POLICY ANSWERS

Circular Economy in Kosovo

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Executive Summary

Circular Economy (CE) is an important source for economic development, as it helps economies to create more green jobs[1]. However, according to the Circularity Gap Report (2023)[2], the global CE constitutes approximately 7.2 % of the world's economy, a decline from 9.1 % in 2018. This decline is driven not only by limited recycling but also by increased material extraction and resource accumulation in infrastructure. Therefore, the current momentum on the megatrend is an opportunity for the economy in Kosovo*.

The study at hand situates Kosovo within the broader Western Balkans[3] and European Union (EU) context, comparing national trends with regional peers to identify gaps, progress and policy needs. It examines key dimensions of circular transition, including current and planned resource-efficiency actions, investment intensity, access to external support, encountered barriers and the extent of green market participation.

This study employed a mixed-methods approach, combining quantitative and qualitative data to explore the development of CE practices in Kosovo. The quantitative component was based on a survey of 96 businesses, conducted using the Flash Eurobarometer 498, enabling comparisons between Kosovo, EU Member States (EU MS) and Western Balkans peers. The qualitative component involved multiple case studies of three CE business models (CEBMs) operating in Kosovo, providing in-depth insights into firm-level practices, drivers, and barriers. In addition, a desk review of Kosovo's legal and policy framework relevant to the circular economy was conducted.

Kosovo's transition to a CE is at a formative stage. While important building blocks are in place, the enabling environment remains underdeveloped. The analysis reveals that while awareness of CE principles is growing, most companies remain focused on basic, cost-saving measures rather than systemic innovation. The analyses further show that compared with other Western Balkans economies, Kosovo performs similarly to Albania and North Macedonia but lags behind Serbia and Montenegro, where companies benefit from stronger policy frameworks and broader access to private finance. In relation to the EU, Kosovo's private sector remains significantly behind in the adoption of high-value CE activities, reflecting structural constraints such as limited technical expertise, administrative complexity, and insufficient access to finance.

Taking into account the findings of the study, the following recommendations are made:

- promote innovation grants for firms adopting advanced resource-saving or recycling technologies;
- encourage commercial banks to develop green credit lines, through the Kosovo Credit Guarantee Fund;
- create fiscal incentives, such as tax credits and allowances, for investment in circular technologies, recycling infrastructure and renewable energy;

[1] Ministry of Environment, Spatial Planning and Infrastructure-MESPI (2023). Circular Economy Roadmap of Kosovo. https://re-ko.org/wp-content/uploads/2025/03/2023_8171e270-643b-4de3-9387-91794084eb8b.pdf. Accessed 5 February 2026.
[2] Circularity Gap Report. https://www.circularity-gap.world/2023. Accessed 9 March 2026.
* This designation is without prejudice to positions on status and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo Declaration of Independence.
[3] The Western Balkans comprise Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia.

- reduce administrative complexity by harmonising permits, licensing, and environmental compliance procedures under a "green business one-stop shop";
- introduce clear guidelines on circular product standards and classification (align with EU taxonomy), waste classification and green procurement to reduce uncertainty and promote compliance;
- support market development for green products through green public procurement (GPP), eco-labelling schemes and public awareness campaigns;
- help small and medium-sized enterprises (SMEs) identify export opportunities in the EU and regional CE value chains through trade facilitation, CE product certification and matchmaking platforms;
- establish a national licensing and regulatory framework for waste collection businesses to formalise operations, reduce informality and ensure environmental compliance;
- intensify the process of accession to the Basel Convention[4] to enable direct export of recyclable materials to the EU and global markets;
- streamline export licensing procedures for certified recyclers, including digitalising permit applications;
- establish a dedicated inter-ministerial coordination body to lead and manage the CE's transition across all sectors;
- define clear institutional roles, responsibilities, and accountability mechanisms within the strategic framework. Municipalities should be integrated into this framework as operational implementers and coordination intermediaries, bridging local businesses, industry and national institutions;
- consolidate all CE-related objectives from other sectoral strategic documents into one unified circular economy strategy;
- speed up the process of establishing the national CE monitoring framework, aligned with the EU Circular Economy Monitoring Framework[5].

[4] Base Convention. https://www.basel.int/Portals/4/download.aspx?e=UNEP-CHW-IMPL-CONVTEXT-2025.English.pdf. Accessed 9 March 2026
[5] Circular economy Monitoring framework. https://ec.europa.eu/eurostat/web/circular-economy/monitoring-framework. Accessed 9 March 2026

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Acronyms and abbreviations used in this document

Acronym	Full name
APPRM	Agency for Promotion of Entrepreneurship of the Republic of North Macedonia
AL	Albania
AMvB	Algemene Maatregel van Bestuur
B2B	Business to Business
B2C	Business to Costumer
CAP	Common Agricultural Policy
CE	Circular Economy
CEAP	Circular Economy Action Plan
CEBMs	Circular Economy Business Models
CBM	Circular Business Model
DCTV	Dutch Circular Textile Valley
DRS	Deposit Refund System
EC	European Commission
EPR	Extended Producer Responsibility
ERP	Economic Reform Program
ESG	Environmental, Social, and Governance
ESPR	Ecodesign for Sustainable Products Regulation
ETCCERU	European Topic Centre on Circular Economy and Resource Use
EU	European Union
EU MS	European Union Member States
FBiH	Federation of Bosnia and Herzegovina
GPP	Green Public Procurement
HoReCa	Hotels, restaurants, cafés
ICT	Information and Communication Technologies
ISCC	International Sustainability & Carbon Certification
IoT	Internet of Things
MAKSTAT	State Statistical Office of the Republic of Macedonia
ME	Montenegro
MK	North Macedonia
MSMEs	Micro, Small, and Medium Enterprises
NDC	Nationally Determined Contributions
NGO	Non-governmental organisation
PAYT	Pay-as-you-throw system
PPWR	Packaging Waste Regulation

PSS	Product Service System
RDI	Research Development and Innovation
RS	Republika Srpska
SR	Serbia
S3	Smart Specialisation Strategy
SMEs	Small and Medium Sized Enterprises
UCO	Used Cooking Oil
UNDP	United Nations Development Programme
VAT	Value Added Tax
WB	Western Balkans
WB6	Western Balkans 6
WPP	Waste Prevention Programme
XK	Kosovo

1. Introduction

The transition toward a Circular Economy (CE) has become a critical component of sustainable economic growth, particularly in emerging markets such as Kosovo. This study presents the findings of a national quantitative survey assessing the level of awareness, engagement and performance of companies in Kosovo in adopting CE and resource-efficiency practices. The survey aims to provide evidence-based insights into how businesses are responding to increasing environmental and economic pressures to use resources more efficiently, reduce waste, and develop greener products and services.

Following the Sofia Summit in 2020[6], six WB economies have committed to the Western Balkans Green Agenda[7], which has become a new growth strategy based on the European Green Deal climate and environment-related targets by 2030, the Paris Agreement[8] and the 2030 Agenda for Sustainable Development[9]. The Western Balkans Green Agenda consists of five pillars: i) climate and energy, including decarbonisation; ii) circular economy; iii) de-pollution (e.g. air, water, and soil); iv) sustainable agriculture and food production and v) biodiversity[10]. In relation to CE, the following group of incentives are imperative to help the decision makers transition towards CE: i) improving legal framework; ii) fiscal incentives; iii) introducing the price to cover the waste management cost (e.g. the pay-as-you-throw (PAYT) system); iv) green public procurement and v) awareness raising campaigns[11].

Kosovo has developed several strategic documents derived from the Sofia Declaration[7]. Some of the key documents include the Circular Economy Roadmap of Kosovo[12] and the Kosovo Integrated Waste Management Strategy (2021-2030)[13]. The Circular Economy Roadmap identified six priority areas for economic development, namely food system, forest system, creative sector, retail sector, the built environment, and the manufacturing sector. In addition, the document identifies several horizontal areas which will enable and support the above priority areas and advance the transition CE: (i) waste management; (ii) water management; (iii) digitalisation and Information and Communication Technologies (ICT); (iv) energy; (v) transport; (vi) green public procurement and (vii) education. Another reference in the national strategic documents regarding CE is

[6] Western Balkans Summit in Sofia. (2020). https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2051. Accessed 10 March 2026
[7] Sofia Declaration on the Green Agenda for the Western Balkans. (2020). https://www.rcc.int/files/user/docs/196c92cf0534f629d43c460079809b20.pdf. Accessed 10 March 2026
[8] The Paris Agreement. (2015). https://unfccc.int/process-and-meetings/the-paris-agreement. Accessed 10 March 2026
[9] UN Agenda 2030. (2015). https://www.un.org/sustainabledevelopment/development-goals/. Accessed 10 March 2026
[10] Regional Cooperation Council. (2020). Sofia Declaration on the Green Agenda for the Western Balkans. https://www.rcc.int/docs/546/sofia-declaration-on-the-green-agenda-for-the-western-balkans-rn#:~:text=During%20the%20Western%20Balkans%20Sofia%20Summit%2C%20held%20on,Green%20Agenda%20that%20aligns%20with%20EU%20Green%20Deal. Accessed 4 August 2025
[11] Aspen Institute. (2022). Green Agenda for the Western Balkans the Road Toward Effective and Sustainable Implementation. https://www.aspeninstitute.de/wp-content/uploads/Green-Agenda-for-the-Western-Balkans_2023.pdf. Accessed 7 August 2025
[12] Circular Economy Roadmap for Kosovo. (2023). https://mmphi.rks-gov.net/MMPHIFolder/DocumentsFiles/2023_8171e270-643b-4de3-9387-91794084eb8b.pdf. Accessed 10 March 2026
[13] Kosovo Integrated Waste Management Strategy (2021-2030). https://mmphi.rks-gov.net/MMPHIFolder/DocumentsFiles/2025_b38458aa-c6bd-45f3-a124-1e1d8f6efcb3.pdf. Accessed 10 March 2026

objective 4 of the Kosovo Integrated Waste Management Strategy (2021-2030)[14], even though it does not provide clear actions on how to advance CE in Kosovo[15]. Furthermore, the Ministry of Environment, Spatial Planning and Infrastructure adopted Guidelines on Circular Economy Business Models in Kosovo (CEBMs)[16]. In addition, although Kosovo's "Industrial Policy"[17] has incorporated the CE, recognising its significance for the economy, the policy includes only a modest budget of just over for training and conferences, along with financial subsidies of just over three million EUR. However, considering the commitments from the Green Agenda, the lack of additional measures and the limited budget allocation present key challenges[18].

