkans agreed to start the green transition within the Green Agenda.** This has been kick-started especially in the field of decarbonization, Circular Economy (CE), depollution, sustainable food system, rural areas, and biodiversity.[4]

The Western Balkans currently face significant challenges in resource productivity of just 0.35 euro/kg - significantly lower than the EU average of 2.07 euro/kg. This stark gap highlights inefficiencies in how resources are used and waste is managed across the region. The Western Balkans need to substantially transform to align with EU circular economy objectives.

Resource productivity measures how efficiently an economy uses natural resources to generate economic value, expressed as GDP per kilogram of material consumed. **A higher resource productivity indicates more value is created with fewer resources**, reflecting better waste management and more efficient production practices.

Although most WB6 economies have introduced regulations related to the circular economy under the broader EU policy framework, implementation remains limited. **None of the economies has a fully adopted or fully functioning regulation underway.**[5]

4 2020, 'Guidelines for the Implementation of the Green Agenda for the Western Balkans', European Commission

5 2022 F. Korançe, et.al, Underpinning Circular Economy Progress in the Western Balkan Countries: A Comprehensive Policy Implementation Analysis

Albania

Albania has made notable progress in aligning its waste management policies with EU regulations through the adoption of several legal acts. A key milestone was the amendment of the Albanian Law No. 10463 on Waste Management in June 2024, which aims to transpose the EU WFD. This development is part of Albania's broader commitment to partially or fully transpose EU legislation in pursuit of its EU accession objectives.

In 2021, the Albanian Government adopted the Regulation for Pre-packaging (Decision of the Council of Ministers No. 443, dated 22.7.2021), which defines the responsibilities of producers or importers in ensuring that pre-packaged products placed on the market comply with relevant standards. The regulation also sets labelling requirements for manufactures and regulates the production and sale of plastic bags, including a ban of single-use plastic bags.

Despite these regulatory advancements, Albania's recycling rate remains low, estimated at 18,81%.[6] While Albania has some level of preparation in waste management, progress has been limited. A step forward was the establishment of the National Agency for Waste Economy in 2024, tasked with implementing the waste hierarchy and promoting waste separation and recycling efforts.

Albania is currently developing its EPR framework through a new draft law aimed at transposing EU requirements and advancing the country's EU accession process. Prepared between 2023 and 2024, the draft law introduces a dual compliance system, allowing producers to either pay a product tax or join a PRO.

The proposed legislation covers four main waste streams: packaging waste, batteries and accumulators, end-of-life vehicles, and waste from electrical and electronic equipment (WEEE). Implementation responsibilities are shared between national institutions, including environmental, customs, and tax authorities, and local governments.

However, the draft law has faced considerable criticism from the business community, including the American and Italian Chambers of Commerce. A key concern is the constitutionality of the proposed product tax mechanism, specifically, the delegation of authority to set tax rates to the Albanian Government, rather than defining these rates within the law itself. Additionally, critics have raised questions about the structure of the proposed PRO system, which introduces an unusual hybrid model between commercial and non-profit entities. This design raises legal uncertainties, particularly given the current legislative constraints on non-governmental organisations operating in such a capacity.

Business associations argue that the current draft law could impose higher costs without effectively improving waste management outcomes. They advocate for detailed feasibility studies and call for unified EPR schemes tailored to each waste stream. A particular concern is the risk of double taxation on packaging, given that existing legislation already includes related taxes.

6 INSTAT: Urban Solid Waste, 2023.

What SMEs need to know - Frequently Asked Questions

What is the main waste law I should be aware of?

Albania's key waste law is Law No. 10463, amended in June 2024, which aims to fully align with the EU Waste Framework Directive (WFD). The waste management law is being revised in 2025, with amendments currently under consideration by the Albanian Parliament.

What is Extended Producer Responsibility (EPR)?

EPR means producers and importers must take financial or organisational responsibility for managing the waste their products generate, especially packaging, electronics, vehicles, and batteries.

Is the EPR system already active?

Not yet. Albania is developing a new EPR law (drafted in 2023–2024). It proposes a dual system:

1. Pay a product tax, or
2. Join a Producer Responsibility Organisation (PRO).

Which products will be affected by EPR?

- Packaging
- Batteries and accumulators
- Waste electrical and electronic equipment (WEEE)
- End-of-life vehicles

Where can I get help or updates?

Follow updates from:

- Ministry of Tourism and Environment
- Your Chamber of Commerce

Bosnia and Herzegovina

Over the past decade, Bosnia and Herzegovina has established a legal framework of policy instruments to contribute to sustainable and environmentally sound waste management. However, gap analysis with the EU acquis reveal a significant absence of policy instruments needed to accelerate the transition to a circular economy.

In Bosnia and Herzegovina, responsibility for environmental protection, including waste management, is under the jurisdiction of its entities: the Federation of Bosnia and Herzegovina (FBiH) and the Republika Srpska (RS). The Brčko District (BD BiH) also has its own authority over this matter. As a result, policies and regulations are adopted at the entity and district level, leading to inconsistencies in transposition and implementation across these jurisdictions.

Each region is governed by its own laws on waste management:

- **Federation of Bosnia and Herzegovina:**
  - Law on Waste Management: Official Gazette of the BiH Federation numbers 33/03, 72/09, 92/17, 72/24
    - Regulation on the Management of Waste from electrical and electronic products: Official Gazette of the BiH Federation number 23/23

- **Republika Srpska:**
  - Law on Waste Management: Official Gazette of the Republika Srpska, numbers 111/13, 113/13, 106/15, 16/18, 70/20 and 65/21
  - Republic waste management plan in Republika Srpska for the period 2019–2029.

- **Brčko District:**
  - Law on Waste Management: Official Gazette of the Brčko District of BiH, numbers 25/04, 1/05, 19/07, 2/08 and 9/09

These laws promote the principles of waste hierarchy, including the polluter pays principle and EPR. The Federation of Bosnia and Herzegovina and Republika Srpska have formally established EPR systems within their legal frameworks. While the EPR scheme in FBiH is more advanced, with a licensed and operational PRO in place, the RS system is at an earlier stage of implementation and still faces structural and operational challenges. The following sections provide a closer look at the EPR systems in each entity.

Implementation of the EPR System in the Federation of Bosnia and Herzegovina

The Extended Producer Responsibility system in the Federation of Bosnia and Herzegovina is established in detail through the **Rulebook on the Management of Packaging and Packaging Waste in the Federation of Bosnia and Herzegovina.**

This system enables producers to manage their packaging waste responsibilities through collective or individual compliance mechanisms. Under the EPR system, producers, importers, fillers, packers, distributors, and final suppliers have two main options for compliance:

1. Join a PRO, thereby transferring their obligations.
2. Pay fees directly to the Environmental Protection Fund if they choose not to join a PRO.

Legal Framework

The legal basis for transferring responsibilities to a PRO is rooted in the following legal instruments:

- **Law on Waste Management** (Official Gazette of FBiH, Nos. 33/03 and 72/09): Establishes the general legal framework for waste management in the entity.
- Rulebook on the Management of Packaging and Packaging Waste (Official Gazette of FBiH, No. 27/23): Defines comprehensive procedures, obligations, and criteria for all participants in the packaging waste management system.
- Regulation on the Conditions for Transferring Waste Management Obligations from Producers to Operators: This regulation defines the procedures and criteria for transferring obligations to authorized PROs.

Requirements for PROs

Authorized PROs under the EPR system must meet strict criteria:

- Non-profit in nature,
- Founded by legal entities putting packaging into circulation,
- Unable to own waste management infrastructure,
- Pre-contracts with authorized collectors from all 10 canton
- Authorized by the ministry through a rigorous licensing process, and
- Capable of contracting with at least 30 entities handling 30,000+ tons of packaging annually

Exemptions and Fees

Small-scale producers are exempt if their annual packaging volumes do not exceed the following thresholds:

- 100 kg for paper
- 300 kg for glass
- 30 kg for metal
- 80 kg for plastics
- 100 kg for wood
- 50 kg for other materials

Small-scale producers below exemption thresholds must still submit annual reports and pay the mandatory 30 KM general fee.

Fees range from 0,15 KM/kg for glass to 1,50 KM/kg for hazardous packaging, with paper at 0,20 KM/kg and plastic at 0,60 KM/kg.

To promote recycling and recovery, the 2023 Rulebook introduced progressive targets increasing from 37% to 45% by 2027.

Licensed PRO in FBiH: Ekopak

The primary licensed PRO in the Federation is Ekopak, a non-profit organisation established in 2011 by packaging producers, importers, fillers, distributors, and merchants.

Ekopak's key goals are to:

- Developing an efficient and integrated packaging waste management system.
- Helping clients meet regulatory requirements with minimal financial burden while maximizing environmental benefits.
- Leveraging existing municipal infrastructure and continuously improving waste management processes to create a sustainable and effective system.

At the core of its operations, Ekopak upholds key principles: fairness in client treatment, transparency in operations, and a strict cost-based approach to packaging fees, ensuring no cross-subsidization.

As a non-profit, it reinvests any surplus back into system improvements rather than distributing profits. The organisation is fully committed to legal compliance, audit transparency, and client data protection, ensuring trust and accountability in every aspect of its work.

Challenges in Implementation

A 2018 World Bank study reviewing the municipal solid waste management sector in FBiH highlighted the need to reform existing EPR schemes. Key issues included unclear division of responsibilities among stakeholders, lack of transparency in reporting and costs, and producers evading obligations.

Changes in Implementation

The 2023 Rulebook has strengthened the system considerably. The new framework addresses previous issues through clearer stakeholder responsibilities, mandatory transparency requirements, and enhanced enforcement mechanisms including substantial penalties (6,000-10,000 KM for non-compliance) and retroactive obligations from 2023.

Current challenges focus on ensuring full business awareness of the new requirements, transitioning all packaging producers into the formal system, and achieving the progressive recycling targets that increase to 45% by 2027.

Implementation of the EPR System in Republika Srpska

In the entity Republika Srpska, a similar legislation has been adopted, including provisions for an EPR packaging scheme, packaging recycling targets, waste prevention programs, ecolabeling and disincentives (fees) for specific waste categories. The EPR scheme functions in the same manner as in FBiH, however, in FBiH, the implementation is more advanced, with a well-established and licensed PRO (Ekopak) that operates across municipalities. In RS, while an EPR system is formally in place, the implementation appears less developed.

Therefore, a 2018 World Bank report proposed a number of reforms to make the system more effective, especially in terms of enforcement, transparency, and supporting infrastructure. Proposed measures include:

- influencing product design and manufacturing (e.g., eco-design, waste prevention techniques),
- affecting consumer behavior (e.g., economic instruments, awareness campaigns, eco-labelling),
- promoting waste prevention through public procurement.

Fees are applied to specific waste categories, especially targeting producers, importers, and traders of plastic carrier bags, except biodegradable ones. To support these goals, Republika Srpska also needs significant improvements in its infrastructure for separate collection and recycling.

Exemptions

Exempt from the obligations established by this regulation are:

- Returnable packaging,
- long-life packaging,
- containers used for international transport

Different Waste Laws in Bosnia and Herzegovina

	Waste Management Regulations	Packaging Waste Management Regulations	Extended Producer Responsibility
FBiH	Law on Waste Management: Official Gazette of the BiH Federation numbers 33/03, 72/09, 92/17, 72/24	Regulation on the Management of Packaging and Packaging Waste: Official Gazette of the BiH Federation number 27/23	Regulation on the Management of Packaging and Packaging Waste: Official Gazette of the BiH Federation number 27/23 Regulation on the Conditions for Transferring Waste Management Obligations from Producers to Operators Regulation on the criteria for calculation and method of payment of fees for products that after use become packaging waste and electrical and electronic waste
Republika Srpska	Law on Waste Management: Official Gazette of the Republika Srpska, numbers 111/13, 113/13, 106/15, 16/18, 70/20 and 65/21	Decree on packaging and packaging waste management: Official Gazette of the Republika Srpska number 24/21	Decree on packaging and packaging waste management: Official Gazette of the Republika Srpska number 24/21
Brčko District	Law on Waste Management: Official Gazette of the Brčko District of BiH, numbers 25/04, 1/05, 19/07, 2/08 and 9/09 Regulation on the waste categories with lists, Official Gazette of BD BiH, No. 32/06	*No regulation*	*No regulation*

What SMEs need to know - Frequently Asked Questions

Which waste management laws apply to me?

That depends on where your business operates:

- Federation of Bosnia and Herzegovina: Official Gazette of the BiH Federation, numbers 33/03, 72/09, 92/17, 23/23 and 72/24
- Republika Srpska: Official Gazette of the Republika Srpska, numbers 111/13, 113/13, 106/15, 16/18, 70/20 and 65/21
- Brčko District: Official Gazette of the Brčko District of BiH, numbers 25/04, 1/05, 19/07, 2/08 and 9/09

Is there an EPR system in Bosnia and Herzegovina?

Yes. Both the Federation of Bosnia and Herzegovina (FBiH) and Republika Srpska (RS) have established Extended Producer Responsibility (EPR) systems.

What are my options as a producer/importer in FBiH?

You must either:

1. Join an authorized PRO, or
2. Pay a fee directly to the Environmental Protection Fund.

What kind of products are covered?

In FBiH and RS:

- Packaging (paper, plastic, glass, metal, wood)
- Electronics and batteries (to a lesser extent)

Note: Each entity has its own exemptions and rules.

Are small producers exempt?

Yes, in FBiH, small producers are exempt below certain material thresholds:

- 100 kg for paper
- 300 kg for glass
- 30 kg for metal
- 80 kg for plastics
- 100 kg for wood
- 50 kg for other materials

Kosovo

Kosovo's waste policy is built on the Integrated Waste Management Strategy (2021–2030) and its Action Plan (2021–2030). These documents laid the groundwork for developing a more modern and sustainable approach to waste management. However, separate collection and recycling remain rare, and the system still relies heavily on informal pickers who collect recyclables like plastics and metals. According to the European Environment Agency, recent efforts have focused mostly on early-stage initiatives, particularly in bio-waste management and composting.

Legal Framework

The main legislation governing waste in Kosovo is the Law on Waste (Law No. 08/L-071), which was amended in 2022 to better align with the EU Waste Framework Directive. The updated law introduced several key provisions, including:

- Clear rules for permitting, collection, transport, treatment, and disposal of waste
- Mandatory reporting requirements for waste operators
- A system of fines ranging from 20 EUR for minor offences like littering to 40.000 EUR for serious violations by legal entities
- A 12-month timeline for issuing subsidiary acts following the law's entry into force

A major addition is the establishment of an EPR scheme, placing financial responsibility for waste management on producers throughout the entire lifecycle of a product. The law also includes a Deposit Return System (DRS) for recyclable packaging, where consumers pay a deposit when purchasing a product and get it refunded upon returning the packaging.

In October 2024, the Government of Kosovo adopted Decision No. 23.10.2024, approving the Concept Document on Waste Management. This document outlines a comprehensive plan for implementing the WFD and EPR, with the goal of shifting towards a circular economy and financially sustainable waste management.

It introduces new administrative directives for key waste streams such as packaging, electronics, batteries, oils, and end-of-life vehicles. Producers will be responsible for financing the collection, transport, and recycling of their products, relieving municipalities of these costs. However, municipalities will still have an important role in organising separate collection systems, which will later expand to include organic waste and textiles after 2030. Coordination between municipalities and EPR systems will be essential.

Implementation will be gradual, starting with priority waste streams and expanding over time to meet EU obligations. The concept also highlights the need to integrate the informal sector and to develop financial tools like standardized cost calculations and a clearinghouse mechanism to support long-term system sustainability.

Implementation Measures and Challenges

In 2024, Kosovo adopted several implementing regulations covering the export, import, transit, and transboundary movement of waste, along with legislation on packaging and packaging waste. These measures help operationalize the EPR framework and support the polluter pays principle.

Other efforts include:

- Activities to reduce the use of lightweight plastic carrier bags
- Preparations for the introduction of the deposit-refund system
- A steady decline in the number of illegal dumpsites - from 747 in 2022 to 373 in 2023, cutting the total in half

Despite this progress, several challenges remain. The inspection capacity of central institutions is still very limited and urgently needs to be strengthened. Further work is also needed to amend the Law on Waste Management, revise the national waste strategy by introducing binding recycling targets, and finalize the approval and implementation of inter-municipal waste management plans.

What SMEs need to know - Frequently Asked Questions

What is the main waste law in Kosovo?

Kosovo's key legislation is the Law on Waste (No. 08/L-071), updated in 2024 to align with the EU Waste Framework Directive (WFD).

What is Extended Producer Responsibility (EPR)?

EPR means that producers/importers must cover the costs of collecting and recycling waste generated by their products.

Is EPR already active in Kosovo?

Yes, it is part of the law, but it is being phased in. The government adopted a Concept Document in 2024 to guide full EPR implementation.

What does the Concept Document say?

- EPR will apply to packaging, electronics, batteries, oils, tires, and more
- Producers will pay for recycling, not municipalities
- Municipalities will organise separate waste collection
- The informal sector will be included in the system
- New cost calculation tools and reporting mechanisms will be introduced

What other changes are coming?

- Deposit Return System (DRS) for beverage packaging
- Stronger rules and higher fines (up to 40.000 EUR) for non-compliance
- Annual reporting and permits for waste operators

Where can I find support?

- Ministry of Environment, Spatial Planning and Infrastructure
- Local municipal offices
- Your Chamber of Commerce or business network

Montenegro

Montenegro is working toward a more sustainable and circular economy. This goal is part of its **National Development Strategy** and supported by the recently published Montenegro Roadmap towards the Circular Economy. To help guide this transition, Montenegro has developed a National Strategy for Circular Transition until 2030, along with an Action Plan for 2023–2024. A new plan is being prepared for the next two years, aiming to improve what has already been done and strengthen implementation mechanisms.

As of 2025, in Montenegro, the waste management legislative framework consists of:

- Law on Waste Management
- National Strategy on Waste Management for the period 2015–2030
- National Waste Management Plan (2024-2028)
- The Law on Communal Services
- National Strategy for Sustainable Development until 2030
- Municipal Waste Management plans

Law on Waste Management

A major step forward came in April 2024, when Montenegro adopted a new Law on Waste Management. This law replaces older regulations and brings the country closer to EU standards, including

- the WFD,
- the Packaging and Packaging Waste Directive
- and the Single-Use Plastics Directive.