Despite the adoption of these documents, Kosovo lags behind other WB economies concerning incentives and instruments, especially for developing a support mechanism for greening SMEs[19]. Also, other documents, such as the Economic Reform Programme (ERP), do not provide any clear policy measures in terms of encouraging the private sector towards CE[20].

Understanding the current state of play on the CE in Kosovo serves several critical purposes:

- First, the lack of data regarding CE in Kosovo remains a challenge for policy makers, businesses, civil society and stakeholders to provide recommendations for sound evidence-based policies[21]. Several policy documents have pointed out that the need for data on CE, and the lack of data indicators have postponed the evaluation of CE in Kosovo[22].
- Second, unlike other economies in the region and EU MS that have conducted firm-level surveys to assess the adoption of CE principles (reduce, reuse and recycle), Kosovo has yet to undertake such initiatives[23]. This study report aims

[14] Ibid.
[15] Ministry of Environment, Spatial Planning and Infrastructure. (2025). Kosovo's first and voluntary Nationally Determined Contributions (NDC). https://circulareconomy.europa.eu/platform/sites/default/files/2023-05/Circular%20Economy%20Roadmap%20of%20Kosovo.pdf. Accessed 10 August 2025
[16] EU 4 Green. (2023). Guidelines on Circular Economy Business Models in Kosovo. https://eu4green.eu/library/report-on-kosovo-circular-business-model/. Accessed 13 August 2025
[17] Strategy for Industrial Development and Business Support 2030. https://mint.rks-gov.net/desk/inc/media/242E31B4-01F1-461C-A4FA-911B8E66E9BD.pdf. Accessed 10 March 2026
[18] Ministry of Industry, Entrepreneurship and Trade (MIET) (2023). Strategy for Industrial Development and Business Support 2030. Available at: https://mint.rks-gov.net/desk/inc/media/8721BDAD-6637-435F-897B-6938E6C75907.pdf. Accessed 16 August 2025
[19] OECD (2022). SME Policy Index: Western Balkans and Turkey 2022. https://www.oecd.org/content/dam/oecd/en/publications/reports/2022/07/sme-policy-index-western-balkans-and-turkey-2022_2476d818/b47d15f0-en.pdf. Accessed 16 August 2025.
[20] Government of Kosovo (2023). Economic Reform Program (2023-2025). https://mfpt.rks-gov.net/desk/content/media/131FBDC9-AD9B-48D9-9714-29A7F2F1C5F4.pdf Accessed 16 August 2025.
[21] Note: for example, industrial policy has pointed out that there is no data on the percentage of recycled material in manufacturing sector. (See: Ministry of Industry, Entrepreneurship and Trade (MIET) (2023). Strategy for Industrial Development and Business Support 2030. "Industrial Policy." https://mint.rks-gov.net/desk/inc/media/242E31B4-01F1-461C-A4FA-911B8E66E9BD.pdf#page=43.60. Accessed 19 August 2025) while the Kosovo's Circular Economy Roadmap has included within the activities to conduct survey to analyse CE in Kosovo.
[22] Note: for example, the Environmental Agency has not evaluated the circular economy due to the lack of data-indicators. See: ETC CE (2022). Circular economy country profile – Kosovo. Circular economy country profile – Kosovo. https://www.eionet.europa.eu/etcs/etc-ce/products/etc-ce-products/etc-ce-report-5-2022-country-profiles-on-circular-economy/kosovo-ce-country-profile-2022_for-publication.pdf. Accessed 19 August 2025.
[23] Flash Eurobarometer surveys are conducted in EU Member States and candidate economies, but not in Kosovo. Replicating their methodology allows the comparison of the results meaningfully.

to address this data gap by replicating methodologies used in the EU and neighbouring economies, enabling an in-depth analysis of the CE state of play in Kosovo and facilitating comparisons with regional and EU MS. The study employed a quantitative research approach using a structured questionnaire designed to assess the level of engagement of Kosovo companies in resource efficiency and CE practices. Data were collected from 96 companies operating in Kosovo across different sectors of the economy: non-public services; industry; trade, hospitality and food services; construction, transport and ICT; public services (health care) and agriculture, forestry and fishing, ensuring broad representation of the national business landscape. The questionnaire was administered between September and October 2025.

- Third, there is limited awareness among the private sector about the principles and business models of the CE, as well as its benefits for businesses. Therefore, highlighting the environmental and economic advantages of adopting circular practices is crucial. This study, through various activities, aims to engage the private sector in discussions about the importance and impact of the CE on their business operations, with the goal of raising awareness[24].
- Fourth, there is a lack of information on the types of CEBMs currently employed by firms in Kosovo. To address this gap, this report presents multiple case studies that provide insights into how CE principles are being applied in practice by local businesses.
- Lastly, this study report will provide policy implications and business model insights within the CE context derived from survey findings with the private sector as well as semi-structured interviews with policy experts. These insights could serve as guidelines for policymakers on the CE.

[24] Note: one of major issues raised in various policy documents (e.g. Industrial Policy) was the lack of awareness of private sector regarding the CE.

2. Methodology

Aligning with the overall purpose of this study, the methodology section outlines the approach taken to assess the current state of the CE legal framework, with a particular focus on Kosovo. The research relies on a triangulation of three key sources of evidence. First, desk research was conducted to analyse the legal and policy frameworks governing the CE in the EU, the WB and Kosovo. Second, a baseline study was carried out using data from the Flash Eurobarometer 498 survey, offering valuable insights into public awareness and attitudes toward CE practices. Finally, multiple case studies of CEBMs operating in Kosovo were examined to provide practical, on-the-ground perspectives on implementation and regulatory interaction. Each of these sources is explained in detail in the sections below.

2.1. Desk research

Desk research was conducted to review the legal framework and policy documents aiming to identify the potential gaps and opportunities to accelerate CE in Kosovo, including the analysis of the most effective CE policies implemented across EU MS.

2.1.1. Reviewing Europe and the regional legal framework best practices

To gain deeper insights, the project team analysed the most effective CE policies implemented across EU MS. This comparative approach allowed for the identification of strategies that have yielded tangible results in promoting circularity. Furthermore, within this activity, the research team also analysed how different sectors and geographical areas are adopting CE practices in the EU. By comparing strategies and outcomes, the study aimed to understands the key success factors behind robust CE frameworks. This helped in assessing how well certain policies function in different contexts and which elements could be adapted to Kosovo's legal and policy landscape.

2.1.2. Circular Economy Business Models (CEBMs) in the EU

The focus of this activity was to identify approaches that can be replicated in Kosovo. This activity aimed to identify CEBMs across the EU and successful implementation strategies that may serve as a benchmark for businesses in Kosovo. The CEBMs from desk research was compared with CEBMs case studies in Kosovo to analyse common patterns and differences and provide recommendations for businesses in Kosovo.

2.1.3. Reviewing the legal framework in Kosovo

The initial stage of desk research involved the identification of the legal framework and policy documents in Kosovo and identified the gaps and opportunities for accelerating CE development. After identifying these documents, the research team carefully analysed the potential gaps within these documents and how the current legal framework and strategies align with best practices. Through analysing policy gaps in the research team aimed to provide recommendations, part of which derived from the second stage of desk research, namely analysing best international practices with special emphasis on the EU context.

2.2. Baseline study survey on resource efficiency and CE practices

This study employed a quantitative research design to assess the extent of engagement of Kosovo's private sector in resource efficiency and CE practices. Findings from the survey will serve as a baseline for policymakers to assess the current state of play and the potential of the CE in Kosovo. The research was implemented through a structured firm-level survey, developed to generate comparable data on company awareness, actions, investment patterns and perceived barriers related to CE transition. The questionnaire aimed to capture both behavioural and structural dimensions, such as implemented efficiency measures, planned actions, financial commitments, and access to support instruments, allowing for a statistical overview of current trends and gaps in business practices. The survey design was based on the Flash Eurobarometer 498 on "SMEs, Resource Efficiency and Green Markets"[25], ensuring methodological consistency with EU standards and enabling cross-country comparison.

By replicating this established instrument, the study aimed to benchmark Kosovo's results against regional and European patterns of business engagement in the CE. The data were collected from 96 companies operating across Kosovo, encompassing a diverse range of sectors: non-public services; industry; trade, hospitality and food services; construction, transport and ICT; public services (health care); and agriculture, forestry and fishing. The selection process aimed to ensure a broad representation of Kosovo's business landscape, reflecting the structural features of the economy, which is dominated by MSMEs. Companies were selected to capture variations in size, ownership, geographic distribution and type of activity, thereby allowing the findings to reflect the heterogeneity of Kosovo's private sector.