A cornerstone of the new law is the EPR system which makes producers and importers responsible for the full life cycle of the products they place on the market. This includes collecting and recycling waste from products such as:

- Electrical and electronic equipment
- Packaging waste
- Single-use plastics
- Tires
- Fishing gear
- Batteries and accumulators
- End-of-life vehicles

Although EPR was part of the old system, it was not enforced properly on national level. The new law introduces clearer rules and stronger enforcement. However, for the system to work, several implementing bylaws still need to be adopted. This is expected to happen soon and will define exactly how producers and importers must comply.

At the moment, the EPR system prescribed by the Law on Waste Management is not yet fully operational due to the lack of necessary bylaws and the presence of inapplicable provisions due to underdeveloped infrastructure and insufficient service coverage.[7]

7 Regional Activity Centre for Sustainable Consumption and Production (2019): Priority areas of intervention to curb marine litter from food and beverage plastic packaging in Albania, Bosnia, and Herzegovina, and Montenegro.

As a result, many producers and importers do not yet follow the new legal requirements. For example, they are often not fulfilling their responsibilities for collecting packaging waste or recycling electronic products. Enforcement and inspections are still limited, which means companies face little pressure to comply.

The new Law also gives the possibility to establish a deposit system for the collection, processing and recycling of waste packaging to one company or multiple companies managing an organised system together in an EPR system. However, such a system, whether implemented by a single operator or a consortium, would not constitute a comprehensive national system.

Still, there is not enough clear information about whether producers are required to pay for packaging placed on the market. This shows a need for stronger sector-wide commitment and more transparency.[9]

Montenegro has also developed a Waste Prevention Program as part of the National Waste Management Plan.[10] This program sets targets to reduce the amount of waste generated by industrial production and other sectors. It is a key tool for preventing waste before it is even created.

Although these efforts are promising, Montenegro's recycling rate remains very low, at just 2–3%. This is far below the 2030 target set by the law on waste management, which requires that at least 50% of the total mass of waste materials, such as paper, metal, plastic and glass, collected from households and other similar sources be prepared for reuse and recycling.

Implementation Gaps

The law on waste management does not provide clear information on how producers are required to pay for packaging placed on the market. Further details are needed on PRO establishment, licensing, fee amounts, payment procedures, registration requirements, reporting forms, and enforcement rules.

8 European Commission (2017): Directorate-General for Environment, Eunomia, Vergunst, T. and Hogg, D.: A comprehensive assessment of the current waste management situation in South East Europe and future perspectives for the sector including options for regional cooperation recycling of electric and electronic waste – Final report, Publications Office

9 Eunomia (2021): Information Document for the Preparation of Guidelines to Tackle Single-use Plastic Items in the Mediterranean – Eunomia Research and Consulting

10 Zero Waste Montenegro: Solid Waste Management Status in Montenegro

What SMEs need to know - Frequently Asked Questions

What is the main waste law I should be aware of?

Montenegro adopted a new Law on Waste Management ("Official Gazette of Montenegro", Nos. 64/11, 39/16 and 34/24) in April 2024. It introduces new rules for how waste should be collected, treated, and reported, especially for businesses that put products or packaging on the market.

Is the EPR system already active?

The EPR system is mandatory under the new law, but it is not fully implemented yet, because several detailed rules are still being developed. That means enforcement is limited, but it is coming soon.

What types of products are affected?

If you place any of the following on the market, you'll likely fall under the EPR rules:

- Packaging (including plastic, paper, metal, etc.)
- Electrical and electronic equipment (WEEE)
- Batteries and accumulators
- Tires
- Single-use plastics
- Fishing gear
- End-of-life vehicles

What do I have to do if my company is affected?

You'll either need to:

1. Join a Producer Responsibility Organisation (PRO) or
2. Fulfill your obligations individually, including reporting, paying fees, and arranging waste collection.

Are there penalties if I don't comply?

Yes, once missing regulations are in place, inspection and enforcement will increase. Fines may apply for non-compliance, especially for not reporting or not paying required fees.

Where can I get help or stay updated?

You can follow announcements from:

- The Ministry of Ecology, Spatial Planning and Urbanism
- Chambers of Commerce or business associations for SME-friendly guidance
- Environmental consultants with EPR expertise

North Macedonia

In 2021, North Macedonia adopted and amended laws that build the main legislation for governing waste, fully aligning its legal framework with the EU Waste Framework Directive:

1. Law on Waste Management
2. Law on the Management of Packaging and Packaging Waste
3. Law on Extended Producer Responsibility for the Management of Special Waste Flows

In 2024, the government developed a Roadmap toward a Circular Economy and a new national waste strategy is currently being reviewed through an assessment impact consultation process.

Overall, North Macedonia's current legal and policy framework is largely aligned with the WFD and the EU Landfill Directive and regulates EPR schemes. The policy and regulation transpositions have already begun and are showing gradual progress. Waste management has become a key area in the country's shift towards a circular economy and the green transition, which is fully stated in most of the regulations in place.

Law on the Management of Packaging and Packaging Waste

The Law on the Management of Packaging and Packaging Waste from 2021 provides a clear framework for managing packaging waste through its entire lifecycle - from production to disposal. It enables the practical implementation of EPR by making producers and importers responsible for the environmental impact of the packaging they place on the market. Under this law, producers must meet several requirements, including:

- **Designing packaging** that meets technical standards.
- Limiting the use of **heavy metals**.
- Proper **marking and labelling**.
- **Meeting national recycling targets** by collecting and processing packaging waste.

To fulfil these obligations, producers can act individually or join a collective scheme through a legally registered PRO.

The law also outlines reporting duties, record-keeping requirements, and financial obligations, including fees based on the amount and type of packaging placed on the market. It includes exemptions for SMEs and allows for voluntary agreements as an alternative route for compliance.

The law applies to all types of packaging, (primary, secondary, and tertiary) and distinguishes between company sizes. Larger companies that generate more packaging waste face stricter requirements, while small producers are exempt if their annual packaging volumes do not exceed:

- 800 kg of glass
- 100 kg of plastics
- 10 kg of plastic bags
- 300 kg of paper, cardboard and multilayer packaging made predominately out of paper or cardboard components
- 100 kg of metal
- 100 kg of wood

Extended Producer Responsibility for Special Waste Flows

The Law on Extended Producer Responsibility for the Management of Special Waste Flows, also adopted in 2021, requires producers and importers to organise or join EPR schemes. This can be either managed independently or through agreements with PROs, which handle producers' waste management obligations. However, implementation of EPR schemes remain weak,[11] especially due to poor waste collection services and low awareness among stakeholders.

Prior to the 2021 law, the operation of collective waste management schemes (PROs) was governed separately under laws for individual waste types. The 2021 law establishes, for the first time, a unified and comprehensive EPR framework covering:[12]

- WEEE
- Batteries
- Waste oils
- Tires
- End-of-life vehicles
- Textiles

} since 2021

Under the EPR framework, producers and importers of packaged goods are required to:

- Meet national targets to reduce packaging waste.
- Ensure the collection and sorting of packaging materials for recycling.
- Fulfil other regulatory obligations related to waste management.

Implementation of EPR

Like many global EPR systems, North Macedonia allows producers to:

- Set up individual collection and treatment systems, or
- Join collective waste management schemes by partnering with a PRO.

The main PROs for packaging waste in North Macedonia include Pakomak, Euro Ekopak, Eco Packaging and Alpak Eko.

Bring systems for collecting packaging waste materials are established by the PROs in agreement with municipalities and other stakeholders included in the EPR scheme.

11 European Commission (2021): North Macedonia Country Report

12 Водич за практична примена на Законот за управување со пакување и отпад од пакување, Законот за проширена одговорност на производителот за управување со посебните текови на отпад, p. 29

Pakomak is the leading PRO, established as a non-profit company by 11 major producers in North Macedonia:

- Pivara Skopje AD Skopje;
- Prilepska Pivarnica AD Prilep;
- Vitaminka AD Prilep;
- Pelisterka DOO Skopje;
- Magroni DOO Skopje (Ladna, Dobra Voda);
- Coding Dooel Kavadarci (Gorska voda);
- Kozuvchanka DOO Kavadarci;
- Vivax Ltd. Skopje;
- Blagoj Gjorev AD Veles;
- VV Tikvesh AD;
- VV Stobi AD.

Since May 20, 2011, Pakomak has been part of the international packaging waste management network ProEurope. This membership grants Pakomak the license to use the "Green Dot" symbol, indicating that a financial contribution has been paid for post-consumer packaging waste management.

North Macedonia's EPR system has evolved into a legally structured, PRO-driven model that combines producer accountability with municipal cooperation. With the adoption of the 2021 EPR law, the country has expanded its scope beyond packaging to address special waste streams.

Challenges and Outlook

Despite these regulatory updates, municipal waste separation and recycling remain limited, and landfilling continues to be the most common waste disposal method.

Although the principles of circular economy are now embedded in the national waste management legislation, practical progress has been slow. This is largely due to insufficient awareness, lack of financial support and waste infrastructure shortcomings.

Continued support, communication and investment will be needed to ensure that businesses, especially SMEs, can effectively meet their obligations and contribute to sustainable waste practices.

What SMEs need to know - Frequently Asked Questions

What are the key waste laws I should know about?

North Macedonia has three main laws:

- Law on Waste Management (2021)
- Law on the Management of Packaging and Packaging Waste (2021)
- Law on Extended Producer Responsibility for the Management of Special Waste Flows (2021)

These laws align with EU rules and introduce important responsibilities for businesses.

Is an EPR system implemented in North Macedonia?

Yes, the Law on Extended Producer Responsibility for the Management of Special Waste Flows establishes, for the first time, a unified and comprehensive EPR framework.

Which products are currently covered under EPR?

As of January 2024, EPR applies to:

- Packaging waste
- WEEE (waste electrical and electronic equipment)
- Batteries and accumulators
- Waste oils
- Tires
- End-of-life vehicles
- Textiles

What do I have to do if I place these products on the market?

You have two options:

- Fulfil your obligations individually, including organising waste collection and reporting.
- Join a Producer Responsibility Organisation (PRO), which manages these obligations for you.

These laws align with EU rules and introduce important responsibilities for businesses.

What are my exact obligations?

You may be required to:

- Use recyclable or safe packaging.
- Label your products properly.
- Keep records and submit annual reports.
- Pay fees based on the type and quantity of products/packaging placed on the market.
- Meet national recycling targets.

Are SMEs treated differently?

Yes. The law includes exemptions for small producers and allows for voluntary agreements in some cases. Check whether these apply to your business.

Is the system fully working?

Not yet. While the laws are in place, implementation is still weak. Some reasons include:

- Low awareness among businesses
- Limited collection and recycling services
- Incomplete enforcement by authorities

Is recycling mandatory?

Yes, but municipal recycling systems are not yet fully developed, so progress is slow. Most waste still ends up in landfills.

Where can I get help or updates?

- Ministry of Environment and Physical Planning
- Your local municipality or Chamber of Commerce
- Producer Responsibility Organisations (PROs) if you want to join a collective scheme
- Business associations or industry groups offering workshops or support

Serbia

Serbia has taken important steps toward modernizing its waste management system, especially through recent legal reforms. The amendment of the Law on Waste Management in 2023 marked a milestone in aligning national policies with European standards.

However, while the legislative groundwork has been laid, significant challenges remain in implementation. Key policy instruments, including EPR, green public procurement, eco-labelling, and waste prevention, have not yet been operationalized to their full potential. As a result, many companies find themselves navigating a complex legal environment without sufficient infrastructure, incentives, or guidance to support compliance.

Legal Framework and Obligations for Producers

The Waste Management Law introduced the EPR principles and fees for putting specific product types on the market (packaging and special waste streams, such as tires, products containing asbestos, batteries or accumulators, mineral and synthetic oils and lubricants, electrical and electronic equipment and vehicles)

The EPR system in Serbia is made operational by the Law on Packaging and Packaging Waste. It establishes a framework where companies placing more than one ton of packaging on the Serbian market must meet nationally defined targets.

Under current law, companies may comply with packaging EPR obligations in one of three ways:

1. Join a licensed PRO
2. Manage packaging waste independently with valid permits
3. Pay fees directly to the state, which assumes the responsibility for waste management

In practice, nearly all companies opt for collective compliance through PROs. As of 2024, there are eight authorized operators functioning as collective schemes in Serbia.

Responsibilities and Reporting Requirements

The law outlines a number of obligations for businesses, including:

- Reporting the quantity and type of packaging placed on the market
- Participating in packaging collection and recycling, either directly or through a PRO
- Paying applicable fees to a PRO or the state
- Establishing deposit-return systems in the case of disposable sales packaging
- Ensuring compliance with collection targets and deadlines specified by voluntary agreements, where applicable

Exemptions apply to companies that use returnable packaging with a guaranteed collection system, or that place quantities below the prescribed thresholds.

Case Example: Sekopak

Founded in 2006, Sekopak is one of Serbia's leading PROs. Established by leading companies with strong environmental responsibility backgrounds in the EU, including Coca-Cola Hellenic, Knjaz Miloš, Carlsberg Serbia, Tetra Pak, and Ball Packaging, Sekopak has grown into a key actor in the national EPR system.

Sekopak holds Serbia's exclusive license for the Green Dot symbol via membership in Pro Europe. It is active in public awareness campaigns, and between 2010 and 2019, recorded the highest volume of packaging waste collection among PROs. In 2018 alone, it processed over 88.000 tons of packaging waste.

Performance of the System and Challenges

Although Serbia has formally implemented an EPR system for packaging, several gaps persist between regulation and practice.

The Packaging Reduction Plan set national recycling targets of 60–65% for the period 2025–2029, but actual recycling rates remain much lower. In 2022, the recycling rate stood at only 17,7%, casting doubt on the achievability of national goals.[13]

A number of structural issues contribute to these shortcomings. Serbia's EPR system relies heavily on collecting packaging waste from industrial and commercial sources, with limited success in engaging households. This limits the overall effectiveness of recycling efforts and contributes to low national recycling rates.

Moreover, the quantities of packaging declared as placed on the market appear unusually low when compared to waste composition analyses. Despite overall increases in municipal waste generation, the declared quantities of packaging have remained surprisingly stable. This discrepancy suggests a potential underreporting of packaging quantities, which in turn artificially reduces the calculated recycling and recovery targets, undermining the credibility of the EPR system.

There is also a lack of clarity regarding the division of responsibilities between Local Self-Government units, public utility companies, and PROs. This results in overlapping roles, weak coordination, and implementation gaps, particularly at the local level.

The development of separate collection infrastructure has been limited, especially in smaller municipalities. Furthermore, municipalities lack sufficient financial incentives to invest in improving separate collection and recycling systems, which has slowed progress towards national targets.

The Waste Management Law introduced the EPR principles and fees for putting specific product types on the market. Although producers must pay fees, there are "*no official dedicated separate collection or EPR schemes in place for other product categories or waste streams*",[14] such as WEEE. There is no data on how the fees paid are used to collect and manage these waste types.

13 Waste Prevention Plan of the Republic of Serbia, p.4

14 European Environment Agency (2021): Municipal waste management in Western Balkan countries. Country profile Serbia, p.13

Eco-Labelling and Waste Prevention Policy

Beyond EPR, Serbia has introduced a national Ecolabel (Type I) to promote sustainable consumption. However, uptake has been minimal: since 2019, only four companies have received the ecolabel, covering seven product lines.[15] Therefore, its potential to support green public procurement and incentivize environmentally preferable products remains largely untapped.

In 2019, the government adopted a Waste Prevention Plan and the Ordinance on the list of measures for the prevention of waste generation. They out prevention measures across all stages of the product lifecycle, from design and production to use and consumption. However, implementation has been limited, with little evidence that these measures are being enforced or monitored.

Outlook

While Serbia's waste management legislation aligns in many ways with EU standards, real-world implementation still faces considerable challenges. For companies, the EPR framework is functional for packaging waste, but insufficiently developed for other waste types. Transparency on the use of fees, clarity in roles, and municipal engagement must be significantly improved. The financial mechanisms supporting infrastructure development need strengthening, and the relationship between PROs and local authorities requires better coordination to achieve more effective outcomes.

To unlock the full potential of Serbia's EPR system, a more effective balance must be struck between regulation, enforcement, infrastructure development, and stakeholder cooperation to create a more effective and sustainable waste management system that can meet increasingly ambitious environmental targets.

15 Serbian Chamber of Commerce (2019): 5 green tools for sustainable business.

What SMEs need to know - Frequently Asked Questions

What is the Extended Producer Responsibility (EPR) system?

The EPR system in Serbia is a legal framework that requires producers to take responsibility for the waste generated by their products once they reach the end of their life cycle. This includes the collection, recycling, and reporting of packaging waste and certain other waste streams like tires, batteries, and electrical equipment.

What are the main waste laws I should be aware of?

The primary law governing waste management in Serbia is the Law on Waste Management. This law outlines the responsibilities for waste management, including EPR, and establishes the legal framework for the collection, recycling, and disposal of waste, especially packaging waste. The Law on Packaging and Packaging Waste makes Serbia's EPR System operational and establishes a framework where companies placing more than one ton of packaging on the Serbian market must meet nationally defined targets.

Who is obligated to comply with the EPR system?

Companies that place more than one ton of packaging on the market annually are required to comply with the EPR obligations. This includes reporting the quantity and type of packaging, participating in waste collection and recycling, and paying applicable fees.

What do I have to do if my company is affected?

There are three options for compliance:

1. Join a licensed Producer Responsibility Organisation (PRO): Companies can join a collective scheme managed by PROs to meet their responsibilities. In Serbia, SEKOPAK is one of the leading PROs.
2. Manage packaging waste independently: Companies can manage waste on their own, but must have the necessary permits.
3. Pay fees directly to the state: The state will take responsibility for waste management.

Are there exemptions to the EPR obligations?

Yes, exemptions apply to companies that use returnable packaging with a guaranteed collection system, or those that place less than the prescribed thresholds of packaging on the market.

What happens if my company fails to comply with the EPR regulations?