The survey instrument was administered between September and October 2025, primarily through direct interviews and online responses. Questions were designed in closed-ended formats to facilitate quantitative analysis and comparison across Kosovo. While the sampling ensured sectoral diversity, the study acknowledges the presence of selection bias, as firms with greater awareness of environmental issues or previous involvement in donor-supported projects may have been more inclined to participate. Nonetheless, the data reveal some consistent patterns, allowing for meaningful interpretation of emerging trends and constraints shaping Kosovo's circular transition. Data analysis focused on descriptive statistics and cross-tabulations to identify the prevalence, motivations and impacts of resource-efficiency actions. The results were contextualised through comparative benchmarking with WB and EU averages, enabling an understanding of Kosovo's relative position in the regional CE landscape. Overall, the methodological approach ensured robustness while maintaining practical relevance. The firm-level survey provides one of the most comprehensive quantitative assessments to date of Kosovo's business engagement with CE principles, offering an essential evidence-base for policy formulation and targeted support measures.

[25] Flash Eurobarometer 498. https://search.gesis.org/research_data/ZA7806. Accessed 10 March 2026

2.3. Multiple case studies on Circular Economy Business Models

To provide a comprehensive and in-depth analysis of the CE in Kosovo, the research team analysed six CEBMs, which include the following key activities that will be undertaken: The first step is to select CEBMs in Kosovo. In doing so, the research team identified potential CEBMs across different sectors based on desk research and baseline survey findings. After the identification of CEBMs, the research team developed selection criteria aiming to include businesses from different sectors, industry types and sizes of business to provide more comprehensive findings of CEBMs. The third step was implementation of semi-structured interviews (see Annex 1) with business managers or owners, followed with the analysis of their CEBMs. The last step was to compare CEBMs from Kosovo and those from the EU, carried out through desk research.

3. Findings

The following section presents the findings derived from desk research on the legal frameworks governing the CE in the European Union, the WB and Kosovo. This is followed by an analysis of data from the baseline survey study and concludes with insights drawn from multiple case studies of CEBMs in Kosovo.

3.1. Circular economy in transition: legal framework from the EU, WB and Kosovo

The following section provides an overview of the legal framework governing the CE within the EU, highlighting key legislative instruments and policy developments. It also outlines the main characteristics of CEBMs adopted across the EU, supported by selected country-level best practices. This is followed by an analysis of the legal frameworks in the WB economies, with particular attention to regional alignment with EU directives. The section concludes with an in-depth examination of the legal framework in Kosovo, assessing its current state, challenges, and progress toward harmonisation with EU CE policies.

3.1.1. Circular economy in Europe: legal and policy framework

The United Nations (UN) General Assembly's Resolution 70/1[26], which outlines the 2030 Agenda for Sustainable Development, includes several goals that are closely aligned with CE principles and sustainable business models. These goals include:

- Quality Education (Goal 4)
- Clean Water and Sanitation (Goal 6)
- Affordable and Clean Energy (Goal 7)
- Decent Work and Economic Growth (Goal 8)
- Industry, Innovation, and Infrastructure (Goal 9)
- Sustainable Cities and Communities (Goal 11)
- Climate Action (Goal 13).

Collectively, these objectives promote a shift toward more inclusive, resource-efficient, and low-carbon economic systems. In line with these global priorities, the European Green Deal was developed as a framework to support and implement the UN's sustainable development goals through concrete environmental and economic policies[27].

European waste and recycling policies date back to the 1970s, with product design policies emerging in the 2000s. CE policies gained momentum only after the mid-2010s, accelerating with the 2019 Green Deal, which has set the goals of EU climate neutrality by 2050[28]. Thus, CE has become one of the main building blocks of the European Green

[26] UN, Transforming our world: the 2030 Agenda for Sustainable Development. https://docs.un.org/en/A/res/70/1. Accessed 10 March 2026.
[27] Clapham, Paul, Iyer-Raniga, Usha, & Aranda-Mena, Guillermo. (2022). Precursor considerations for new circular economy business models. In IOP Conference Series: Earth and Environmental Science (Vol. 1101, No. 6, p. 062037). IOP Publishing. https://iopscience.iop.org/article/10.1088/1755-1315/1101/6/062037. Accessed 22 August 2025.
[28] Weick, Mark and Ray, Nicole. (2023). The regulatory landscape of the circular economy. Ernst & Young Global Limited. https://www.ey.com/content/dam/ey-unified-site/ey-com/en-us/insights/chemicals/documents/ey-regulatory-landscape-of-the-circular-economy.pdf. Accessed 25 August 2025.

Deal, helping reduce emissions, resource use and biodiversity loss. It enables climate neutrality by 2050 while supporting sustainable growth within planetary limits[29]. In this vein, the European Commission has adopted legislative and non-legislative measures aiming to target various strategic areas. CE is based on several strategic documents[30] such as the EU Sustainable Development Strategies[31,32], 7th Environmental Action Programme[33] and Integrated Product Policy.[34]

Most of the EU MS have adopted national CE strategies, roadmaps or action plans[35], as well as several cities have adopted their CE strategies to reduce waste[36]. One of the main challenges with regard to transition towards CE is related to policies, in particular governance, regulations and financing, not technology[37]. As a result, the European Commission adopted the Circular Economy Action Plan (CEAP)[38] in 2015 which then was further developed in 2020, and introduced measures to make sustainable products the standard in the EU, empower consumers and public buyers, reduce waste, and promote circularity in main value chains such as electronics and ICT, batteries and vehicles, packaging, plastics, textiles, construction and buildings and food, water and nutrients[39], all of which are sectors considered to have high potential for circularity[40]. CEAP has

[29] European Commission (2020). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions a new Circular Economy Action Plan For a cleaner and more competitive Europe. COM/2020/98 final. https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN. Accessed 25 August 2025.
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[38] European Commission. (2020). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. COM(2015) 614 final. https://eur-lex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0012.02/DOC_1&format=PDF
[39] European Commission. (2020). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions a new Circular Economy Action Plan For a cleaner and more competitive Europe. COM/2020/98 final. https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN. Accessed 2 September 2025.
[40] Watkins, Emma and Meysner, Agata. (2022). European Circular Economy policy landscape overview. A report for PBL Netherlands Environmental Assessment Agency Institute for European Environmental Policy. Available at: https://ieep.eu/wp-content/uploads/2022/11/European-Circular-Economy-policy-landscape-overview.pdf. Accessed 5 September 2025.

introduced several instruments to support economies and regions within the EU to tackle the issues with regards to investing aiming to increase capacities. The CEAP action plan comprises of three main parts: policy frameworks on sustainable products, product value chain, and more value less waste, which are briefly overviewed below.

- **A sustainable product**

The EU has implemented various initiatives and legal measures that, to some extent, incorporate sustainability considerations into product policies, whether through mandatory regulations or voluntary guidelines. At the initial stage, designing sustainable products was based on the Ecodesign Directive, which was mainly for the energy efficiency and some characteristics of circularity of energy-related products[41]. Then the regulation on Ecodesign for Sustainable Products Regulation (ESPR) entered into force in 2024, which forms the European Commission's strategy for greener and more circular products and extends Ecodesign Directive in two aspects: The ESPR broadens the scope beyond energy-related products to include nearly all physical goods, with limited exceptions such as food, feed, and medicines. It also strengthens eco-design rules, introducing requirements for durability, circularity and reduced environmental and climate impacts.

Another directive on CE aiming to empower costumers on the green transition was built upon two European Commission directives of 2019. The new directive[42] is an extension and updated version of the previous regulation that broadens its coverage. This directive on empowering consumers aims to support sustainable consumption and strengthen the internal market. Consumers must receive clear and reliable information about products' environmental, social, and circular aspects, such as durability, reparability and recyclability. Traders have a duty to avoid misleading claims, including greenwashing or promoting premature obsolescence. The directive on the repair of goods European Commission[43] was amended on two previous directives, which came into force in 2024, granting consumers the formal "right to repair" products after purchase. This includes ensuring access to affordable repair services, spare parts and clear repair-related information to extend product lifespans and reduce waste.

- **Product value chains**

Product value chains have included specific product categories and sectors such as electronics and ICT, batteries and vehicles, packaging, plastics, textiles, construction and buildings, food, water and nutrients. The circularity of these product categories and sectors was regulated on regulations such as packaging waste (PPWR)[44] which entered into

[41] European Commission. (2009). Directive 2009/125/Ec of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02009L0125-20121204&from=EN. Accessed 5 September 2025.
[42] European Commission. (2024). Directive (EU) 2024/825 of the European Parliament and of the Council of 28 February 2024 amending Directives 2005/29/EC and 2011/83/EU as regards empowering consumers for the green transition through better protection against unfair practices and through better information. https://eur-lex.europa.eu/eli/dir/2024/825/oj/eng. Accessed 5 September 2025
[43] European Commission. (2024). Directive (EU) 2024/1799 of the European Parliament and of the Council of 13 June 2024 on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394 and Directives (EU) 2019/771 and (EU) 2020/1828. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32024L1799. Accessed 5 September 2025
[44] European Commission. (2025). Regulation (EU) 2025/40 of the European Parliament and of the Council of 19 December 2024 on packaging and packaging waste, amending Regulation (EU) 2019/1020 and Directive (EU) 2019/904,

force in 2025 that harmonised national measures aiming to strengthen the internal market. Followed by the Batteries Regulation[45], which ensures that all batteries in the EU are sustainable, the EU textile policy[46] aims to ensure products are durable, repairable, recyclable, and largely made from recycled fibres, while respecting social and environmental standards. Fast fashion is phased out, reuse and repair services are expanded, and producers are responsible for recycling and reducing textile waste. Waste caused by electrical[47] and electronic equipment has been addressed to protect the environment and increase the circularity of these products, while preventing and reducing waste from end-of-life vehicles and improving the environmental performance of all actors involved in the vehicle life cycle.[48,49,50]

- **Less waste, more value**

The CE seeks to eliminate waste by treating it as a resource. However, applying R-strategies and related legal measures faces challenges due to the complex classification of waste and how waste laws apply.[27] Less waste more value aims to significantly reduce waste generation, improve recycling and strengthen the CE by modernising waste laws, setting waste reduction targets and harmonising separate collection systems. Measures will also focus on creating safer, high-quality recycling streams by managing hazardous substances in waste[51,52] microplastic pollution[53] and promoting a well-functioning market for secondary raw materials. Additionally, the EU will review waste shipment rules[54] to

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and repealing Directive 94/62/EC. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L_202500040&pk_campaign=todays_OJ&pk_source=EUR-Lex&pk_medium=X&pk_content=Environment&pk_keyword=Regulation. Accessed 5 September 2025

[45] European Commission. (2023). Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC. https://eur-lex.europa.eu/eli/reg/2023/1542/oj/eng. Accessed 5 September 2025

[46] European Commission. (2022). EU strategy for sustainable and circular textiles. https://environment.ec.europa.eu/publications/textiles-strategy_en. Accessed 5 September 2025

[47] European Commission. (2012). Consolidated text: Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02011L0065-20160715. Accessed 8 September 2025

[48] European Commission. (2000). Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of life vehicles - Commission Statements. . https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32000L0053. Accessed 8 September 2025

[49] European Commission. (2005). Directive 2005/64/EC of the European Parliament and of the Council of 26 October 2005 on the type-approval of motor vehicles with regard to their reusability, recyclability and recoverability and amending Council Directive 70/156/EEC. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32005L0064. Accessed 8 September 2025

[50] European Commission. (2023). Proposal for a Regulation on circularity requirements for vehicle design and on management of end-of-life vehicles. https://environment.ec.europa.eu/publications/proposal-regulation-circularity-requirements-vehicle-design-and-management-end-life-vehicles_en. Accessed 8 September 2025

[51] European Commission. (2008). Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32008L0098. Accessed 8 September 2025

[52] European Commission. (2023). Proposal for a targeted revision of the Waste Framework Directive. https://environment.ec.europa.eu/publications/proposal-targeted-revision-waste-framework-directive_en. Accessed 8 September 2025

[53] European Commission. (2023). Proposal for a Regulation on preventing pellet losses to reduce microplastic pollution. https://environment.ec.europa.eu/publications/proposal-regulation-preventing-pellet-losses_en. Accessed 8 September 2025

[54] European Commission (2024). Regulation (EU) 2024/1157 of the European Parliament and of the Council of 11 April 2024 on shipments of waste, amending Regulations (EU) No 1257/2013 and (EU) 2020/1056 and repealing Regulation (EC) No 1013/2006. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32024R1157. Accessed 8 September 2025

reduce harmful waste exports, curb illegal shipments, and encourage domestic recycling and resource recovery. In addition, the monitoring framework is of crucial importance to monitor the progress of CE and its impacts, either direct or indirect, which was revised in 2023.[55]

- **R-strategies**

R-strategies represent a hierarchy of circular economy actions designed to retain the value of products, components, and materials for as long as possible while minimising resource use and waste generation. The framework emphasises that strategies which prevent resource use and extend product lifetimes—such as refusing, rethinking, and reducing—deliver the highest environmental benefits, whereas lower-order strategies like recycling and energy recovery are considered less preferable due to value loss. This hierarchy supports more sustainable production and consumption systems by guiding decision-making toward higher-value retention options across the product lifecycle.[56]

- **Refuse (R0):** avoid unnecessary consumption and products
- **Rethink (R1):** use products more efficiently or adopt alternative use models
- **Reduce (R2):** minimise resource use and waste generation
- **Reuse (R3):** use products again for the same purpose
- **Repair (R4):** fix products to extend their lifespan
- **Refurbish (R5):** restore and update old products
- **Remanufacture (R6):** rebuild products using existing components
- **Repurpose (R7):** use products for a different function
- **Recycle (R8):** process materials into new products
- **Recover (R9):** extract energy or residual value from waste

Case study: The Netherlands

The Netherlands has emerged as a leader in CE policy, with a national target of achieving 50 % circularity by 2030 and full circularity by 2050. Currently, the country operates at a circularity rate of 24.5 % - significantly above the global average of 8.6 % - and recycles approximately 80 % of its waste[57]. The national CE policy, coordinated by the Ministry of Infrastructure and Water Management, focuses on three strategic goals: reducing the use of raw materials, increasing the use of renewable and sustainable resources like biomass, and promoting circular design and production. These goals align with EU policies, the UN Sustainable Development Goals[9], and the Paris Agreement[8]. Success in implementation is driven by coordinated governance across all levels and supported by initiatives such as the Green Deals[58] and DuurzaamDoor[59] (Sustainable Door, an

[55] European Commission. (2023). Monitoring framework. https://ec.europa.eu/eurostat/web/circular-economy/monitoring-framework. Accessed 8 September 2025
[56] Netherlands Environmental Assessment Agency (PBL) (2017). https://www.pbl.nl/en/publications/circular-economy-measuring-innovation-in-product-chains? Accessed 20 March 2026
[57] European Environment Agency (2022). European Topic Centre on Circular Economy and Resource Use. Netherlands: Circular economy country profile 2024. Available at: https://www.eionet.europa.eu/etcs/etc-ce/products/etc-ce-products/etc-ce-report-5-2022-country-profiles-on-circular-economy/netherlands_ce-country-profile-2022_for-publication.pdf. Accessed 8 September 2025
[58] Netherlands Enterprise Agency. https://english.rvo.nl/subsidies-financing/mia-vamil/green-deals. Accessed 20 March 2026
[59] Netherlands Enterprise Agency. https://www.rvo.nl/onderwerpen/dudo. Accessed 20 March 2026

instrument which enables parties to cooperate and learn from each other), which facilitate public-private partnerships and knowledge exchange in sectors like construction, food, and procurement. According to European Topic Centre on Circular Economy and Resource Use (ETCCERU), the Netherlands also employs a robust Extended Producer Responsibility (EPR) framework, including recent revisions under the Packaging Management Decree[60] (often referred to as an AMvB—Algemene Maatregel van Bestuur), which expands targets for recycling and reuse. Local governments play a strong role through urban policy, circular procurement, and over 100 circular projects, such as Flevoland's circular bridge tender[61]. Financial backing is substantial, with provinces contributing EUR 229 million annually to regional programmes and EUR 20 million to innovation schemes, including CE-specific subsidies. According to ETCCERU, the textile sector exemplifies sectoral innovation, with initiatives like the Denim Deal, which sets minimum recycled content requirements, and the Dutch Circular Textile Valley (DCTV), which supports fibre recycling across four hubs. EPR measures are also being extended to mattresses, reinforcing the Netherlands' commitment to closed-loop systems and sustainable material use.**Fehler! Textmarke nicht definiert.**

3.1.1.1. CEBMs in the EU

The circular business model is defined as "a business model in which the conceptual logic for value creation is based on utilising the economic value retained in products after use in the production of new offerings"[62]. Linear focus models focus more on economic value, while the circular ones focus on three interrelated aspects, such as economic, environmental and societal value. Thus, these models are the combination of value creation, value proposition and value capture strategies[63]. Furthermore, there is no single business model that can be applied to all businesses and sectors, however, in general, many suggest that there are generic elements of business models consisting of six elements (mission, structure, processes, revenue, legal issues and technology)[64], which can be also synthesised as framework to CE principles[2727]. Within this framework, businesses employ circular strategies which become the core of their CEBMs. Repair/maintain, reuse/redistribute, refurbish, remanufacture, recycle, incinerate/landfill[65] are key generic strategies of the CEBM. While designing business models, businesses are required to rethink resource use and adopt business models focused on dematerialisation, product longevity, refurbishment, remanufacturing, shared use, and enhanced reuse and recycling.[66]

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[60] Netherlands Enterprise Agency. https://business.gov.nl/regulations/packaging. Accessed 20 March 2026
[61] https://bruggencampus.nl/en/bridge-campus/
[62] Linder, M., & Williander, M. (2017). Circular business model innovation: inherent uncertainties. Business strategy and the environment, 26(2). https://onlinelibrary.wiley.com/doi/10.1002/bse.1906 Accessed 11 September 2025
[63] Gillabel, Jeroen; Manshoven, Saskia; Grossi, Francesca; Mortensen, Lars Fogh and Coscieme, Luca (2021). Business models in a circular economy. European Topic Centre Waste and Materials in a Green Economy. https://www.eionet.europa.eu/etcs/etc-wmge/products/etc-wmge-reports/business-models-in-a-circular-economy. Accessed 11 September 2025
[64] Alt, R., & Zimmermann, H. D. (2001). Introduction to special section-business models. Electronic Markets-The International Journal, 11(1), 1019-6781. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1018067 Accessed 8 September 2025
[65] Hansen, Erik, Lüdeke-Freund, Florian, Fichter, Klaus. (2020). Circular business model typology: Actor, circular strategy, and service level. Institute for Integrated Quality Design (IQD), Johannes Kepler University Linz. https://www.borderstep.de/wp-content/uploads/2020/08/Hansen_Luedeke-Freund_Fichter_2020_WP_Circular-Business-Model-Typology.pdf. Accessed 8 September 2025
[66] European Investment Bank. (2023). The EIB circular economy guide: supporting the circular transition: May 2023. European Investment Bank. https://op.europa.eu/en/publication-detail/-/publication/b6a36d59-1ec8-11ee-806b-01aa75ed71a1/language-en. Accessed 8 September 2025