Failure to comply with the EPR regulations can lead to penalties and fines, as the system is designed to ensure that all companies contribute to waste management and environmental sustainability.

III

Data Assessment and Comparative Insights

WHAT BUSINESSES SAY: EXPERIENCES AND GAPS IN WASTE POLICY IMPLEMENTATION

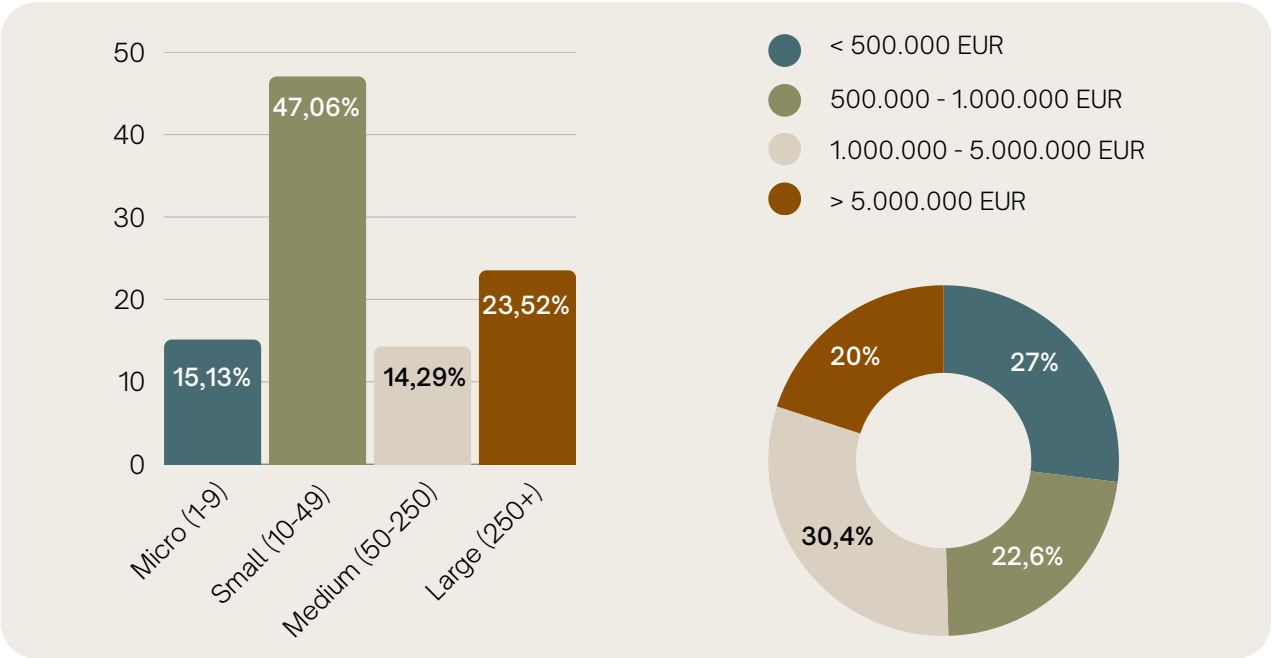
For this guide, a survey of 146 companies across the Western Balkans was conducted to gather insights into the business profiles, market activity, and understanding of Extended Producer Responsibility (EPR) and circular economy principles among respondents. The analysis highlights both the progress made and the challenges faced by surveyed companies in the transition to more sustainable waste management practices.

Profile and market reach of surveyed companies

Among the surveyed companies, the majority are small and medium-sized enterprises (SMEs), with most employing fewer than 50 people. While smaller firms dominate the sample, a number of larger enterprises are also represented. These larger companies are especially relevant for driving EPR implementation and advancing waste management practices in the Western Balkans, given their typically greater operational capacity and regulatory exposure.

The sample includes companies with a balanced range of annual revenues, from under 500.000 EUR to above 5 million EUR, reflecting the financial diversity of the business environment. This variation is particularly important in the context of waste management obligations, as financial and administrative capacity often shapes how businesses respond to EPR requirements and environmental regulation.

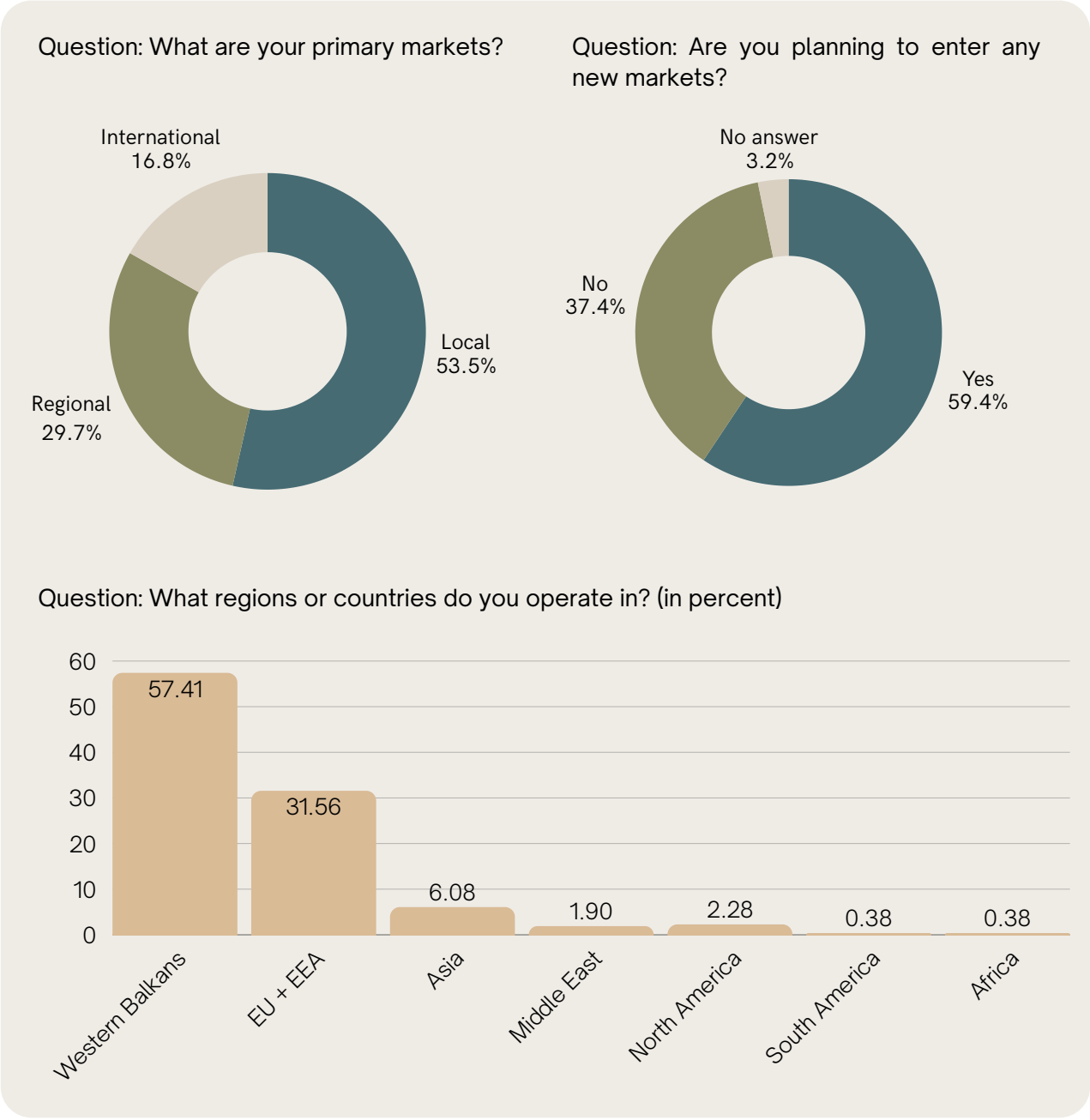
Graph 1: Size (number of employees) and revenue of the surveyed companies



In terms of market reach (Graph 2), the majority of surveyed companies (53,5%) operate primarily at the national level, with Montenegrin companies most frequently focused within their own borders (89%). The remainder includes businesses active regionally in the Western Balkans (29,7%) or internationally (16,8%). Among those with cross-border operations, most are active in the Western Balkans region (57.41%), followed by the EU market and EEA (31,56%).

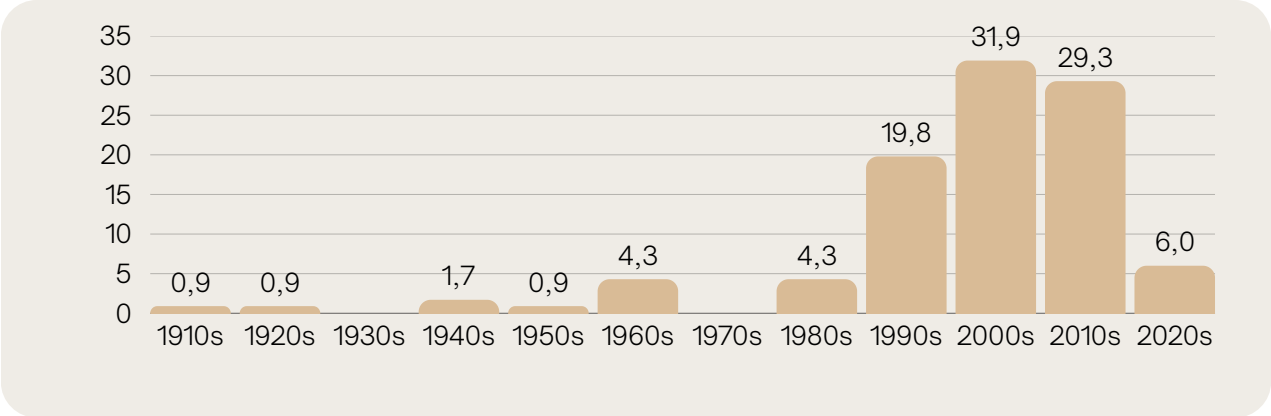
This international orientation is particularly relevant for waste policy alignment, as companies engaging in the EU market must increasingly comply with EU waste directives and circular economy goals. Notably, around 60% of all surveyed companies plan to enter new markets, underscoring the need for businesses to be regulatory-ready, especially in light of stricter environmental compliance requirements across borders.

Graph 2: Market reach of the surveyed companies



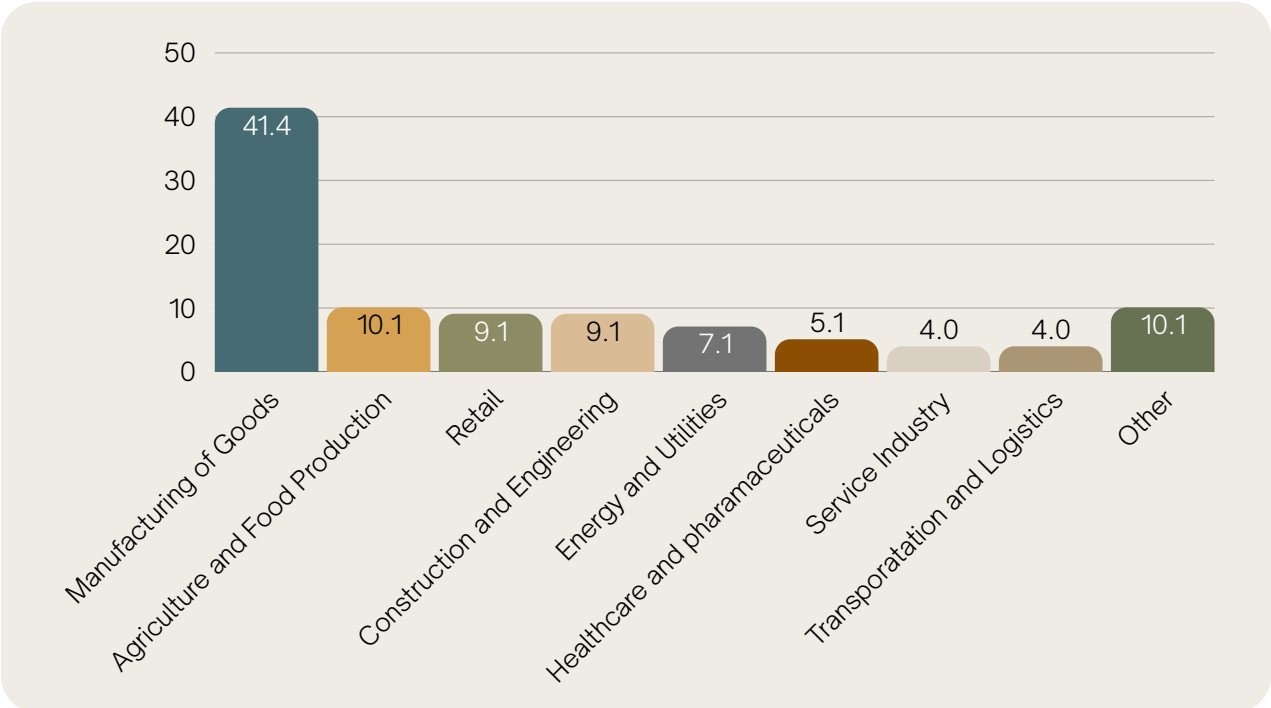
Regarding company age (Graph 3), almost two thirds (61,21%) of the companies surveyed were established between 2000 and 2010, representing a relatively young but stable business community. A smaller group, mostly in the industrial sector, was founded before 1990, contributing valuable long-term operational experience, which can be leveraged to adopt systematic approaches to waste management and sustainability.

Graph 3: Distribution of the years of company establishment (in percent)



From a sectoral perspective (Graph 4), manufacturing is by far the most represented sector among surveyed companies (41,4%), agriculture and food production (10,1%) and retail (9,1%). The dominance of manufacturing is significant, as this sector typically generates higher volumes and more complex types of waste, making it a key target for EPR measures, recycling infrastructure, and circular economy integration.

Graph 4: What are primary products or services offered by your business? (in percent)

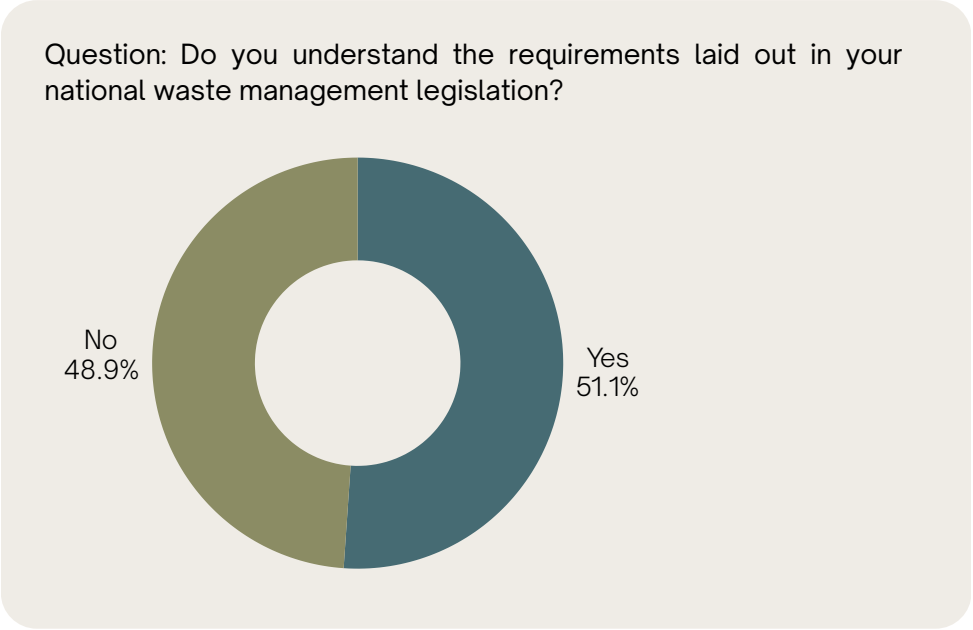


How well do companies understand national waste legislation?

The survey reveals that understanding of national sectoral waste management legislation varies across the region. While progress has been made in establishing waste management legislation, there remains a notable gap between regulatory requirements and businesses' understanding, particularly among SMEs. Only around half (51,1%) of the surveyed companies across the Western Balkans claim to understand the requirements laid out in their national waste management legislation (Graph 5). North Macedonia is the frontrunner, where 70,4% of the respondents say that they are familiar with the legal obligations, suggesting that regulatory outreach and education efforts may be more advanced or better aligned with business needs in that context.

This lack of awareness is a barrier to effective policy implementation and EPR uptake, as companies that do not understand legal requirements are unlikely to comply or participate proactively in formal systems.

Graph 5: Awareness of national waste management law requirements

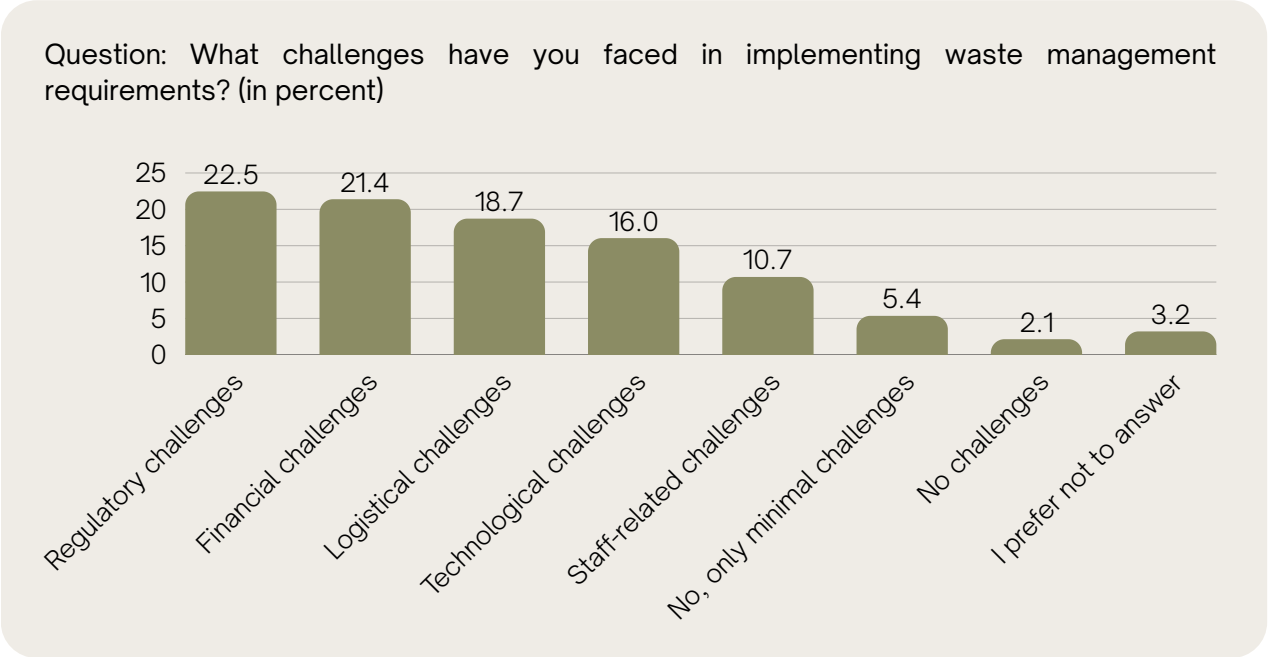


These findings suggest a need for targeted regulatory guidance and communication strategies, particularly for SMEs in the Western Balkans. If businesses are expected to play a meaningful role in waste prevention, separate collection or producer responsibility schemes, understanding the legal basis is an important step.