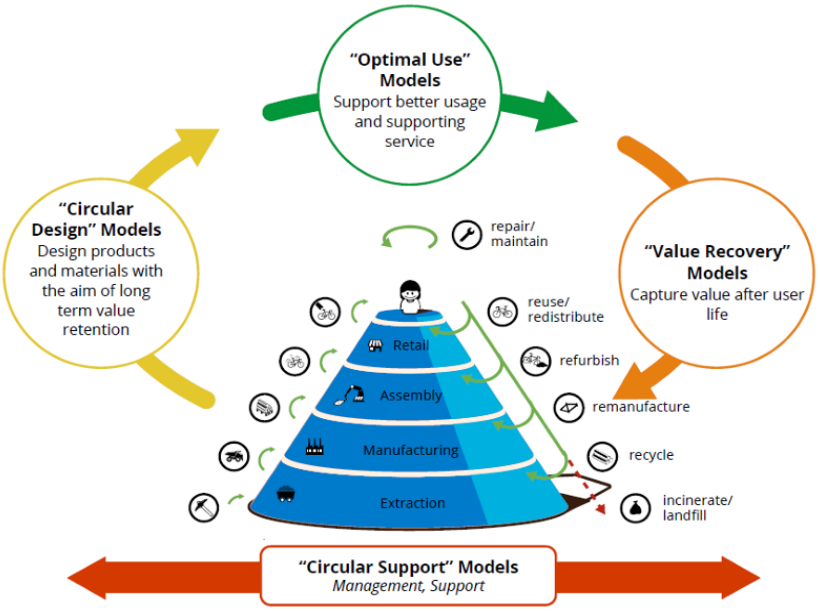

Figure 1: Circular Economy Business Models[67]*Fehler! Textmarke nicht definiert.*

Figure 1 shows the Value Hill CEBM model, which is based on different phases of the value chain: (i) the circular design model aims to create or improve products and processes that maximise longevity and facilitate maintenance, reuse or recycling, often using sustainable or recyclable materials. Financing these innovations involves risks similar to those in other Research Development and Innovation (RDI) or innovation projects; (ii) optimal use models focus on extending product life and maximising value, often by retaining ownership and offering services like maintenance or upgrades. These models pose financial challenges due to altered cash flows, asset ownership complexities and difficulties in valuing or financing the associated risks; (iii) circular support models focus on coordinating resource flows and managing circular value networks, while also optimising incentives and support mechanisms. They further involve the development and application of enabling technologies that facilitate and strengthen the implementation of other circular business models. In addition, a successful transition to CEBMs requires the alignment of several enabling factors, including institutional support, coherent policy frameworks, business engagement, and societal awareness. These interlinked structural barriers reveal the urgent need for integrated policy action, harmonised regulations, and targeted financial support to scale CEBMs effectively.

Beyond consumer behaviour, institutional, financial and organisational challenges present critical barriers to CEBMs adoption. Fragmented legislation across policy domains often creates conflicting requirements that fail to support circularity goals. At the same time, weak secondary materials markets, characterised by poor standardisation, traceability and quality control, limit the economic viability of recycling and remanufacturing. Internally, companies face constraints such as resistance to change, lack of green skills and limited staff capacity to redesign operations[68]. Additionally, limited access to finance,

[67] Ibid.
[68] Rizos, Vasileios, Bryhn, Julie, Alessi, Monica, Righetti, Edoardo, Fujiwara, Noriko, Stroia, Cristian. (2021). Barriers and enablers for implementing circular economy business models: Evidence from the electrical and electronic

especially for SMEs, stems from perceived risks and high upfront costs related to circular innovation, infrastructure, and product design[69].

There are various circular economy business models, each integrating one or more circular strategies such as circular supply chains, sharing models, product-service systems, resource recovery, and product life extension. These models are briefly explained below and illustrated with short case studies to highlight their practical application.

Circular supply chain

Circular supply models replace traditional production inputs with bio-based, renewable, or recovered materials. By integrating these materials early in product design, firms can reduce environmental impacts and prevent waste generation, effectively designing waste out of the system. This model functions as a proactive form of resource recovery. The rationale for the adoption of circular supply is twofold. First, green inputs enable product differentiation and appeal to environmentally conscious consumers willing to pay a premium. Second, these inputs reduce regulatory and supply chain risks. Environmental regulations are tightening in many jurisdictions, posing risks for firms reliant on polluting inputs. Moreover, key raw materials are often sourced from politically unstable regions, creating vulnerabilities. Using locally sourced secondary materials mitigates such risks[70].

In a circular economy, renewable or recycled inputs help eliminate waste and pollution. Waste becomes a resource, not a disposal liability. For example, born-circular firms benefit from lower material costs, higher recovery rates, and greater control over material flows. Their products are designed for continuous reuse rather than at end-of-life disposal. For example, rather than downcycling used tyres into low-value products (e.g., tiles or carpet), future models aim to fully recover materials like steel and fibres for new tyre production, retaining value within the system[71].

Case study: Cradle-to-Cradle® at Tarkett

Tarkett, a global leader in floor covering solutions, operates worldwide and owns Desso, a brand specialising in high-quality carpet tiles for various sectors including commercial, hospitality, maritime, and aviation. In 2008, before being acquired by Tarkett, Desso adopted a circularity-focused corporate strategy. This approach led to the company receiving the Cradle-to-Cradle® Gold certification in 2015, reflecting excellence not only in the use of circular materials but also in renewable energy use, carbon management, water stewardship, and social fairness. Desso has made significant progress toward closing its material loop. Key milestones include the development of EcoBase™, a fully recyclable carpet tile backing; the ReStart® take-back programme for used carpets; and the Refinity® recycling process, which separates yarn from

equipment and agri-food value chains (CEPS Research Report No. RR2021-01). Centre for European Policy Studies. https://cdn.ceps.eu/wp-content/uploads/2021/10/RR2021-01_Barriers-and-enablers-for-implementing-circular-economy-business-models.pdf. Accessed 14 September 2025

[69] Markosyan, D., Grundmann, P., Aleksanyan, V. (2024). Hierarchy and cause–effect relationship of barriers to circular business models in food systems: a Fuzzy-DEMATEL analysis in the Berlin-Brandenburg area in Germany. International Journal of Sustainable Development & World Ecology, 31(8), 1095-1109. https://www.tandfonline.com/doi/full/10.1080/13504509.2024.2385772. Accessed 17 September 2025

[70] OECD. (2019). Business Models for the Circular Economy: Opportunities and Challenges for Policy, OECD Publishing, Paris. https://www.oecd.org/en/publications/business-models-for-the-circular-economy_g2g9dd62-en.html. Accessed 17 September 2025

[71] Lacy, P., Long, J., & Spindler, W. (2020). The circular economy handbook: Realizing the circular advantage. Palgrave Macmillan London. https://link.springer.com/book/10.1057/978-1-349-95968-6 Accessed 17 September 2025

backing materials. The company uses ECONYL®, a regenerated yarn made from waste materials, as input for new carpet production. These innovations have brought Desso closer to achieving a fully circular value chain within its operations.[70]

Sharing economy models

Sharing models, also referred to as the sharing economy or sharing platforms, involve the more intensive use of under-utilised consumer assets through lending or pooling. Common examples include housing, vehicles, tools and clothing items that often idle for much of their lifespan. Digital platforms have enabled most current sharing practices, with firms like Airbnb emerging as major market players[70]. Within the sharing models, two sub-types exist: first, co-ownership refers to shared use of physical goods, such as borrowing household tools via platforms like Peerby; and second, co-access allows others to participate in an activity already taking place, such as carpooling through Blablacar, which connects drivers and passengers to fill otherwise empty seats.

These platforms help the asset owners to maximise operations while offering users convenient and affordable access to goods and services. These models are prominent in high-value sectors such as vehicles and accommodation. Businesses characterised as born-circular businesses extend this logic further by sharing not only consumer goods but also industrial assets, e.g. machinery, forklifts and warehouse space. Access is granted directly by individuals or firms, not just traditional suppliers. As a result, born-circulars achieve higher asset utilisation rates and reduce the need for ownership-based models[71].

Case study: Sharing economy-models – eRENT

Based in Finland, start-up eRENT provides a Sharing Platform for construction equipment and machinery management. The platform enables customers to rent out and manage different types of equipment aggregated nationally through one digital channel, matching idle assets with new demand and improving the productivity of less efficient industry processes (e.g., booking equipment with rental depots over the phone). The service, which includes heavy-duty equipment as well as smaller handheld tools, is a one-stop shop for entire construction sites. On average, eRENT customers save 20 % on equipment and machinery costs, thanks to various technologies, including Internet of Things (IoT) tracking.[71]

Product service system (PSS)

Product-Service System (PSS) models represent an integrated approach to value creation, combining a tangible product with an associated service component. These models vary in structure: some emphasise the product itself, while others prioritise the service dimension[72]. Central to "Product-as-a-Service" strategies is the idea that firms can unlock greater value by building long-term customer relationships, offering complementary services, monetising usage data, and recovering materials at the end of a product's lifecycle[71]. This approach supports circular economy objectives while enabling more sustainable and flexible business models.

The three main PSS types include: (i) Product-oriented product service system models refer to the traditional sales, which remain central, but value is added through after-sales

[72] Tukker, A. (2015). Product services for a resource-efficient and circular economy–a review. Journal of cleaner production, 97, 76-91. https://www.sciencedirect.com/science/article/abs/pii/S0959652613008135. Accessed 17 September 2025

services. Manufacturers retain ownership models but enhance offerings with maintenance or support services; (ii) user-oriented product service system models that provide temporary access to a product without transferring ownership. Consumers pay only for usage, typically via lease or rental agreements. Examples include car-sharing schemes, leased office equipment and clothing rental services; (iii) result-oriented product service system models, which focus purely on outcomes. Firms sell a service result rather than the physical product. For example, a company may provide indoor heating as a service, rather than selling equipment or energy[70,72]. PSS models offer scalable, circular business strategies by aligning incentives for resource efficiency and long-term customer relationships.

Case study: IKEA – Furniture as a Service (Sweden)

IKEA is piloting a Furniture-as-a-Service model in several markets as part of its transformation toward a circular and climate-positive business by 2030. This model allows customers initially small enterprises, business-to-business (B2B), to lease furniture instead of owning it, promoting reuse, refurbishment, and recycling. The service covers the full product lifecycle, from delivery and maintenance to end-of-life solutions. IKEA aims to retain ownership of materials to ensure multiple usage cycles. This shift responds to growing consumer demand for affordability, convenience, and sustainability, and, if scaled globally, has transformative potential to reduce environmental impact. R strategy that IKEA used are Rethink and Reuse.[73]

Product-life extension

The product life extension business model focuses on maximising the use of products in their original form and for their intended purpose. Instead of being discarded or recycled, products are repaired, refurbished, upgraded or resold, often at the end of their first use. This model allows items to remain in circulation longer, reducing the demand for new resources[71]. A wide range of activities, such as maintenance, reconditioning and second-hand trading, are included under this model, some of which function as standalone business strategies. Three key mechanisms support life extension: (i) repair and reuse ensure products reach their intended lifespan, avoiding early disposal; (ii) remanufacturing restores products to like-new conditions, granting them a new service life; (iii) second-use markets enable continued utility through resale and redistribution[70]. This model includes several sub-models that extend the use of products beyond their initial life cycle, supporting circular economy goals and reducing resource extraction. Together, these models extend product effectiveness, build customer trust and reduce environmental impact by keeping products in circulation longer[70]. These sub-models are:

- Classic long life, products are designed for durability and extended service life. This “classic long life” approach allows manufacturers to offset lower sales volumes with premium pricing strategies, much like in circular supply models;
- direct reuse, many products are discarded while still functional. The direct reuse model capitalises on this by redistributing second-hand items through platforms like eBay or Craigslist. Success depends on product condition and a robust buyer–

[73] Antikainen, R., Baudry, R., Gössnitzer, A., Karppinen, T. K. M., Kishna, M., Montevecchi, F., Müller, F., Pinet, C., & Uggla, R. (2021). Circular business models: Product-service systems on the way to a circular economy (C. Blum & C. Pykonen, Contributors). European Network of the Heads of Environment Protection Agencies (EPA Network), Interest Group on Green and Circular Economy. https://epanet.eea.europa.eu/reports-letters/reports-and-letters/circular_business_models_interest-group-green-and-circular-economy.pdf/view . Accessed 17 September 2025

seller network;
- maintenance and repair, includes fixing or replacing faulty parts, which helps products reach their full intended lifespan. These services are offered by both original manufacturers and third parties. For manufacturers, integrating repair services strengthens brand value and justifies premium pricing;
- refurbishment and remanufacturing involve restoring products for resale or return to users. Remanufacturing has become profitable for many multinational firms, enabling revenue generation by selling the same or similar product multiple times[70].

Case study: Extending product life in consumer electronics

Gerrard Street (The Netherlands) produces headphones circularly, focused on reaching the longest possible lifespan to prevent electronic waste. The headphones are designed in a modular way so that parts can be repaired in case of defect or wear. Gerrard Street will take back the old parts for repair, reuse or recycling. Consumers can choose whether to buy the headphones with a lifetime warranty or to use them via subscription. Since its inception in 2015, Gerrard Street has saved 2,000 headphones from the electronic waste pile.[74]

Resource recovery

Resource recovery models, which are often referred to as recycling, focus on turning waste into secondary raw material[70]. Waste is often collected by local governments and then sorted by either public or private entities. Private firms typically handle the transformation of sorted waste into usable materials, which are then sold to manufacturers. The business model here focuses on extracting value from low-cost or even paid-to-remove waste and selling the recovered materials on commodity markets. Profitability depends on keeping processing costs lower than market prices for secondary materials.

This model includes several distinct approaches, such as:
- downcycling, which occurs when waste is converted into lower-quality secondary materials, limiting future use. For example, recycled paper fibres shorten with each cycle, making them unsuitable for certain applications compared to virgin paper.
- upcycling, waste is transformed into higher-value materials used in more valuable applications, effectively increasing the material's worth;
- industrial symbiosis, also known as closed-loop recycling, uses by-products from one industry as inputs for another, focusing on industrial waste with fewer intermediaries and higher efficiency than traditional recycling systems[70].

Case study: upcycling at FREITAG

FREITAG is a Swiss manufacturer of bags, accessories and clothing founded in 1993 by Markus and Daniel Freitag. The company produces its bags from used truck tarpaulins, car safety belts and old bicycle inner tubes. By upcycling these materials, new value is created from what would otherwise be discarded waste. FREITAG has gained considerable scale in recent decades, each year around

[74] Jonker, Faber, Haaker. (2022). Quick scan circular business models: Inspiration for organising value retention in loops. Ministry of Economic Affairs and Climate Policy. https://circulareconomy.europa.eu/platform/sites/default/files/quick-scan-circular-business-models_ebook.pdf. Accessed 17 September 2025

400,000 products are produced out of 460 tons of truck tarps, 130,000 car seatbelts and 12,000 bicycle inner tubes.[70]

3.1.2. Circular economy in the Western Balkans

After the 2020 Sofia Summit, the six WB economies, which took part in the Berlin Process, were committed to implement the Green Agenda for the WB[7], adopting a new growth strategy aligned with the European Green Deal[75], the Paris Agreement[8], and the 2030 Agenda for Sustainable Development, aiming to meet climate and environmental targets by 2030[9].

The following actions were proposed at aiming to support the transition from linear to circular economy:

- integrating the WB into EU industrial supply chains by improving sustainable raw material production and applying an ecosystem approach to foster green recovery in key sectors (e.g., renewable energy, digital, mobility, tourism, textile and automotive);
- develop circular economy strategies focused on the full product lifecycle, including waste prevention, recycling, reuse, repair, and remanufacturing; expand and maintain modern waste management infrastructure at local and regional levels;
- launch public awareness initiatives promoting waste separation, sustainable consumption, and responsible consumer behaviour;
- finalise and implement a regional agreement to prevent plastic pollution, with special attention to marine litter;
- advance Smart Specialisation Strategies (S3) to drive sustainable, innovation-led regional development.

In relation to CE, the following group of incentives are imperative to help the decision makers transition towards CE: (i) improving legal framework; (ii) fiscal incentives; (iii) introducing the price to cover the waste management cost (e.g., PAYT system); (iv) green public procurement; (v) awareness raising campaigns[11]. Below is a brief overview of the legal framework and progress related to the CE in the WB economies. This section provides an overview of Circular Economy (CE) legal frameworks across selected economies. Kosovo is not included here, as its legal and policy framework will be examined in more detail in section 3.1.3.

Albania

Albania has gradually established a solid legal framework for a CE through various policy instruments and legal alignment, although it has yet to adopt a dedicated CE law, relying instead on integrated waste management legislation. Key institutions involved include the Ministry of Tourism and Environment, particularly its new Directorate for Circular Economy, the Ministries of Finance and Economy, Infrastructure and Energy, the National Agency for Environment, the Albanian Investment Development Agency (supporting

[75] European Commission. European Green Deal. https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en. Accessed 10 March 2026

circular business models) and the Institute of Statistics, which provides essential data[76].

While the current legal and policy framework does not yet provide a strong foundation for a full CE transition, several national strategies are relevant: the Green Agenda for the WB promotes sustainable growth through circular practices; the 2024 Roadmap towards Circular Economy outlines Albania's CE priorities[77]; and the National Plan for Integrated Waste Management (2020–2035)[78] sets ambitious targets such as 40 % recycling and a maximum 10 % landfilling rate by 2035. Complementary strategies include the National Strategy for Climate Change (2020–2030)[79], which supports emission reductions through waste management improvements; the National Strategy for Development and Integration (2022–2030)[80], which integrates CE into broader sustainable development goals; and the National Energy and Climate Plan (2021–2030)[81], which contributes through renewable and efficient energy. Although the Business Investment and Development Strategy (2021–2027)[82] supports SMEs, it currently lacks a direct focus on CE[76,83].

Bosnia and Herzegovina

Bosnia and Herzegovina has not yet adopted a formal national circular economy law or official CE roadmap, although planning efforts and stakeholder engagement are ongoing[84]. Both the Federation of Bosnia and Herzegovina (FBiH) and Republika Srpska have integrated CE principles such as waste prevention, reuse, and resource efficiency into their environmental strategies[85]. A CE roadmap is currently under development through united Nations Development Programme (UNDP) support, alongside several projects focused on CE and CEBMs[86].