Respondents identified several key challenges to aligning with waste management regulations (Graph 6):

- Regulatory complexity, which makes it difficult to interpret or apply legal obligations,
- Financial limitations for SMEs with fewer resources to invest in compliance,
- Technological gaps which hinder efficient data collection or waste tracking, like insufficient automatic sorting technologies or real-time tracking of bins,
- Low staff awareness, pointing to the need for internal capacity building and training.

Graph 6: Challenges of waste management implementation at companies

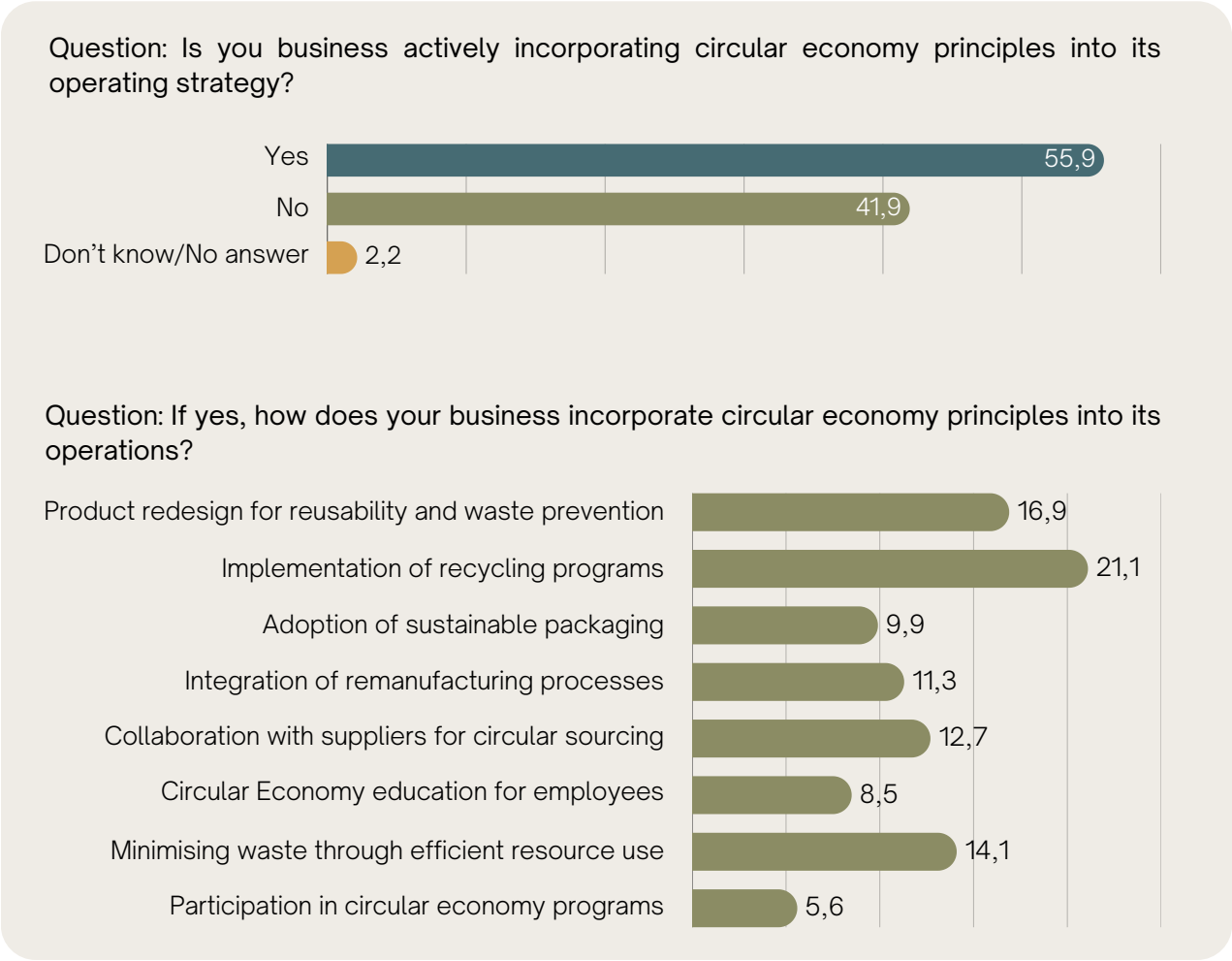


What is the level of adoption of circular economy principles?

The survey results show that around 55,91% of the surveyed companies have begun integrating circular economy (CE) principles into their business operations (Graph 7). This early engagement offers a promising entry point for aligning business practices with the goals of waste reduction, reuse and material efficiency. However, almost half of the surveyed companies did either not incorporate CE principles or are not aware of it (44,1%).

Those companies that implemented CE principles reported that the key areas of implementation are the participation in recycling or resource recovery programs and redesigning products to increase reusability and waste prevention. These areas directly support waste hierarchy goals and can contribute to improved performance in EPR systems, especially when product lifespan, reusability or recyclability is optimised.

Graph 7: Implementation of circular economy principles (in percent)



With 21,1% implementing recycling programs into business operations is the predominant way of incorporating circular economy principles (Graph 7). But how do companies approach recycling in concrete terms? When asked in an open question to describe the programs for waste reduction or recycling that companies have implemented, the answers show a diversity in how businesses approach waste reduction and circularity, from operational redesign to collaboration and education. The businesses provided responses that clustered into six key thematic areas:

1. Circular economy and internal reuse systems
2. Packaging reduction, substitution and recycling
3. Waste sorting and separation practices
4. External partnerships for waste management
5. Technological innovation and process optimization
6. Training, awareness and certifications

1. Circular economy and internal reuse systems

These businesses reuse internal waste as input material, especially by-products from production processes, showing a closed-loop mindset:

> *"Our company recycles up to 5.000 tons of plastic waste (types PE: LDPE, LLDPE, and HDPE) annually. As an internal recycling program, non-conforming products that arise during production and are not suitable for sale are reprocessed and recycled by the company."*

> *"Our raw material consists of animal by-products which, for our suppliers, are waste. Even within companies, what is waste for one becomes raw material for another, and so on. Packaging is minimal, and all waste streams are recycled after use."*

2. Packaging reduction, substitution and recycling

A substantial number of surveyed companies are focusing on reducing packaging waste. They are innovating with recyclable or sustainable packaging and minimising materials used, especially plastics and cardboard.

> *"Implementation of innovative technologies for environmentally friendly product packaging."*

> *"We are focused on creating recyclable packaging to minimise waste and environmental pollution."*

> *"We are a company operating in the garment (fason) sector and we strive to make our packaging recyclable."*

3. Waste sorting and separation practices

This cluster includes efforts to sort and separate different types of waste (plastic, metal, cardboard, etc.) either for internal reuse or external recycling. This step is essential for both operational efficiency and environmental compliance.

> *"We recycle packaging waste, electronic waste, and separate waste within the company into plastic, paper, and batteries. We also conduct environmental awareness education and have successfully completed our 5th consecutive ISO 14001 recertification."*

> *"Separation of cardboard, paper, glass, and plastic bags."*

> *"Selection of raw materials, restructuring of processes to increase efficiency, and separation of production waste by color to preserve and optimize its value in the value chain."*

4. External partnerships for waste management

Some companies reported working with licensed waste collectors or recyclers, but also informal collectors:

> *"Removal of waste through communication with licensed entities or informal collectors. Differentiated disposal of technological waste (metals) and their removal through agreements with licensed entities."*
>
> *"Collaboration with partners for the collection of materials through recyclers."*
>
> *"Cooperation with authorized companies for waste collection in accordance with annual programs."*

5. Technological innovation and process optimization

Businesses also emphasized process improvements, including material selection, automation, and technological upgrades, to reduce waste at the source:

> *"Some of the measures include: process automation, material replacement, technological upgrades and maximum material utilisation, planning and unification of production batches for parts manufacturing significantly reducing waste, and implementation of circular systems."*
>
> *"Procurement of a laser for the operational utilisation of the material."*

6. Training, awareness and certifications

A smaller group mentioned the importance of staff training, awareness programs, and maintaining environmental certifications (e.g., ISO 14001) to support sustainable practices.

> *"Training for employees and participation in various conferences."*
>
> *"We recycle packaging waste, electronic waste, and separate waste within the company into plastic, paper, and batteries. We also conduct environmental awareness education and have successfully completed our 5th consecutive ISO 14001 recertification."*

Circular Economy Progress Across Businesses

	Micro and Small-scale businesses	Medium-size businesses	Large scale businesses
Potential barriers	• Waste management laws unclear. • The major part is not part of EPR systems. • Only a few have moderate or good knowledge of the EPR.	• More than half confirm that the national sectoral legislation on waste management is unclear. • Only a small number have defined specific objectives related to EPR.	• Half of the companies stated that the requirements set out in national sectoral legislation for waste management are unclear. • Only a few reports good or very good knowledge of EPR principles.
Postive Signs	• About a quarter have started integrating CE principles into their operations and have taken specific steps toward EPR compliance.	• More than half actively incorporate CE principles into their operations and have taken steps to align their business strategies with EPR goals.	• A significant number integrate CE principles into their operations. • More than half have adapted their strategies or operations to align with EPR objectives.

	Large Companies	Medium Companies	Small Companies	Micro Enterprises
Understanding of EPR	56% report good or excellent understanding	54,55% report moderate understanding	46,67% report moderate understanding	50% report limited understanding, 50% report moderate understanding
Main barriers to implementing the waste management requirements	Logistical, regulatory and financial challenges	Logistical and regulatory challenges	Financial and Regulatory challenges	Regulatory and financial challenges
Incorporation of CE principles	60%	73%	52,08%	26,66%

How companies are responding to EPR obligations

This chapter explores how companies across the Western Balkans understand and implement specifically EPR. While awareness of EPR's importance is generally high, actual implementation varies across company size, market orientation and regulatory clarity. The findings reveal that a company's likelihood to adopt EPR principles is shaped by internal capacity, access to collaboration networks and the perceived benefits of compliance. Despite some encouraging trends, the overall gap between awareness and action remains wide, particularly among smaller businesses and those operating in less regulated environments.

Key findings at a glance:

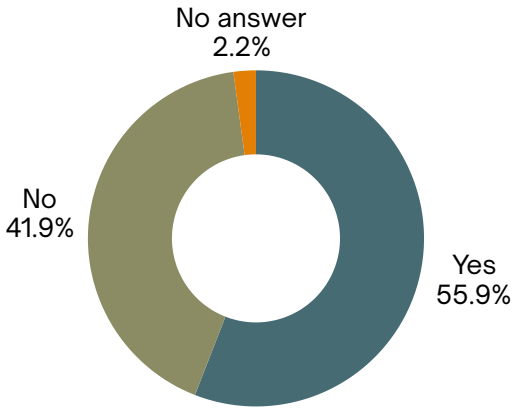
- **Adaptation to EPR is uneven:** 56% of businesses have adapted their operations to align with EPR goals, while 42% have not yet done so.
- **Company size matters:** All large companies reported adaptation, but only 38% of micro-enterprises had done so, highlighting capacity gaps.
- **Export orientation drives compliance:** Firms serving international markets are much more likely to implement EPR than those focused on local markets.
- **Clarity of legislation is crucial:** 72% of businesses that find national legislation clear have adapted, compared to just 40% among those who find it confusing.
- **Collaboration is limited but impactful:** 58% of businesses do not collaborate on EPR at all, yet those who partner with NGOs or municipalities show a 100% adaptation rate.
- **Perceived benefits vary by engagement:** Companies collaborating with external actors report more financial and reputational benefits than those operating in isolation.
- **Training makes a difference:** Participation in EPR-related training correlates with higher and more consistent implementation scores.
- **Key barriers remain:** Financial constraints, regulatory complexity, lack of infrastructure, and limited access to support services are the main challenges to EPR implementation.

Where companies stand on EPR implementation

Businesses across the Western Balkans have a good understanding that EPR is important for the environment and their business reputation, but still almost half of the surveyed companies struggle to put it into practice by adapting their business operations to the requirements of EPR (Graph 8).

Graph 8: Companies adapting to EPR requirements (in percent)

Question: Has your business adapted its strategies or operations to align with the requirements or goals of Extended Producer Responsibility? (in percent)



Which companies are most likely to adopt EPR principles?

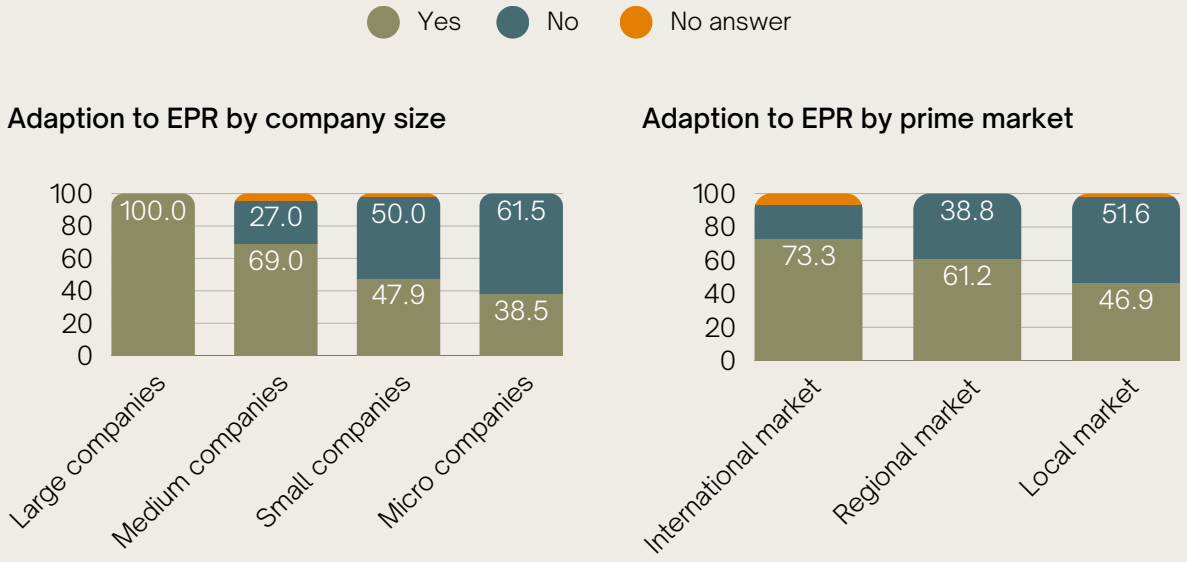
An analysis of company responses reveals clear patterns in how businesses are adopting EPR practices shaped by their size, market orientation, and understanding of national legislation (Graph 9).

Larger companies are far more likely to align with EPR requirements. All large companies in the dataset have already adapted their strategies. Among medium-sized companies, nearly 70% reported compliance, while adaptation rates fall among small (48%) and especially micro-enterprises (38%). The smallest firms face the biggest hurdles, with over 60% of micro companies not yet engaging with EPR.

- Policy implication: Tailored support and simplified compliance tools are essential for smaller businesses, who lack the capacity to respond to complex EPR frameworks.
- Company takeaway: Smaller firms should proactively seek guidance or partnerships to avoid falling behind in regulatory compliance and market access.

Graph 9: Adaption to EPR requirements

Question: Has your business adapted its strategies or operations to align with the requirements or goals of Extended Producer Responsibility? (in percent)



Market orientation also plays a critical role. Companies serving international markets show the highest level of EPR adaptation (73%), followed by those in regional markets (61%). In contrast, just under half of companies focused on local markets have adjusted their operations to align with EPR goals.

- Policy implication: Export-oriented companies are more responsive to EPR, likely due to external market demands. Policymakers can build on this by linking EPR-readiness to export promotion.
- Company takeaway: EPR compliance is not only about regulation, but it is a competitive advantage that strengthens access to regional and global value chains.

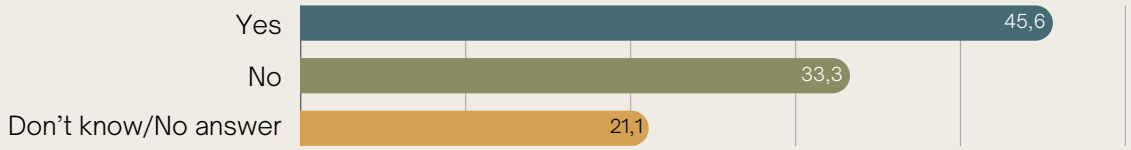
Large companies (39%) and 45,6% of the companies overall (Graph 10) have integrated environmental criteria into their supplier selection processes, signaling a clear shift toward more sustainable and responsible value chains. However, this shift is driving SMEs to reorganise in ways that may exceed their financial and operational capacities.

This trend is particularly relevant as the Western Balkans advance efforts to align with EU environmental standards and embrace emerging green market models. While these developments present important opportunities to drive systemic environmental improvements, they also place added pressure on small and medium-sized enterprises. Many of these businesses may face challenges in meeting the new criteria due to limited financial, technical, or human resources, putting them at risk of exclusion from valuable market opportunities.