Despite these advances, implementation remains fragmented due to the lack of

[76] OECD. (2024). A Roadmap towards Circular Economy of Albania, OECD Publishing, Paris. https://www.oecd.org/en/publications/a-roadmap-towards-circular-economy-of-albania_8c970fdc-en.html. Accessed 17 September 2025

[77] OECD (2024). https://www.oecd.org/en/publications/a-roadmap-towards-circular-economy-of-albania_8c970fdc-en.html#:~:text=Artificial%20intelligence,Explore%20transport. Accessed 27 March 2026

[78] GIZ (2020). National Integrated Waste Management Plan 2020-2035. https://nicholasinstitute.duke.edu/plastics-policies/national-integrated-waste-management-plan-2020-2035. Accessed 27 March 2026

[79] REC Albania (2022). Climate Change Strategy in Albania 2020-2030. 2019-2021 Action Plan Monitoring. https://www.wfd.org/sites/default/files/2022-05/EN_Report_Monitoring%20of%20National%20Action%20Plan%20%281%29.pdf. Accessed 27 March 2026

[80] Government of Albania (2023). Për miratimin e Strategjisë Kombëtare për Zhvillim dhe Integrim Evropian 2022-2030. https://qbz.gov.al/eli/vendim/2023/02/22/88/59519cb2-2180-4e7e-9d91-68545a68e008. Accessed 27 March 2026

[81] Government of Albania (2024). National Energy and Climate Plan of the Republic of Albania. https://konsultimipublik.gov.al/documents/RENJK_811_The-National-Energy-and-Climate-Plan-(NECP).pdf. Accessed 27 March 2026

[82] Government of Albania (2021). BIDS Business and Investment Development Strategy and Action Plan 2021 – 2027. https://www.investment.com.al/wp-content/uploads/2021/07/EN_Draft-BIDS-Presentation.pdf. Accessed 27 March 2026

[83] European Commission. (2025). Albania factsheet. https://www.switchtogreen.eu/wp-content/uploads/2025/01/Albania_Factsheet-01.pdf Accessed 17 September 2025

[84] OECD. (2024). Western Balkans Competitiveness Outlook 2024: Bosnia and Herzegovina. https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/06/western-balkans-competitiveness-outlook-2024-bosnia-and-herzegovina_bcc1529d/82e0432e-en.pdf. Accessed 20 September 2025

[85] Abaspahić, H., Suljić, V., Garić, M., & Krupić, S. (2022). Bosnia and Herzegovina Circular Economy White Paper. Centre for Policy and Governance. Available at: https://zelenaekonomija.komorabih.ba/wp-content/uploads/2023/10/White_Paper_Publication_28042022.pdf. Accessed 20 September 2025

[86] European Environmental Agency. (2025). Waste prevention country profile. Bosnia and Herzegovina. https://www.eea.europa.eu/en/topics/in-depth/waste-and-recycling/country-profiles-on-waste-prevention-2025/ba-waste-prevention-factsheet-final.pdf. Accessed 23 September 2025

harmonised national legislation and weak institutional coordination[87]. The strategic waste management framework still lacks explicit CE integration, and a linear economic model continues to dominate at both the entity and municipal levels. Nonetheless, the introduction of EPR systems marks a key milestone: both FBiH and Republika Srpska have implemented EPR for packaging and packaging waste, while FBiH has also introduced it for electronic and electrical waste. In FBiH, over 20 legislative acts regulate eight waste streams relevant to recycling, including glass, metal, plastic, wood, multilayered composite materials, packaging and electronic waste. The Law on Waste Management[88] in FBiH notably includes EPR provisions that support the gradual transition to a CE[89].

Montenegro

Montenegro stands out as one of the most advanced economies in the WB in terms of CE development, performing above the regional average[90]. The country has taken important steps by adopting dedicated policies and programmes to support businesses and local authorities in their transition to a CE model[36]. Key milestones include the adoption of the National Circular Economy Strategy 2030 and its corresponding Action Plan 2023–2024[91], which set the strategic direction for circular practices in sectors such as tourism, construction and manufacturing[92].

In 2022, Montenegro further advanced its CE agenda by publishing the Roadmap towards a Circular Economy[93], reinforcing its commitment to sustainable economic transformation. The legal framework was strengthened with the adoption of the Law on Waste Management[94] in April 2024, which aligns fully with the EU Waste Framework Directive[95]. This law introduces essential CE mechanisms, including EPR, mandatory separate waste collection, restrictions on lightweight plastic bags and obligations for businesses to

[87] Ibid
[88] Government of the Federation of Bosnia and Herzegovina (2024) https://oilgas.fmeri.gov.ba/media/1123/fbih-the-law-on-waste-management.pdf. Accessed 23 September 2025
[88] Ibid
[89] Abaspahić, Suljić, Garić, & Krupić. (2022). Bosnia and Herzegovina Circular Economy White Paper. Centre for Policy and Governance. https://zelenaekonomija.komorabih.ba/wp-content/uploads/2023/10/White_Paper_Publication_28042022.pdf. Accessed 23 September 2025
[90] OECD. (2024). Western Balkans Competitiveness Outlook 2024: Montenegro, Competitiveness and Private Sector Development, OECD Publishing, Paris. https://www.oecd.org/en/publications/western-balkans-competitiveness-outlook-2024-montenegro_ead1588e-en.html. Accessed 20 September 2025
[91] Government of Montenegro. (2023). Predlog Nacionalne Strategije Cirkularne Tranzicije do 2030. S Akcionim Planom 2023-2024. https://cdn.prod.website-files.com/64b267b2af31e414a41e6a23/6507f513e2428c5540f01a6a_predlog-nacionalne-strategije-cirkularne-tranzicije.pdf. Accessed 27 March 2026
[92] Chamber of Economy of Montenegro, UNDP, Circular Change, & Deloitte BiH. (2022). Roadmap – Towards the circular economy in Montenegro. European Circular Economy Stakeholder Platform. https://circulareconomy.europa.eu/platform/en/strategies/roadmap-towards-circular-economy-montenegro. Accessed 20 September 2025
[93] UNDP (2022). Roadmap towards the circular economy in Montenegro. https://www.undp.org/montenegro/publications/roadmap-towards-circular-economy-montenegro. Accessed 27 March 2026
[94] European Commission (2024). Montenegro 2024 Report. https://enlargement.ec.europa.eu/document/download/a41cf419-5473-4659-a3f3-af4bc8ed243b_en?filename=Montenegro%20Report%202024.pdf. Accessed 27 March 2026
[95] European Commission (2008). Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives. https://eur-lex.europa.eu/eli/dir/2008/98/oj/eng. Accessed 27 March 2026

implement waste reduction measures[96]. Despite these achievements, challenges remain particularly in waste management. Although the National Waste Management Plan[97] was revised and the proposed revision included for the period 2022-2026, it has yet to be formally adopted, and the targets for waste reduction, recycling and recovery have not been met within the set timeframe[98].

North Macedonia

North Macedonia's transition toward a CE is supported by several key institutions, including the Ministry of Economy, the Ministry of Environment and Physical Planning, the Ministry of Finance, the Ministry of Agriculture, Forestry and Water Management, the Ministry of Transport and Communication, and the Ministry of Local Self-Government. Additionally, agencies like the Agency for Promotion of the Entrepreneurship of the Republic of Macedonia (APERM) and the Fund for Innovation and Technological Development (FITD) – merged to the Agency for Innovation Activity, Scientific and Technological Development and Entrepreneurship (INOVA) - play growing roles in promoting circular business models, while the State Statistical Office (MAKSTAT) provides crucial data for evidence-based policymaking. Although the current legal and policy framework does not yet provide a solid foundation for a full transition to a CE, several thematic strategies are relevant. North Macedonia aligns its climate objectives with the EU through the Long-term Strategy on Climate Action (2021–2051)[99], which emphasises circular principles. Core waste-related policies include the Law on Waste Management (2021)[100], the National Plan for Waste Management (2021–2031)[101] and the Waste Prevention Plan (2022–2028)[102], all of which promote reuse, recycling, and modern waste systems.

The recently adopted National Waste Management Strategy (2024–2036)[103] and the new National Development Strategy (2024–2044)[104] are expected to further support this shift towards the CE. Government efforts to phase out single-use plastics since 2020 and the implementation of an EPR scheme also reflect a commitment to circular practices, though institutional capacity remains a challenge. Collectively, these policies aim to reduce waste, increase resource efficiency and foster sustainable development, despite the

[96] Vukmirovic Misic, Lana and Coguric, Mina. (2024). New Waste Management Law of Montenegro – Key Changes for Producers and Retailers. CEE Legal Matters. https://ceelegalmatters.com/montenegro/briefings/27802-new-waste-management-law-of-montenegro. Accessed 20 September 2025

[97] European Environment Agency (2025). Total waste generation. Chart (interactive). https://www.eea.europa.eu/en/europe-environment-2025/countries/montenegro/waste-generation. Accessed 27 March 2026

[98] [98] Vukmirovic Misic, Lana and Coguric, Mina (2024). New Waste Management Law of Montenegro – Key Changes for Producers and Retailers. CEE Legal Matters. https://ceelegalmatters.com/montenegro/briefings/27802-new-waste-management-law-of-montenegro. Accessed 27 March 2026

[99] Republic of North Macedonia (2021). Long-term Strategy on Climate Action and Action Plan. Executive Summary. https://unfccc.int/sites/default/files/resource/MKD_ES_LTS_Nov2021.pdf. Accessed 27 March 2026

[100] Republic of North Macedonia (2021). ЗАКОН ЗА УПРАВУВАЊЕ СО ОТПАДОТ. https://stip.gov.mk/wp-content/uploads/2021/10/zakon-za-otpad.pdf. Accessed 27 March 2026

[101] Republic of North Macedonia (2021). https://www.moepp.gov.mk/en-GB. Accessed 27 March 2026

[102] Republic of North Macedonia (2021). https://www.moepp.gov.mk/en-GB. Accessed 27 March 2026

[103] Republic of North Macedonia (2024). Preparation and revision of the National Waste Planning documents. https://arhiva2025.moepp.gov.mk/sites/default/files/alfa/doc/soopstenija/nsum-en.pdf. Accessed 27 March 2026

[104] Republic of North Macedonia (2024). The National Development Strategy 2024-2044. https://www.nrs.mk/content/NDS%206.11.2024_EN.pdf. Accessed 27 March 2026

absence of a unified, legally binding CE framework[105,106]. In addition, the country's Waste Prevention Programme integrates several circular strategies, including eco-design, recycling, economic incentives, support for circular business models and public education, though areas like repair and eco-innovation remain underdeveloped[107].