Strengthening SME capacity to comply with EPR requirements not only helps maintain their access to sustainable value chains but also contributes to broader environmental goals, including circular economy development and EU approximation in the Western Balkans.

Graph 10: Sustainability along supply chains (in percent)

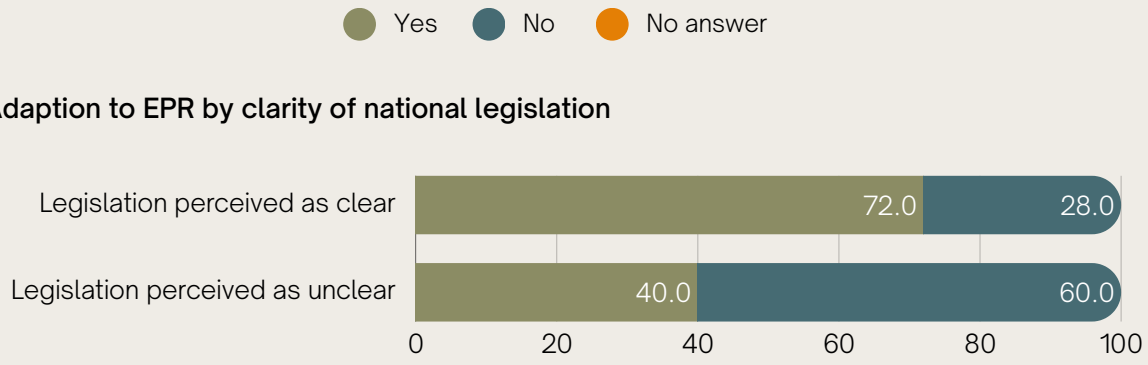
Question: Are there any criteria or standards your suppliers must meet regarding environmental impact?



Unsurprisingly, the clarity of legislation makes a major difference. Among companies that find EPR-related rules clear and accessible, 72% have adapted. For those reporting unclear or confusing regulations, this drops to just 40% (Graph 11).

Graph 11: Adaption to EPR requirements

Question: Has your business adapted its strategies or operations to align with the requirements or goals of Extended Producer Responsibility? (in percent)



- Policy implication: Regulatory clarity is a key enabler of action. Governments should focus on clear, user-friendly communication, including sector-specific examples and chamber-led awareness campaigns.
- Company takeaway: If legal requirements are unclear, seek clarification early. Delays due to confusion may lead to compliance risks or missed funding and market opportunities.

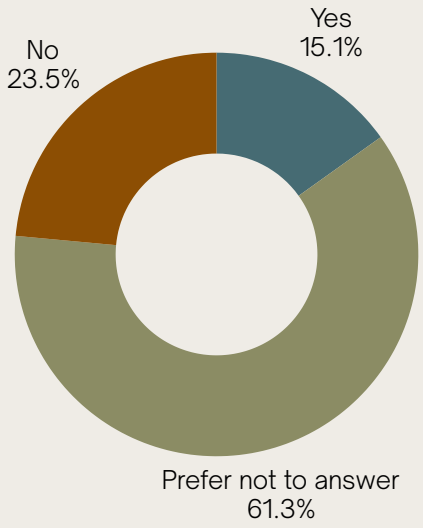
Utilisation of EPR capacitiy building

Only 15,1% of the surveyed businesses have confirmed that they have taken part in EPR capacity building activities, like trainings (Graph 12) - despite viewing EPR not merely as a regulatory obligation but as an opportunity to enhance sustainability.

To bridge the gap between environmental awareness and the practical adoption of sustainable business practices, it is crucial to strengthen capacity-building initiatives, provide targeted technical support and ensure consistent policy backing, particularly for SMEs.

Graph 12: Awareness of national waste management law requirements

Question: Has your company participated in any training or other capacity-building activities related to Extended Producer Responsibility?



Collaboration and stakeholder engagement in EPR implementation

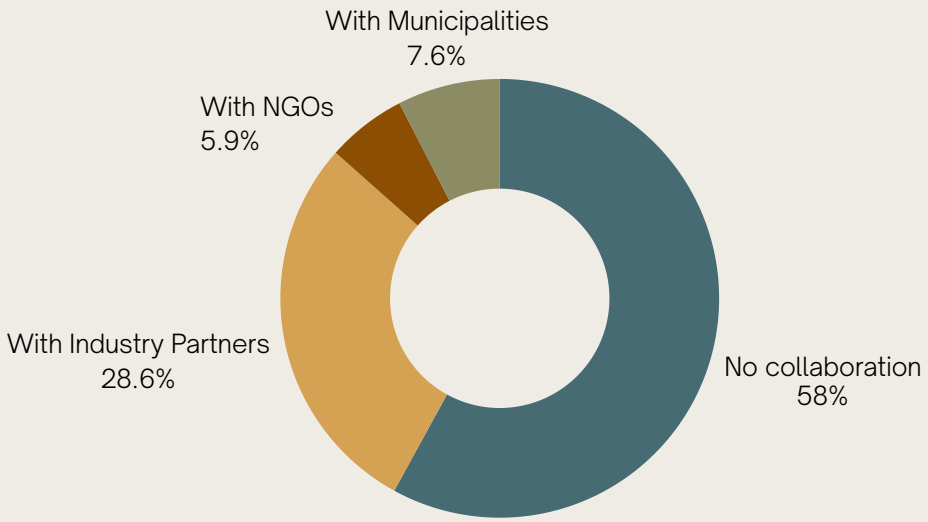
The data shows that a majority of companies (58%) do not collaborate with any stakeholders when it comes to implementing EPR. This high level of non-collaboration is noteworthy given the complexity of EPR systems and the significant legal, financial, and technical support companies often require to comply effectively.

Among companies that do engage in collaboration (Graph 13):

- 28.6% work with industry partners, indicating that peer-to-peer collaboration is the most common form of engagement. This likely reflects a focus on shared sectoral challenges or joint compliance mechanisms.
- Only 7.6% collaborate with municipalities, and
- Just 5.9% with NGOs.

Graph 13: Collaboration in EPR initiatives

Question: Does your business collaborate with other stakeholders in Extended Producer Responsibility initiatives? (in percent)



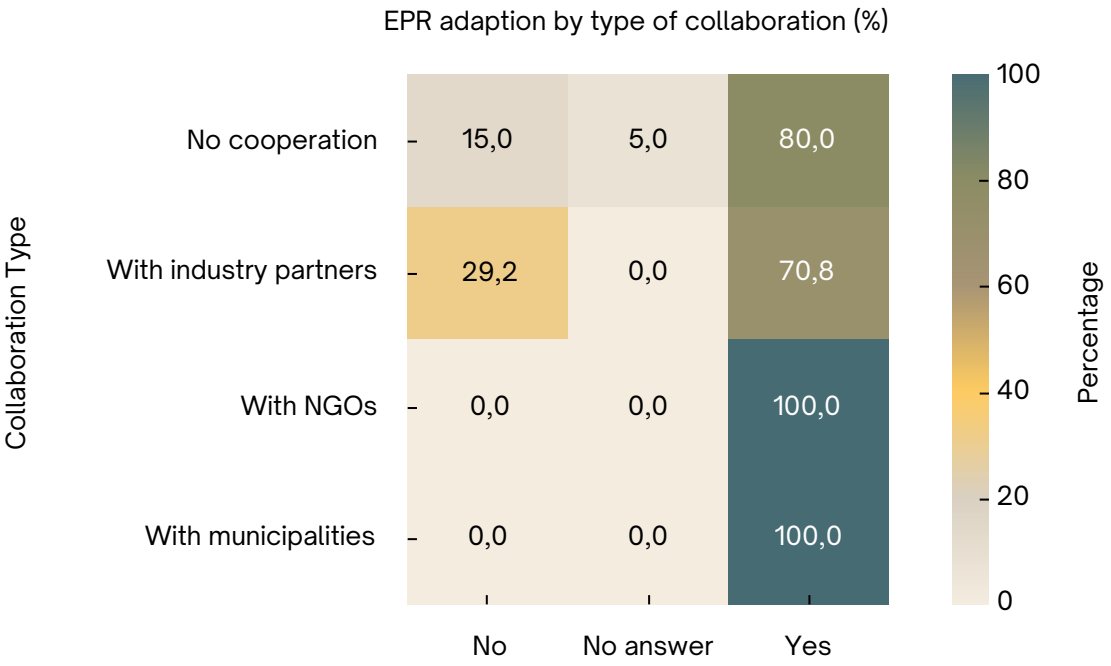
The analysis reveals a connection between stakeholder collaboration on EPR initiatives and the likelihood of companies adapting their strategies to align with EPR requirements

Although only a few of companies collaborate with NGOs and municipalities, all those that collaborate show a 100% EPR adaptation rate, suggesting that engagement with public or civil society actors enhances implementation. These partnerships may provide companies with access to technical support, local policy dialogue, awareness-raising efforts, or community-driven incentives that facilitate compliance.

Interestingly, even among companies that reported no cooperation at all, 80% have still adapted their strategies to EPR. This implies that other factors, such as compliance requirements, export market requirements or internal sustainability goals, can also drive adaptation. However, this group also includes the highest share of non-compliant (15%) and undecided companies (5%), indicating a greater risk of inconsistent or superficial implementation in the absence of collaboration (Graph 14). While PROs play a key role in ensuring compliance, they are likely distant from awareness and engagement of businesses, limiting their effectiveness as a proactive support mechanism.

> Policy implication: Stakeholder collaboration is a strong enabler of EPR adaptation, particularly with municipalities and NGOs. Governments and chambers of commerce should actively promote multi-stakeholder partnerships and local EPR networks.

Graph 14: EPR adaptation by type of collaboration in EPR initiatives



When examining the perceived benefits of EPR in relation to collaboration type, companies working with industry partners report the broadest range of perceived benefits from implementing EPR:

- Increased environmental reputation,
- Financial benefits,
- Improved market access, and
- Improved resource efficiency.

Although collaboration with NGOs and municipalities is less frequent, companies that do partner with these stakeholders report especially strong gains in financial and reputational value. This suggests that external, cross-sector collaboration, particularly with public or civil society actors, can amplify the strategic and economic benefits of EPR implementation.

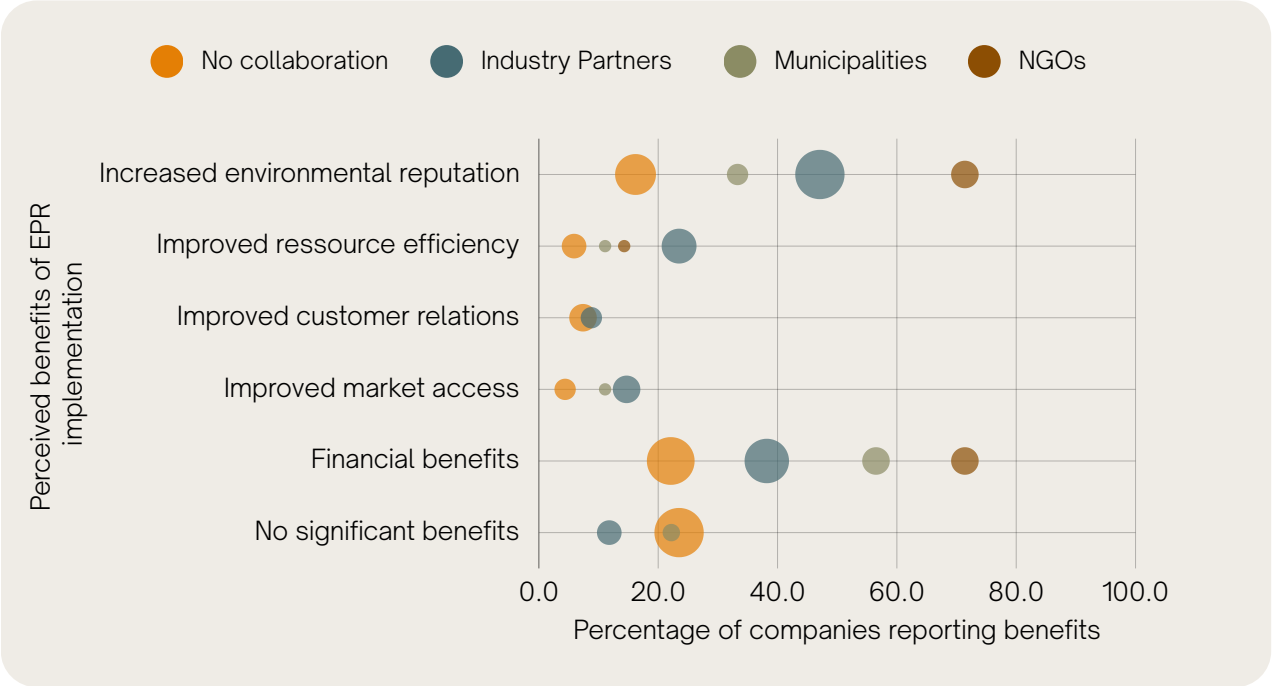
In comparison, firms collaborating with industry partners report a more balanced benefit profile: 47% mention improved environmental reputation, and 38% highlight financial benefits.

By contrast, companies with no collaboration at all report the lowest benefit levels across the board. Only 16% experience reputational gains, and 22% report financial benefits. Most notably, this group includes the highest share of companies (24%) who see no significant benefit from EPR whatsoever, a rate nearly double that of companies collaborating with industry or municipalities, and far above those working with NGOs (0%).

The data also supports the interpretation that NGOs and municipalities may serve as particularly effective partners in helping companies access financial support for EPR. These actors often function as intermediaries between businesses and public or donor-funded financial instruments, provide guidance on incentive schemes, and facilitate participation in local sustainability initiatives. Their role in improving companies' understanding of and access to EPR-related financial opportunities may explain why companies collaborating with NGOs and municipalities report significantly higher perceived financial benefits compared to others.

Overall, the findings highlight that multi-stakeholder collaboration is not only associated with higher levels of EPR implementation (Graph 14), but also with a greater likelihood of companies experiencing the tangible business value of such efforts, especially in the financial domain (Graph 15).

Graph 15: Perceived benefits of EPR implementation by type of collaboration



The low levels of collaboration with NGOs and municipalities point to an untapped opportunity for strengthening EPR implementation. These actors often serve as valuable intermediaries between companies and regulatory bodies, or provide access to financial incentives, technical assistance, and community-level visibility.

Utilisation of EPR opportunities

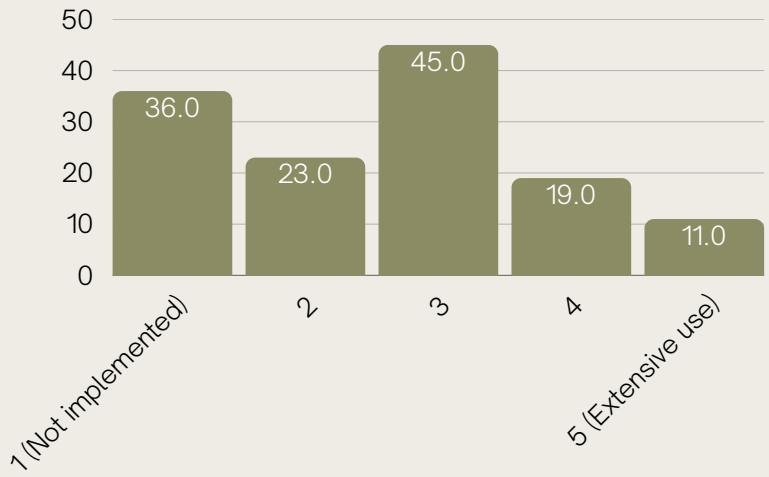
Despite recognising the benefits of EPR, most companies are not using these systems effectively. This gap between awareness and action highlights key challenges: the majority of businesses cite financial constraints and complex regulations as major barriers. Even companies that understand EPR often struggle to put it into practice, as shown by the fact that only around 14% have participated in EPR-related training programs.

The surveyed companies were asked to evaluate their current use of the opportunities of EPR, like reducing packaging materials, reusing products, tax reductions; implementing a Corporate Social Responsibility program, collaborating with suppliers to promote sustainability (Graph 16). This EPR utilisation score, was then compared across four key variables (Graph 17):

1. the company size,
2. whether the company applies environmental criteria to its suppliers,
3. the company's understanding of EPR and
4. whether the company has participated in trainings related to EPR .

Graph 16: Current use of EPR opportunities (in percent)

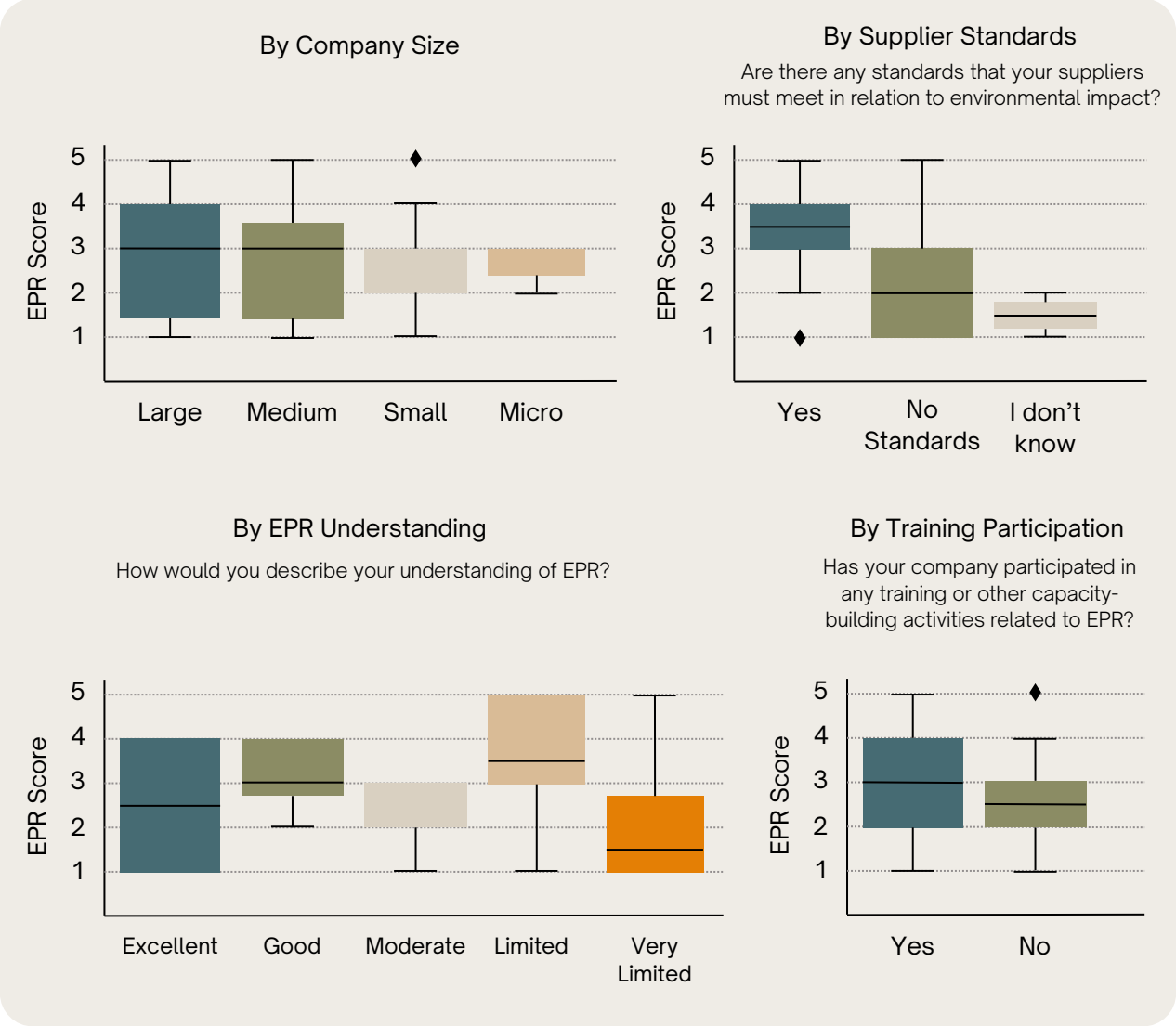
Question: Please valuate your current use of the opportunities of EPR (this may include reducing packaging materials, reusing products, tax reductions; implementing a Corporate Social Responsibility program, collaborating with suppliers to promote sustainability, etc.)



➜ Utilisation of EPR opportunities by company size

As expected, company size correlates with EPR implementation capacity. Large companies tend to report higher and more varied utilisation scores, likely due to greater resources, regulatory exposure, and visibility in the market (Graph 17). Micro and small enterprises, by contrast, cluster around the lower to middle range of the scale. This reflects the well-documented challenge that smaller firms often face when navigating complex regulatory frameworks like EPR, where administrative burden and upfront investment can be significant obstacles.

Graph 17: Correlations between the score of utilisation of opportunities of EPR (1-no use to 5-extensive use) and company size, supplier standards, EPR understanding and training participation of companies



➔ Utilisation of EPR opportunities by expectations towards suppliers

When it comes to supply chain sustainability, 45,6% of the respondents reported that they apply environmental standards in selecting their suppliers (Graph 10). This suggests that almost half of the companies embed waste-related sustainability practices not only within companies but also across value chains - a key component of circular business models.

The analysis also shows a moderate but clear trend linking supplier expectations to stronger EPR implementation. Companies that reported requiring their suppliers to meet environmental criteria tend to report higher EPR utilisation scores than those who either do not require such standards or are unsure. This finding reinforces the idea that a company's internal sustainability efforts are often mirrored in their value chains. Setting environmental expectations for suppliers can be a sign of a broader organisational commitment to sustainability, which likely includes stronger implementation of EPR principles.

➔ Utilisation of EPR opportunities by understanding of EPR

Surprisingly, companies that report only a "limited" understanding of EPR report the highest median EPR utilisation scores, including some of the top values in the entire dataset. This challenges the intuitive assumption that greater understanding necessarily correlates with stronger action. Meanwhile, companies with a reported "excellent" understanding of EPR also demonstrate solid implementation, though their scores are somewhat more consistent and slightly lower in the upper range. In contrast, companies describing their understanding as "very limited" report the lowest utilisation scores overall.

This suggests that while understanding EPR helps, it is not the sole driver of implementation. External factors, such as sectoral mandates, pressure from customers, or participation in industry initiatives, may be pushing some companies with limited conceptual knowledge to implement robust EPR measures nonetheless.

➔ Utilisation of EPR opportunities by training participation

Another important factor explored was whether companies had participated in training or other capacity-building activities related to EPR. The results reveal a clear distinction: companies that have participated in EPR-related training report higher and more consistent implementation scores than those that have not (Graph 17). Their scores also span a broader range, suggesting that training not only raises the baseline level of EPR engagement but may also encourage more ambitious or innovative practices among already motivated companies.

In contrast, companies that have not participated in training report lower and more clustered EPR implementation scores, suggesting a lack of exposure to practical tools, policy insights or best practices. This confirms the value of training and structured capacity-building programs, particularly for smaller businesses or those with limited in-house expertise.

Challenges in implementing EPR

Most companies still perceive the implementation of EPR as a complex and demanding process, with only 4% of surveyed businesses reporting no significant challenges (Graph 18).

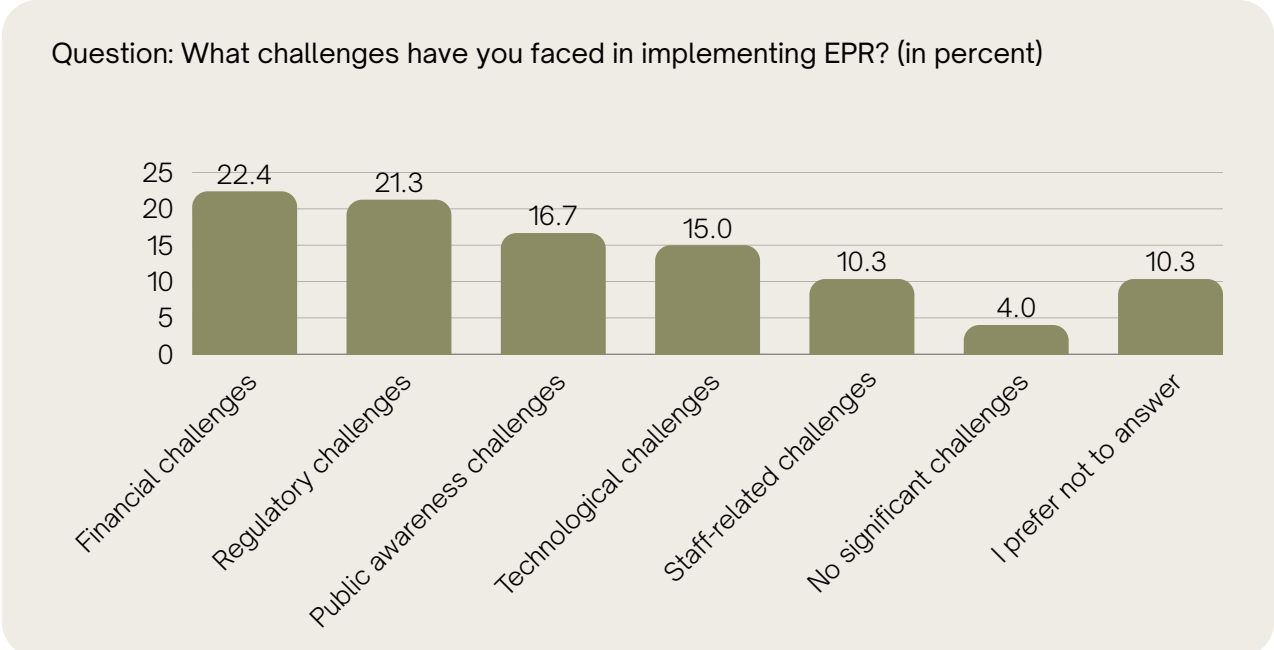
The most frequently cited challenge, mentioned by 22,4% of respondents, relates to financial aspects. Particularly during the early stages of EPR implementation, companies face costs associated with redesigning products, investing in infrastructure for waste collection, and establishing recycling processes.

Regulatory hurdles rank second, identified by 21,3% of respondents. These challenges highlight the difficulty of complying with complex, unclear, or inconsistently enforced legal frameworks.

Another obstacle is alack of public awareness cited by 16,7% of businesses cite a lack of public awareness, which hinders initiatives to enhance collection and recycling results.

Finally, 15% of respondents cite technological constraints, suggesting that many companies lack the resources or know-how needed for effective waste management and product lifecycle management.

Graph 18: Challenges companies face in implementing EPR (in percent)



Companies' suggestions for improving national waste management legislation

The perspectives shared by companies highlight a common concern across the region: the ineffective implementation of waste management legislation and the absence or limited functionality of waste management systems. These challenges are particularly acute, where formal EPR frameworks have not yet been established, while those with an existing EPR system continue to face issues related to practical enforcement.

Perspectives from contexts without an EPR system
In contexts where EPR systems are established, stakeholders consistently pointed to the weak enforcement of existing laws and a critical lack of infrastructure for the disposal of specific waste categories.

> *One respondent noted that "The main challenge lies in the enforcement of legislation by the implementing authorities. Additionally, the lack of disposal sites for certain waste codes remains a handicap."*

Overall businesses expressed strong dissatisfaction with the financial burden imposed on them.

> *"Waste has market value in every case, and there is no reason why the producer should be burdened with the cost of waste removal… Burdening them with the cost… makes them view the process with scepticism and, whenever possible, try to avoid it.", as one respondent company explained.*

A repeated dissatisfaction was the payment of municipal waste management fees with no visible return in terms of service or transparency. Companies described a situation in which they effectively pay twice—once through municipal taxes and again as licensed waste handlers—while still not receiving separated waste collection services.

> *One participant emphasized "Municipalities, due to their failure to manage waste at source, have become the biggest polluters, thereby undermining the credibility of the entire process."*

Others highlighted the implementation gap, noting that even the partial existing legislation is not effectively applied.

> *One respondent stated the need for "training on how to better implement this law within our company."*

A particularly striking insight that underscores the lack of technical support and awareness. Largely, businesses voiced concern over the absence of disposal sites and logistical support to handle their waste in a safe and legal manner.

Suggested solutions focused on reforming legal frameworks and establishing responsible teams to manage waste. Respondents advocated for the provision of subsidies to assist with infrastructure and equipment, alongside structured training and awareness-raising activities for businesses.

> *One respondent noted the need for institutional coordination, stating that "the competent authorities should form a team for waste management, disposal, or collection."*

To address these issues, stakeholders recommended liberalising the waste management market to foster competition and reduce costs.

There were also calls for government support in building appropriate infrastructure for businesses and for allowing recyclers to import waste in order to maintain viability.

Respondents also proposed enabling producers to meet their obligations through partnerships with NGOs and stressed the importance of full alignment with EU legislation on waste management.

Perspectives from contexts without an EPR system

In contrast, in settings where EPR systems are already in place, companies still face barriers in the practical implementation of the system. Stakeholders pointed to inadequate administrative capacity and poor enforcement on the ground.

> *As one respondent noted, "There is no fully prepared and conscientious administration to implement and support companies."*

This gap between policy and practice continues to undermine the efficiency of the system. Additionally, the regulatory framework is perceived as overly complex, with too many rulebooks and frequent amendments, making compliance difficult.

Some waste management companies were also reported to be failing to provide basic collection services, despite having active contracts with businesses. The uneven application of standards between domestic and imported products, as well as unclear and sometimes excessive fees for managing specific waste streams (e.g., portable batteries, motor oils), were also highlighted as areas needing improvement.

> *One respondent recommended simplifying and consolidating legal texts, noting, "Simplify the rulebooks, there are too many."*

To address these issues, respondents called for clearer laws, more consistent communication between government and businesses, and enhanced public education efforts.

Recommendations highlighted the need for cooperation between stakeholders, through launching awareness campaigns through media, organising site visits, and piloting collaborative projects to test practical solutions.

COMPARATIVE INSIGHTS: EPR SYSTEMS IN THE EUROPEAN UNION

The organisation of producer responsibility for packaging waste varies across EU Member States, with some countries operating monopolistic PRO systems, while others have opted for competitive frameworks. Although most EU Member States have met the minimum recovery and recycling targets set by EU legislation, performance levels differ significantly. This variation reflects both the flexibility allowed under the EU legal framework and the diversity of national approaches to implementing EPR.

These differences highlight how countries have tailored their EPR systems to fit their institutional, economic, and infrastructural contexts, while still pursuing shared European environmental goals.

This chapter presents selected country case studies that illustrate how EPR schemes are implemented in practice. These examples provide insights into the institutional arrangements used to govern EPR, the role of PROs, the collection and sorting systems in place as well as key challenges and innovations.

Spain

Spain operates a centralized and monopolistic EPR system for packaging, implemented through two non-profit Producer Responsibility Organisations: Ecoembes, established in 1996, manages all packaging materials except glass and Ecovidrio is responsible for the collection and recycling of glass packaging.

Both PROs operate under agreements with local authorities, which retain legal responsibility for municipal waste management within their jurisdictions. These agreements define operational roles and financial arrangements between municipalities and the PROs.

The collection system is organised as a "bring system", where citizens deposit waste into public containers. Specifically:

- Yellow containers are used for plastic and metal packaging,
- Blue containers are designated for paper and cardboard.

After collection, materials from yellow containers are sent to sorting facilities, where they are separated and then sold to certified recyclers. Materials from blue containers typically go directly to recycling companies.

One of the system's ongoing challenges is the quality of recycling, particularly for PET plastics and beverage cartons. Industry feedback indicates that only around 25% of collected PET is recycled to a quality sufficient for use in producing new PET materials. This is largely attributed to the continued reliance on manual sorting, which affects material purity and yield.

The financial model has also seen notable changes in recent years. After a decade of relatively stable producer fees, Ecoembes announced average fee increases of 25% in both 2020 and 2021, with some material categories facing even higher increases. These adjustments were partly necessary due to the depletion of Ecoembes' financial reserves, but costs are also shaped by the collection and sorting fees set by local authorities.

Despite the system's contributions to public awareness and innovation, for example, through initiatives such as The Circular Lab, which fosters circular economy solutions, producer satisfaction has decreased significantly in recent years. This is primarily due to the sudden and steep fee increases, which many companies view as insufficiently transparent or predictable.

Germany

Germany was one of the first countries to introduce an EPR system for packaging waste, launching its scheme in 1991. Originally a monopolistic model, the system has since evolved into a competitive framework with multiple for-profit PROs. A major milestone in this development was the adoption of the Packaging Act (Verpackungsgesetz) in 2019, which brought significant reforms, including the creation of the Central Agency Packaging Register (ZSVR) to improve transparency and oversight.

A distinctive feature of the German system is the mandatory separate collection of all packaging waste generated by private households and similar sources. Producers placing packaging on the German market are required to contract with one of the authorized PROs to ensure collection, sorting, and proper treatment of their packaging waste.

As of 2020, there were nine competing PROs in the market. The largest include Der Grüne Punkt, BellandVision, and Reclay Systems. These organisations jointly coordinate the national collection system, with collection services tendered across approximately 500 municipal areas. Responsibilities are allocated through a lottery system managed by the "Gemeinsame Stelle", a joint coordination body. In 2018, Germany reported an overall recovery rate of 84% for packaging waste.

One of the key strengths of the German model is its competition-neutral collection system, which helps maintain cost-efficiency and high service quality. Since the shift to a competitive model, costs have significantly decreased. For instance, between 2003 and 2011, the operational costs of the system dropped by 54%. Fee levels vary by material type: in 2019, glass had the lowest cost (27,33 €/tonne), while plastics, steel, and aluminium were more expensive (453,14 €/tonne).

The introduction of the ZSVR has played a critical role in strengthening compliance and transparency. As of recent years, over 200.000 companies have registered with the system, helping to ensure that producers meet their obligations.

Germany's competitive EPR model has fostered innovation and service improvement. PROs actively seek to differentiate themselves not only through pricing, but also by offering value-added services, such as eco-design support and recyclability assessments. This competition has created a dynamic market environment that encourages continuous optimisation of collection and recycling processes.

The tendering of collection and sorting services by multiple PROs typically results in prices that reflect actual service costs.

To remain competitive, PROs have the interest to keep their operating expenses low while maintaining service quality. All producers placing packaging on the German market must:

- Choose a compliance scheme (PRO),
- Report the quantity and type of packaging materials used,
- Pay the corresponding EPR fees, and
- Meet national recycling targets.

The system is strictly enforced: non-compliance may result in fines of up to 200.000 EUR or a ban on placing products on the market.

Italy

Italy's EPR system places strong emphasis on the management of packaging waste, with clear and structured obligations for producers and importers. Under Italian legislation, producers must fulfil the following three key requirements:

- **Registration**: Producers must register with the National Register of Producers and establish a contract with a certified eco-operator (typically a PRO) for the management of their packaging waste.
- **Eco-contributions:** Companies are required to pay eco-contributions, which are calculated based on the type and weight of the packaging material they place on the market.
- **Reporting obligations:** Producers must submit regular declarations on packaging placed on the Italian market. During the first year, reporting is quarterly; from the second year onwards, the frequency (monthly, quarterly, or annually) depends on the total EPR fees declared.

Importantly, non-Italian producers are required to appoint an authorised representative based in Italy to ensure full compliance with national EPR obligations. This requirement ensures legal accountability for foreign businesses operating in the Italian market, closing a major compliance gap in cross-border e-commerce and enhancing overall traceability.

In practice, this obligation is most commonly fulfilled through CONAI, the National Packaging Consortium, which oversees a network of six material-specific consortia covering glass, paper, plastic, aluminum, steel, and wood. This structure ensures a high degree of specialization and sectoral efficiency.

Financial contributions, known as eco-contributions, are calculated based on the type and weight of packaging material. These funds are then reinvested in national waste management systems, supporting everything from collection to recycling infrastructure. Producers are also subject to regular reporting requirements, with the frequency of reporting - monthly, quarterly, or annually - adjusted according to the volume of packaging placed on the market.

What distinguishes Italy's EPR model is its performance and innovation. In 2023, Italy achieved a packaging recycling rate of over 72.5%—well above the EU average and already surpassing the 2025 targets. The European Environment Agency and the OECD have both cited Italy's system as an example of effective governance, noting the balance it achieves between producer accountability, operational efficiency, and environmental outcomes.

Italy's scheme is one of the most effective in Europe, particularly for its cost-control mechanisms and the transparency of its producer organisations. Italy is also taking a leading role in digital compliance, with the introduction of the National Electronic Register for Waste Traceability in 2023. This digital platform allows real-time monitoring of waste movements, strengthening oversight and data-driven policy making.

Recent legislative updates reflect Italy's ongoing commitment to refining its EPR system. Ministerial Decree No. 144/2024 has standardized producer registration processes, while Law No. 166/2024 has expanded obligations to include online marketplaces - a forward-looking move that addresses the realities of modern retail.

In sum, Italy's approach to EPR for packaging waste exemplifies how well-designed regulation, institutional coordination, and producer engagement can come together to deliver measurable environmental progress. As other EU Member States look to strengthen their own systems under the Circular Economy Action Plan, Italy's experience offers a practical and proven model. combining regulatory clarity, operational integrity, and a strong commitment to innovation.

France

The French system applies to all companies placing packaged products on the French market—regardless of size or volume. There is no minimum threshold, meaning even companies placing small quantities of packaging must comply.

Key obligations include:

- **Registration and identification**: Companies must obtain a Unique Identification Number (UIN) from the French Agency for Ecological Transition (ADEME). This process is handled through a registered PRO.
- **Scope of coverage:** In addition to consumer and shipping packaging, France's EPR legislation covers food service delivery packaging and, in some cases, textiles.
- **Ongoing compliance**: Companies must maintain a contract with their PRO, submit annual packaging reports, and pay fees based on the volume and material of packaging placed on the market.

Although appointing an authorised representative is not legally required, it is common practice among foreign companies seeking to manage their compliance obligations more effectively.

Key Takeaways

The country examples of Spain, Germany, France, and Italy demonstrate the diverse implementation of EPR systems within the EU. While all systems operate under the common legal framework of EU waste legislation, they differ in structure, enforcement, and cost allocation, reflecting national governance models, institutional capacity, and market dynamics.

Monopolistic systems, such as those in Spain and to a degree Italy, offer the advantage of centralised coordination and ease of implementation. However, they require strong oversight to avoid inefficiencies or abuse of market power.

A recurring challenge in such systems is the lack of transparency in areas such as tender evaluations and fee structures, which can erode stakeholder trust and undermine compliance.

In contrast, competitive systems, as seen in Germany and to some extent in France, tend to foster innovation, improve service quality, and drive cost-efficiency by leveraging market mechanisms. Producer satisfaction is generally higher where multiple PROs operate, allowing businesses to choose services tailored to their needs. However, maintaining fairness and avoiding fragmentation requires robust coordination mechanisms and clear legal mandates.

Independent oversight bodies, such as Germany's Zentrale Stelle Verpackungsregister (ZSVR) or France's ADEME, play a critical role in ensuring accountability, monitoring compliance, and protecting data confidentiality. A centralised public registry is essential for transparency and fraud prevention.

Based on the experiences in the countries above, effective EPR is facilitated by:

- Clear and enforceable legal frameworks,
- Well-designed eco-modulated fee structures that reflect environmental impacts without distorting the market,
- Regular market analysis to adapt to evolving packaging materials and design trends,
- A public central registry for monitoring compliance, preventing fraud, and safeguarding business confidentiality,
- Strong cooperation between local authorities and PROs,
- Flexibility to align with both environmental goals and market realities.

Across all models, the most effective EPR systems strike a balance between competition and coordination, supported by strong oversight, stakeholder engagement and a focus on continuous improvement. These insights are particularly valuable for policymakers in the Western Balkans seeking to design or refine their own EPR frameworks in line with EU standards.

IV

Guidelines for Practical Implementation

GUIDELINE FOR IMPLEMENTING SUSTAINABLE PLASTIC PACKAGING EPR

How to get ready for EPR: Steps for businesses

This section provides a practical roadmap for businesses in the Western Balkans to understand and prepare for EPR requirements related to plastic packaging. It supports companies in economies where EPR systems are already established (Bosnia and Herzegovina, North Macedonia, and Serbia) and provides actionable steps for businesses in Albania, Montenegro, and Kosovo, where EPR systems are still in the early phases of development. By engaging early, companies can reduce future compliance risks, align with EU sustainability goals, and gain a competitive edge.

Even if EPR compliance is not required yet, starting now with packaging audits, supplier assessments, and material tracking can save significant time and cost when legislation is introduced. Early movers will also benefit from reputational gains and alignment with future market access conditions in the EU.

Target Audience: This chapter is aimed at private-sector actors involved in complying or supporting the formation of PROs, particularly in settings where EPR systems are emerging.

📌 Companies that prepare early for EPR are not just meeting future legal requirements - they are gaining a competitive edge in markets where green standards are increasingly valued.

Understanding your obligations

Know the Basics
Understand what EPR entails and how it applies to different types of packaging (primary, secondary, tertiary). Clarify how your business fits into definitions such as "producer," "importer," "distributor," or "retailer." Responsibilities differ based on business role and material type (plastic, metal, glass, paperboard, etc.).

Determine your role – Supply Chain Mapping
Identify where your business sits in the packaging supply chain. Importers, for example, may have different obligations than retailers. This step is relevant even if formal EPR systems are not yet operational in your area.

Are you a distributor, retailer, importer, manufacturer, or a combination of these? Each role carries distinct responsibilities:

- Importers must ensure compliance for foreign-sourced packaging.
- Retailers may have obligations related to consumer communication or take-back programs.

Check for exemptions – Eligibility and Reporting
Understand whether your business qualifies for exemptions based on business type, production volume, or revenue. Even if your company qualifies for an exemption:

- Keep track of packing materials and sales volumes, as exemption criteria may change.
- Be aware that some exempt businesses still have reporting obligations and monitoring.

By staying informed, your company can adapt to evolving EPR regulations and maintain compliance.

Engaging with the Producer Responsibility Organisations

Identify the PRO Geographic Coverage and Types of Waste

In economies where EPR systems are active, research which Producer Responsibility Organisations (PROs) cover your materials and region. Some PROs focus on plastics or paper, others on a wider range of materials. In places preparing for EPR, stay informed about which entities may take on these roles.

Register with the PRO

If you decide to register with a PRO, provide accurate and detailed information about:

- Your products and sales quantities.
- The type, weight, and composition of your packaging materials
- A direct contact for reporting, updates, and discussions.

For future systems, set up internal processes to enable smooth onboarding.

Understand Fee Structures

Familiarize yourself with how fees are calculated. Many systems use eco-modulation, a pricing model where fees are adjusted based on the environmental impact of your packaging. Factor these costs into your product pricing and budget planning to align with sustainability goals.

Participate in Consultations

Take an active role in industry discussions by joining working groups, workshops, and consultations organised by your Chamber of Commerce, PRO and other institutions. These platforms are key for voicing business concerns, shaping fair fee structures, and developing industry best practices.

Eco-modulation is a regulatory approach designed to promote sustainable production practices. It penalizes the use of what's considered environmentally harmful materials, such as single-use plastics, while incentivizing the use of materials that minimise environmental impacts by keeping recyclable resources in circulation. This system aligns environmental goals with economic incentives, encouraging responsible choices in product design and packaging.

This approach can be applied using various criteria, including recyclability, the percentage of recycled content and the environmental impact of production processes. The aim is to support a circular economy where resources are reused, waste is minimised, and the overall environmental footprint is reduced.

Optimizing Packaging and Materials for Sustainable Design

Minimise Packaging
Reduce packaging at the source by avoiding over-packaging, adopting concentrated formats, or exploring reusable packaging. Conduct packaging audits to identify areas for package reduction.

Use Sustainable Materials
Prioritize materials with minimal environmental impact throughout their lifecycle. Consider factors such as biodegradability, recycled content, recyclability, and the use of renewable resources.

Increase Recycled Content
Set goals to increase post-consumer recycled materials into your packaging. Work closely with suppliers to source high-quality recycled materials that that meet safety and performance standards.

Design for Recyclability
Optimize packaging for easy recycling. Avoid materials or design elements that disrupt recycling processes, such as multi-material packaging, dark colours, or certain adhesives. Use clear labelling to help consumers dispose and recycle properly.

Reduce Toxic Substances
Minimise or eliminate hazardous substances in your packaging. Implement chemical management practices and explore safer alternatives. Ensure compliance with all regulations regarding restricted materials in packaging.

Reporting and Compliance – Data Management and Auditing

Implement Data Collection Systems for Traceability
Track the packaging by weight and type of covered materials that you place on the market. Keep detailed records of your supply chain data, sales volumes, and packaging materials. Ensure full traceability of packaging throughout the supply chain from production to disposal.

Ensure Transparency and Audit Readiness
Prepare for independent audits by keeping your records well organised and up to date. Audits are not just a legal requirement. They can also be opportunities to enhance transparency and improve processes.

Exploring Alternative Solutions

Consider Alternative Collection Programs
Collaborate with manufacturers or industry groups to explore or develop alternative collection programs for specific material streams.

Innovate and Collaborate
Seek out innovative packaging solutions and partner with other companies, CSOs, material recovery centres, and research institutions to develop sustainable practices. Explore circular economy models that prioritize closed-loop systems, reuse, and refillable packaging.

Staying Informed – Continuous Learning and Engagement

Monitor Regulatory Developments
Stay up to date changes in EPR laws and regulations in your area. Subscribe to industry newsletters and legal updates and maintain regular communication with your business chamber or PRO. Establish internal processes to ensure ongoing compliance with all relevant regulations.

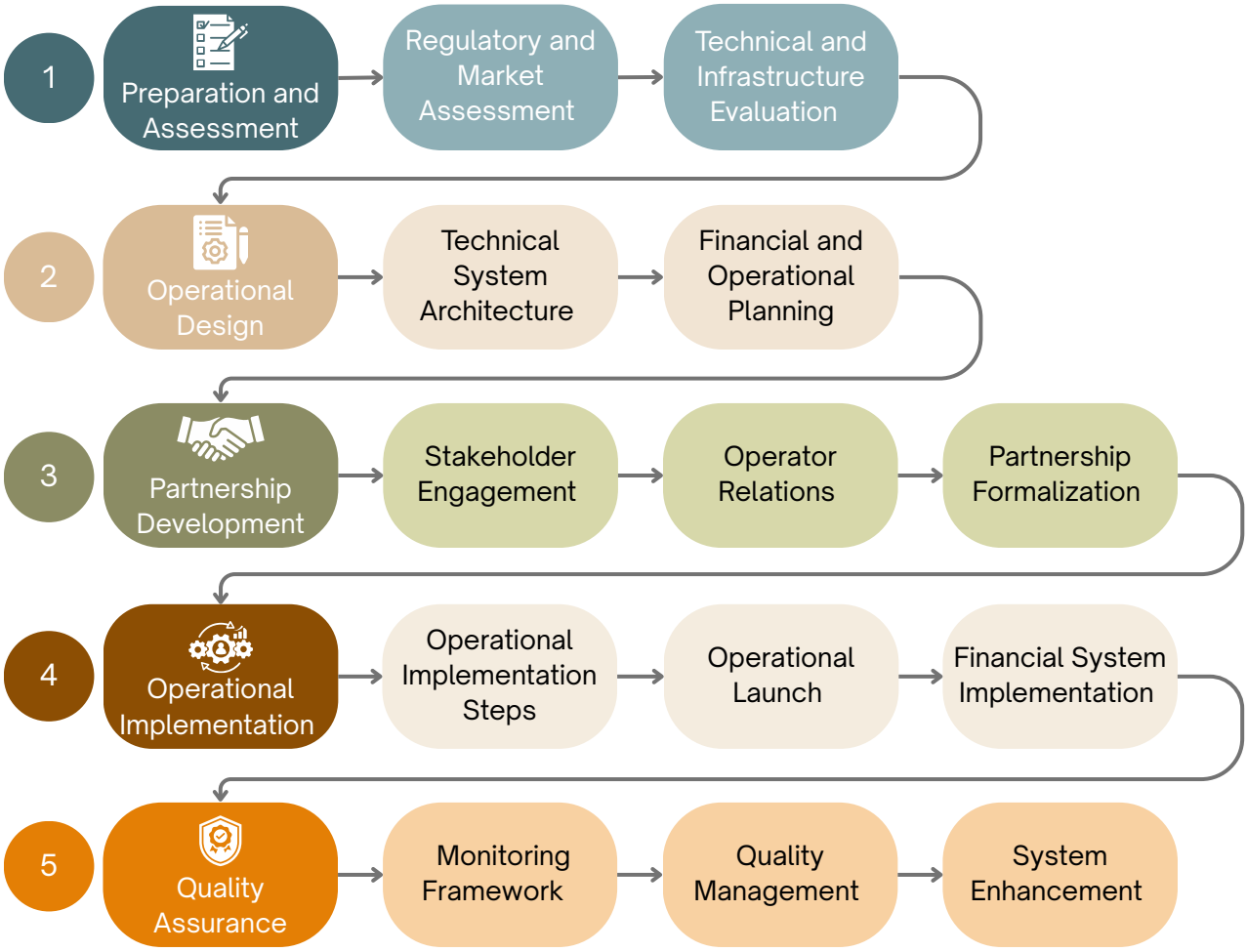
Seek Expert Advice – Environmental Consultants and Sustainability Specialists
Consider working with EPR and sustainability consultants. They can help optimise packaging, identify cost-effective strategies for sustainable business practices and ensure regulatory compliance, helping to reduce financial burdens while enhancing sustainability efforts.

Establishing a successful PRO

This section provides guidance on how to establish an effective Producer Responsibility Organisation (PRO) in the context of the Western Balkans, where the implementation of EPR varies widely. While Bosnia and Herzegovina, North Macedonia and Serbia already have functioning EPR systems with active PROs, Albania, Montenegro, and Kosovo are still in the early stages of developing legal frameworks and operational models.

Target Audience: This chapter is aimed at government authorities, chambers of commerce, environmental NGOs, industry associations, and private-sector actors involved in shaping or supporting the formation of PROs, particularly in settings where EPR systems are emerging or undergoing reform.

The roadmap below suggests five stages for establishing or strengthening a PRO, tailored to different levels of market maturity.



1 Preparation and Assessment

A well-structured preparation and assessment phase lays the foundation for for the successful development of a PRO in the Western Balkans. It provides a structured approach to accommodate both emerging and established EPR systems, ensuring that all relevant actors are aligned and equipped for the stages that follow.

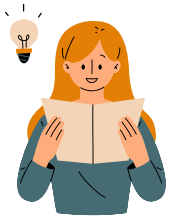
Regulatory and Market Assessment

Lead Responsibility:
Business Initiative Group, leading companies in the packaging sector

Analysis of current EPR regulations and requirements

The first step in establishing a PRO is understanding the legal landscape. Leading companies in the packaging sector should conduct a detailed review of both national and EU-level EPR regulations. This includes identifying

- compliance obligations,
- deadlines,
- financial responsibilities,
- reporting requirements,
- technological standards.



Businesses should also pay close attention to new or upcoming regulations that may influence their operations in the near future. Studying these systems can help businesses understand what works well, where challenges may arise, and how different company sizes and sectors have successfully adapted. This knowledge can reduce risks, shorten implementation timelines and support smarter planning.

Market volume and material flow assessment

Effective planning for an EPR system requires a solid understanding of package material flows. Companies need to evaluate the types and quantities of packaging they place on the market and track how these materials move through the supply chain - from production or import to disposal. Such information is essential for estimating system costs, determining infrastructure needs, and setting realistic goals. It also establishes a baseline for measuring the future performance of the PRO and evaluating its environmental impact.

Technical and Infrastructure Evaluation

Lead Responsibility: Technical committee of business representatives

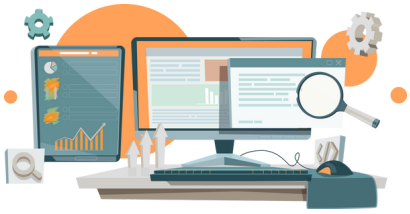
Assessment of current waste management arrangements

Technical committees should thoroughly assess each member company's waste management system. This includes analyzing collection methods, sorting procedures, and company-specific disposal strategies. The assessment should quantify different types of packaging materials, identify existing recycling agreements, and map out waste pathways in detail. Establishing this baseline will help pinpoint areas that require improvement to ensure compliance with EPR regulations.

Data management systems review

An effective data management system is essential to the successful implementation of EPR. Businesses must assess their ability to track packaging materials, monitor waste flows, and provide compliance reports. This review should examine software systems, data collection methods, and reporting procedures.

The goal is to identify weaknesses in the current systems and determine necessary improvements or new solutions to meet EPR reporting requirements and support informed decision-making.



Governance structure development

A well-defined governance framework is essential for long-term success. Founding members should establish clear roles and responsibilities, transparent decision-making processes, and structured mechanisms for member input and representation. The governance model must include appropriate checks and balances to ensure accountability and transparency while maintaining operational efficiency. Key components include committee structures, voting rights, board membership, and dispute resolution procedures. The framework should be adaptable to support growth while remaining stable and effective.

Buildings relationships with PROs

Establishing strong partnerships with existing PROs in North Macedonia, Bosnia and Herzegovina and Serbia provides valuable isnights and opportunities for collaboration. This requires ongoing communication, knowledge sharing and, where appropriate, formal agreements and partnerships. Learning from experienced PROs can accelerate system development and help avoid common pitfalls. Additionally, regional coordination through these partnerships can enhance operational efficiency and create cost-saving synergies. Regular meetings, joint initiatives, and shared learning activities will further strengthen these relationships for mutal benefit.

Technical System Architecture

Lead Responsibility: Technical Committee of Business Representatives

Establishing a robust technical infrastructure is the foundation of effective EPR operations. This involves developing reporting systems, tracking tools, and data management platforms to support key functions such as producer registration, fee calculation, waste collection tracking and material flow monitoring. The system architecture must be capable of expending with operational growth, secure, ensuring data protection and compliance and compatible with existing corporate systems. The system architecture needs to be strong enough to manage intricate tasks while still being adaptable to change as needs and technology do.

Collection and processing infrastructure

This phase focuses on developing the operational framework and physical infrastructure needed for efficient waste collection and processing. Key tasks include:

- Establishing transport routes for optimal waste movement.
- Identifying sorting and processing facilities to maximize efficiency.
- Mapping collection points based on factors such as population density, geographic spread, and existing waste management capacity.

Collection point networks and accessibility

A network of collection points must be designed for both user convenience and operational efficiency. A thorough assessment of population density, business hubs, and existing waste infrastructure helps determine optimal locations. Key considerations include:

- Vehicle accessibility and efficient routing.
- Proximity between collection points for better coverage.
- Space allocation for different container types while maintaining fair access for all users.

Priority should be given to high-traffic areas such as shopping malls, business districts, and residential complexes. Additional collection points should be installed to address any service gaps. Special attention must be given to accessibility for elderly and disabled individuals, ensuring inclusive and equitable waste disposal solutions.

Transportation logistics and routing

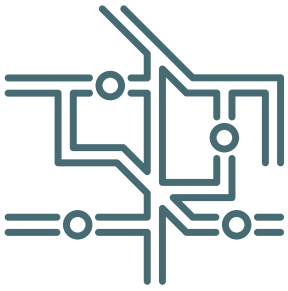
Effective transportation networks are critical for successful implementation of EPR systems. Route planning must be optimized to reduce costs while maintaining reliable service levels. To ensure timely collection from all locations, routes should maximize vehicle utilisation, minimise environmental impact, and reduce fuel consumption.

This requires analyzing traffic patterns, seasonal variations in waste volumes and vehicle capacity constraints to develop flexible routing solutions. Additionally, contingency plans should be in place to address potential disruptions such as equipment failures, traffic congestion, or unexpected surges in waste collection.

Sorting facility requirements and locations

Sorting facilities are essential nodes in the EPR infrastructure, requiring careful consideration of their location, technological needs, and capacity. These facilities should be strategically placed to minimise transportation distances while ensuring efficient access to major roadways and end markets for recovered materials.

Facility design should incorporate up-to date sorting technologies that optimize material recovery rates, account for current waste volumes and allow for future expansion. The layout must provide sufficient space for receiving areas, processing lines, sorted material storage, and staff facilities, while maintaining flexibility to adapt to evolving material streams and quality standards.



Financial and Operational Planning

Lead Responsibility: Finance and Business Engineering Committee

Business model and financial projections development

Developing a comprehensive business model and financial projections requires detailed financial modeling that considers various variables and scenarios. Over the years, the committee must generate accurate estimates covering capital needs, operating expenses, and income streams. To ensure robustness under different circumstances, these estimates should include sensitivity testing, growth scenarios, and market analysis. The business plan must strike a balance between financial viability and environmental efficacy, factoring in both short-term implementation costs and long-term operational needs. During the initial implementation phase, when expenditures may be high and revenue streams are still growing, special attention should be given to cash flow management.

Membership fee structure calculation

Designing an equitable and sustainable fee structure is crucial for the system's success. The committee must consider several factors, including package volumes, material types, recycling costs, and market conditions when determining the fee structure. Eco-modulation concepts should be integrated into the fee structure to ensure sufficient revenue for system operations while offering financial incentives for environment friendly packaging choices. The committee must also assess the competitive impact of fees on various business sizes and industries. A well-structured system that maintains equity and ensures long-term viability can be established. The fee structure should include regular review procedures to allow adjustments based on system performance and market developments.

Eco-modulation is a regulatory approach designed to promote sustainable production practices. It penalizes the use of what is considered environmentally harmful materials, such as single-use plastics, while incentivizing the use of materials that minimise environmental impacts by keeping recyclable resources in circulation. This system aligns environmental goals with economic incentives, encouraging responsible choices in product design and packaging.

This approach can be applied using various criteria, including recyclability, the percentage of recycled content and the environmental impact of production processes. The aim is to support a circular economy where resources are reused, waste is minimised, and the overall environmental footprint is reduced.

Infrastructure investment planning

To develop comprehensive investment plans for essential infrastructure, a detailed assessment of current capabilities and future needs is necessary. The planning committee must develop innovative investment strategies that balance immediate operational requirements with long-term system growth. These plans should include precise cost estimates, scheduling considerations, and funding sources for key infrastructure components such as data management platforms, sorting facilities, and collection systems. The investment strategy should also explore opportunities to leverage existing local government infrastructure and potential partnerships to optimize capital allocation. Establishing clear and fair cost-sharing agreements requires careful consideration of equitable distribution of financial burdens among stakeholders.

3 Partnership Development

Stakeholder Engagement

Lead Responsibility: Business partners from initiating companies

Industry engagement and stakeholder collaboration

Successful EPR implementation requires proactive engagement with industry associations, chambers of commerce and other key stakeholders. These relationships offer valuable market insights, knowledge-sharing opportunities and platforms for collaborative action. Regular participation in industry forums and working groups helps businesses stay informed about best practices, regulatory developments and emerging challenges. This collaborative approach also strengthens the collective voice of the business community in shaping EPR policies and implementing strategies.

Identification and engagement of potential members

Identifying and interacting with prospective member businesses requires a well-planned strategy that incorporates marketing and communication efforts. Priority should be given to businesses that generate significant amount of packaging waste or already have environmental obligations. This process involves:

- Conducting market research to identify key stakeholders across industries such as manufacturing and retail.
- Developing industry-specific engagement strategies.
- Increasing potential members' interest and commitment through personal contact, educational seminars and clear demonstration of benefits to increase interest and commitment.

Businesses already implementing sustainable practices should receive special attention, as they may serve as early adopters and advocates for the EPR system.

Business membership criteria and requirements

Strong partnerships with waste management companies are critical to the success of EPR. To establish these partnerships, detailed proposals should be developed outlining specific roles, responsibilities, and mutual benefits. These proposals should cover financial agreements, performance metrics, service standards and operational requirements.

A balanced approach that accounts for both current capabilities and future advancements is essential.

Waste management partnership development

Developing strong partnerships with waste management companies and municipalities requires a strategic approach focused on operational efficacy and long-term sustainability. The process should begin with a comprehensive assessment of the region's waste management landscape, identifying operators with established collection networks, adequate processing capacity and a proven track record of successful operations.

Key operational factors, such as collection coverage, material handling guidelines, quality standards and reporting requirements, must be clearly defined. Establishing transparent communication channels and structured engagement procedures will enhance collaboration while maintaining operational flexibility.

Service agreement framework

The relationship between the EPR system and waste management operators must be governed by a clear, comprehensive, and legally binding service agreement. This framework should define critical aspects, including:

- Service scope
- Performance standards
- Pricing mechanisms
- Quality requirements
- Reporting obligations

Special attention should be given to monitoring systems, performance indicators, and procedures for resolving operational challenges. To ensure system growth while maintaining operational stability, the agreement structure should incorporate flexible provisions on waste volume. Elements include service specifications, key performance indicators, payment conditions and dispute resolution protocols.

Operational integration planning

Effective operational integration requires meticulous planning to ensure seamless coordination between waste management operators and the EPR system. The integration strategy should encompass all operational touchpoints, including collection scheduling, material handling protocols, data exchange mechanisms, and quality control procedures.

- Key components of the planning process include:
- Establishing clear procedures
- Specifying clear lines of communication between stakeholders
- Developing systems to manage daily operations efficiently
- Addressing short-term operational needs and long-term system development requirements.
- Providing detailed schedules for phased integration.
- Incorporating measures for process optimisation, staff training and system testing.

Partnership framework documentation

The partnership framework documentation serves as a foundation for managing collaborative relationships within the EPR system. It outlines operational procedures, decision-making procedures, roles and responsibilities, and the organisational structure of the partnership.

The documentation should clearly define membership categories, participation prerequisites, and compliance obligations. Essential components include operational guidelines, communication protocols, responsibility matrices, and organisational charts. To maintain flexibility while ensuring operational stability, it must also specify procedures for framework updates and modifications. To guarantee the long-term viability of the partnerships, special emphasis should be given to recording risk allocation, dispute resolution protocols, and partnership evolution methods.

A well-structured partner onboarding process is critical to integrating new partners into the EPR system while maintaining operational continuity. This process should include comprehensive orientation programs, technical training, system access setup, and operational integration planning. Key elements of onboarding include:

- Performance verification procedures
- Training requirements and role assignments
- Detailed onboarding timelines
- System integration milestones and operational readiness assessment

Requirements for documentation, methods for confirming compliance, and processes for performance monitoring are crucial elements for a successful PRO. A well-designed feedback system ensures ongoing process improvements while maintaining consistent engagement standards.

System deployment and testing

System deployment and testing involve setting up the necessary infrastructure, including software platforms, data management systems, and operational frameworks, to support implementation. This phase begins with configuring system parameters, defining workflows, and assigning user roles before proceeding with rigorous testing. Testing includes functionality validation, stress testing, and real-world simulations to identify potential issues and optimize performance. Any detected bugs or inefficiencies are addressed before full-scale deployment to ensure reliability and compliance with industry standards.

Integration activation

Integration activation ensures seamless connectivity between system components, enabling interoperability and efficient data exchange. This process links important operational modules such as financial tracking, reporting mechanisms, and logistics management to create a unified workflow.

Key integrations include API connections with external databases, synchronization with regulatory reporting platforms, and automated data-sharing with waste management operators. A well-executed integration reduces manual interventions, minimises errors, and improves overall efficiency.

User training and onboarding

User training and onboarding are critical for a smooth transition and optimal system utilisation. This phase includes structured training sessions, comprehensive user manuals, and hands-on demonstrations tailored to different stakeholder groups.

Key training components cover:

- System navigation
- Reporting procedures
- Compliance requirements
- Troubleshooting mechanisms

To further support users, onboarding strategies may include pilot programs and dedicated support hotlines, providing guidance and assistance during the transition into the new system.

Operational Launch

Collection network activation

The collection network activation phase marks the final step in setting up designated collection points for efficient waste collection. Successful implementation requires close coordination with municipalities, waste management operators, and local businesses to streamline the collection process. To ensure smooth operations, clear guidelines must be provided to all stakeholders, covering waste sorting, drop-off procedures, and collection frequency.

Transportation system implementation

Efficient transportation is crucial for moving collected materials from collection points to sorting and processing facilities. This phase involves designing optimized routes, scheduling pickups, and coordinating with waste transport operators to minimize costs and environmental impact. Key factors such as vehicle capacity, fuel efficiency, and regulatory requirements must be carefully considered to ensure smooth logistics. Implementing real-time tracking systems can further enhance fleet management, ensuring smooth logistics and operational efficiency.

Initial operations monitoring

Initial operations monitoring evaluates the performance of collection and transportation systems to identify potential inefficiencies and opportunities for improvement. This process involves tracking key performance indicators such as collection rates, transportation efficiency, and system compliance with regulatory requirements. Regular audits, stakeholder feedback, and data analysis play a crucial role in refining processes and overcoming operational challenges.

Financial System Implementation

Collection network activation

To activate fee collection effectively, the PRO must establish clear and regular communication with stakeholders. This includes outlining fee structures, deadlines, and compliance obligations. Automated invoicing and digital payment options streamline the process, reducing administrative work. Establishing transparent mechanisms for accurate fee calculations helps prevent disputes, builds trust and secures necessary funds for system operations.

Payment system launch

Launching a well-executed payment system ensures collected fees are processed efficiently and allocated appropriately for operations, infrastructure, and regulatory compliance. This step involves integrating secure transaction platforms, establishing financial controls, and defining procedures for handling payments, refunds, and penalties for non-compliance.

Initial financial tracking setup

Setting up financial tracking ensures robust monitoring of revenue, expenses, and overall financial performance. This process involves implementing accounting frameworks, data reporting tools, and compliance checks to maintain financial transparency and accountability. Regular audits and performance evaluations help assess fund utilisation, cost-effectiveness, and opportunities for financial optimization. A well-structured financial tracking system supports operational sustainability, enabling continuous improvements and long-term success.

5 Quality Assurance

Monitoring Framework

At this stage, the PRO establishes a standardized system to track and assess their compliance with EPR regulations. This framework integrates data from various sources, including waste collection points, recycling facilities, and supply chain partners, ensuring real-time monitoring of product lifecycles and environmental impact. By maintaining a centralized system, the PRO can efficiently oversee its sustainability initiatives and identify areas for improvement.

Compliance Verification

Once the monitoring framework is in place, the PRO must ensure that its processes align with legal and regulatory requirements. This involves conducting audits, verifying documentation, and collaborating with external stakeholders such as regulatory agencies and municipalities. Compliance verification helps PROs avoid penalties, maintain credibility, and demonstrate their commitment to environmental responsibility.

Performance Analysis and Reporting

The PRO analyzes collected data to measure recycling rates, waste reduction efforts, and overall environmental impact. These insights are compiled into reports for regulatory bodies, members, and the public. This reporting helps organisations refine their strategies, improve sustainability performance, and enhance transparency in their environmental commitments.

Quality Management

A multilayered quality control system should be implemented to ensure consistent performance across the EPR ecosystem. This framework encompasses operational standards, material processing criteria, and data management while integrating advanced technologies such as tracking systems and sensor-based analysis. The system goes beyond mere compliance, aiming to drive continuous improvement.

The PRO must establish a systematic and comprehensive audit approach to verify compliance and identify opportunities for improvement. The program should include annual comprehensive audits, quarterly performance reviews, and continuous monitoring. The audit process should be designed to generate actionable insights and promote transparency across all members.

Additionally, the PRO should establish a standardized framework for classifying and testing packaging materials. This approach focuses on developing a flexible yet precise system to categorize materials, assesses their recyclability, and define contamination thresholds. The goal is to create a dynamic classification methodology that can adapt to technological advances while maintaining consistent standards across different markets.

System Enhancement

Continuous Improvement Process

In this phase, the PRO should establish a dynamic performance evaluation system that goes beyond traditional metrics. The approach involves developing advanced key performance indicators, conducting regular system reviews, and implementing an adaptive management strategy.
The goal is to build a flexible framework that supports iterative refinement, evidence-based decision-making, and continuous learning. The PRO should actively engage in knowledge sharing platforms that promote collaborative learning and capacity building.
This approach ensures preparedness and keeps the organisation up to date with innovate methods and emerging developments in waste managment, while also fostering cross-border collaboration.

APPENDIX

Survey on business engagement and compliance assessment of the EU Waste Framework Directive & EPR in the Western Balkans

This survey is part of creating hands-on guidelines for companies, importers, and distributors in the Western Balkans on complying with their national waste sectorial legislation and Extended Producer Responsibility (EPR). It is conducted by the German Chamber of Commerce (DIHK), Urban Research Institute (URI), the six chambers of commerce in the Western Balkans (WB), and their umbrella organisation, WB6 CIF.

This survey aims to understand implementation strategies, policy feedback, compliance challenges businesses face, and future expectations regarding EPR.

It comprises 10 - 25 questions and is anticipated to take approximately 5 - 12 minutes of your time. The information gathered is anonymous and will be solely used to enhance understanding of EPR implementation and guide policy-making processes.

Chapter I: Business Profile, Structure and Ownership

1. Location of headquarters and operational areas.

2. Year of establishment.

3. Primary markets.
   - Local
   - Regional
   - International

4. Annual turnover.
   - <500,000 EUR
   - 500,000 EUR - 1,000,000 EUR
   - 1,000,000 - 5,000,000 EUR
   - >5,000,000

5. What is the legal structure of your business?
   - Sole proprietorship
   - Partnership
   - Corporation
   - Other: _____

6. What regions or countries do you operate in?

7. Are you planning to enter any new markets?
   - Yes
   - No

Chapter II: EPR Implementation and Business Strategy

8. How would you describe your understanding of Extended Producer Responsibility (EPR)?

    - Not Understood
    - Very Limited
    - Limited
    - Moderate
    - Good
    - Excellent

9. Has your business adapted its strategies or operations to align with Extended Producer Responsibility requirements or goals?

    - Yes
    - No

10. What specific EPR-related goals have you set? (Please provide the main goals in respect to Extended Producer Responsibility) _____

11. Describe the key challenges your business has encountered since implementing EPR. (Select all that apply)

    - Regulatory challenges
    - Financial challenges
    - Technological challenges
    - Staff-related challenges
    - Public awareness challenges
    - No significant challenges
    - Prefer not to answer

12. Describe the key benefits your business has encountered since implementing EPR.

    - Financial benefits
    - Enhanced environmental reputation
    - Market access opportunities
    - Resource efficiency improvements
    - Positive impact on customer relations
    - No significant benefits

13. Is your business a part of any specific EPR schemes or programs? If so, which ones?

    - Waste Electrical and Electronical Equipment
    - Waste packaging
    - Waste batteries

14. Does your business collaborate with other stakeholders in EPR initiatives?

    - Yes, with municipalities
    - Yes, with NGOs
    - Yes, with industry partners
    - No

15. What feedback do you have about the EPR framework in your country? Are there areas for improvement? _____

Chapter III: Understanding and Utilisation of EPR Benefits

16. Has EPR facilitated new business partnerships or collaborations?

    - Yes
    - No
    - Prefer not to answer

17. Rate your current utilisation of EPR opportunities involving package reduction, product refurbish, lower taxation; Community Social Responsibility program, collaboration with suppliers to promote sustainability etc.).

	1	2	3	4	5	
None	○	○	○	○	○	Extensive

18. Please share any EPR-related training or workshops your business has participated in. _____

19. Has your business benefited from financial incentives for the implementation of EPR?

    - Yes
    - No

20. Have these financial incentives impacted your ability to comply with the EPR requirements?

    - Yes
    - No

21. Have you faced any challenges in accessing these financial supports or incentives?

    - Yes
    - No

22. Rank these EPR benefits in order of importance for your business.

	Compliance	Sustainability	Innovation	Market Reputation
1st	O	O	O	O
2nd	O	O	O	O
3rd	O	O	O	O
4th	O	O	O	O

23. Which aspect of EPR do you find most challenging?

- Understanding regulations
- Identifying opportunities
- Establishing partnerships
- Adapting to market changes
- Other: _____

24. Rank these EPR benefits in order of importance for your business.

	Customer Feedback	Competitive Analysis	Regulatory Changes	Technological Advancements
1st	O	O	O	O
2nd	O	O	O	O
3rd	O	O	O	O
4th	O	O	O	O