Serbia

Serbia has taken concrete steps to support the transition to a CE by launching targeted policies and programmes for both businesses and local governments[3636]. The National Waste Prevention Programme (2020–2025)[108] focuses on reducing waste generation and environmental impact by modernising waste management systems and facilitating circular practices, particularly at national and municipal levels. It includes initiatives such as training workshops on eco-design and repair, although it lacks specific measures for recycling, financial incentives, and eco-innovation[109]. As part of its EU accession process, Serbia is aligning its legal and strategic frameworks with EU standards.

The Industrial Policy Strategy (2021–2030)[110] aims to shift industry from a linear to a circular model, especially in sectors like processing, construction and agriculture, with its 2021 Action Plan[111] advancing CE awareness, investments in low-carbon solutions, and resource efficiency. Innovation-driven strategies such as the Smart Specialisation Strategy (2020–2027)[112] support CE through smart packaging and sustainable food systems, while broader integration of CE principles is evident in the Sustainable Urban Development Strategy (2030)[113], the Education Strategy (2030)[114] and the Public Procurement Development Programme (2019–2023)[115]. Serbia's adoption of the Circular Economy Development Programme (2022–2024)[116] further formalises its CE agenda across multiple

[105] European Commission. (2024). Moving towards circularity: North Macedonia's path. https://www.switchtogreen.eu/wp-content/uploads/2024/12/North-Macedonia-factsheet_10.pdf. Accessed 20 September 2025

[106] OECD. (2024). A Roadmap towards Circular Economy of North Macedonia, OECD Publishing, Paris. https://www.oecd.org/en/publications/a-roadmap-towards-circular-economy-of-north-macedonia_1973c88c-en.html Accessed 20 September 2025

[107] European Environmental Agency. (2025). North Macedonia Waste Prevention Country Profile (Waste Prevention Programme 2022–2028). https://www.eea.europa.eu/en/topics/in-depth/waste-and-recycling/country-profiles-on-waste-prevention-2025/mk-waste-prevention-factsheet-final.pdf/@@download/file Accessed 20 September 2025

[108] European Environmental Agency (2025). Waste prevention country profile Serbia. https://www.eea.europa.eu/en/topics/in-depth/waste-and-recycling/country-profiles-on-waste-prevention-2025. Accessed 23 September 2025

[109] Ibid

[110] Government of the Republic of Serbia. (2021). The Industrial Policy Strategy. https://privreda.gov.rs/sites/default/files/documents/2021-08/Industrial-Policy-Strategy-2021-2030.pdf. Accessed 20 September 2025

[111] Ibid

[112] Government of the Republic of Serbia. (2021). Smart Specialisation Strategy. https://pametnaspecijalizacija.mpn.gov.rs/wp-content/uploads/2020/09/Smart-Specialization-Strategy-of-the-RS-for-the-period-2020-to-2027.pdf. Accessed 20 September 2025

[113] Government of Serbia. (2019). Стратегија одрживог урбаног развоја Републике Србије до 2030. https://pravno-informacioni-sistem.rs/eli/rep/sgrs/vlada/strategija/2019/47/1/reg. Accessed 23 September 2025

[114] Government of Serbia (2021). СТРАТЕГИЈА РАЗВОЈА ОБРАЗОВАЊА И ВАСПИТАЊА У РЕПУБЛИЦИ СРБИЈИ ДО 2030. ГОДИНЕ. https://prosveta.gov.rs/wp-content/uploads/2021/11/1-SROVRS-2030_MASTER_0402_V1.pdf. Accessed 23 September 2025

[115] Government of Serbia (2024). Public Procurement Development Programme. https://www.ujn.gov.rs/en/public-procurement-development-programme/. Accessed 23 September 2025

[116] Government of Serbia (2023). Circular Economy Development Programme in the Republic of Serbia 2022-2024. https://www.cirkularnezajednice.rs/wp-content/uploads/2023/03/Program-for-development-of-circular-economy-in-the-Republic-of-Serbia-for-the-period-2022-2024.pdf. Accessed 23 September 2025

sectors, which is reinforced by the Waste Management Programme (2022–2031)[117] that supports circular approaches to waste reuse and recycling.

3.1.3. Legal framework on circular economy in Kosovo

The circular economy in Kosovo's legal framework is designed based on is based on several important strategic documents, such as the Sofia Declaration on Green Agenda for Western Balkans, which has integrated the CE as its core important as they are committed towards transitioning to the CE and supporting research and innovation to support such transition, as well as the action plan on implementation of the Sofia declaration[118], Integrated Waste Management Strategy (2024–2035) and Action Plan (2024–2026)[119] and the Circular Economy Roadmap[120]. This section outlines the legal framework in Kosovo relevant to the CE, including laws, regulations, administrative instructions and cross-sectoral strategies that directly or indirectly incorporate CE principles.

The Circular Economy Roadmap for Kosovo was adopted in 2023 and has outlined six key priority sectors for driving economic development and fostering a more sustainable growth model: the food system, forest system, creative sector, retail sector, built environment and manufacturing. These sectors are identified as having significant potential to generate economic value while reducing environmental impacts through the adoption of CE principles. In addition to these core priorities, the roadmap emphasises several horizontal, cross-cutting areas that are critical to enabling and accelerating the transition to a CE. These include: waste management, water management, digitalisation and ICT, energy, transport, green public procurement and education. By strengthening these enabling areas, the roadmap aims to create the necessary infrastructure, governance and skills base to support innovation, enhance resource efficiency and ensure that CE practices are effectively integrated across all sectors of the economy**Fehler! Textmarke nicht definiert.**.

Kosovo has replaced its previous strategy with the new Integrated Waste Management Strategy (2024–2035) and Action Plan (2024–2026), based on Law on Waste (No. 04/L-060)[121] and the Law No. 08/L-071 on Amending and Supplementing the Law No.04/L-060 on Waste[122]. The new strategy and action plan place substantially greater emphasis on the EC than the earlier documents. The Action Plan for Strategic Objective 4, "Initiating Kosovo's transition towards a circular economy by maximising the use of resources/materials from the waste sector," provides a clear framework for sustainable

[117] Government of Serbia (2021). Waste Management Program of the Republic of Serbia for the Period 2022-2031. https://www.ekologija.gov.rs/sites/default/files/2022-03/program_upravljanja_otpadom_eng_-_adopted_version.pdf. Accessed 23 September 2025
[118] Regional Cooperation Council-RCC. (2021). Action Plan for the Implementation of the Sofia Declaration on the Green Agenda for the Western Balkans 2021-2030. https://www.rcc.int/docs/596/action-plan-for-the-implementation-of-the-sofia-declaration-on-the-green-agenda-for-the-western-balkans-2021-2030. Accessed 23 September 2025
[119] Official Gazette of the Republic of Kosova. (2025). Strategjia (2024-2035) për menaxhimin e integruar të mbeturinave në kosovë dhe plani i veprimit (2024-2026). https://gzk.rks-gov.net/ActDetail.aspx?ActID=100754. Accessed 26 September 2025
[120] Circular Economy Roadmap of Kosovo, 2023. https://mmphi.rks-gov.net/MMPHIFolder/DocumentsFiles/2023_8171e270-643b-4de3-9387-91794084eb8b.pdf. Accessed 26 September 2025
[121] Official Gazette of the Republic of Kosova. (2012). Law on Waste (No. 04/L-060). https://gzk.rks-gov.net/ActDetail.aspx?ActID=2829. Accessed 26 September 2025
[122] Official Gazette of the Republic of Kosova. (2022). Law No. 08/L-071 On Amending and Supplementing the Law No.04/L-060 on Waste. https://gzk.rks-gov.net/ActDetail.aspx?ActID=62435. Accessed 26 September 2025

resource use that also generates economic opportunities and reduces environmental impacts. With a total budget of EUR 58.1 million for 2024–2030 (EUR 22.4 million in 2024–2026 and EUR 35.6 million in 2027–2030), it is built on four interlinked sub-objectives:

- waste prevention includes reducing waste generation at the source, improving product design, and promoting sustainable consumption through the Waste Prevention Programme, single-use plastics reduction, food waste prevention, home composting, and repair/reuse networks;
- increasing reuse, recycling, and processing rates introducing mandatory source separation for priority waste streams, expanding collection and treatment infrastructure, implementing EPR schemes for packaging, e-waste, batteries, and end-of-life vehicles, and establishing a deposit-return system for beverage containers;
- awareness and education running targeted anti-illegal dumping campaigns, promoting recycling, and integrating environmental education into school curricula to drive long-term behavioural change;
- promoting innovation and research establishing a circular economy centre to support SMEs, fostering industry academia cooperation, and launching competitive grants for circular economy technologies and business models[123].

Kosovo's CE transition under Strategic Objective 4 is reinforced by a mix of regulatory reform, infrastructure investment, market incentives and public engagement. Waste prevention aligns with the EU Waste Framework Directive[95] and is supported by eco-design standards, economic incentives and green public procurement. Recycling and processing capacity will be strengthened through source separation of paper, plastic, glass, metals, textiles and bio-waste, alongside new treatment facilities, EPR schemes and a beverage container deposit-return system. Public awareness efforts will target illegal dumping, promote recycling and embed environmental education within schools. Innovation will be driven by the Circular Economy Centre, which will provide technical and financial support to SMEs, facilitate industry–academia collaboration and fund eco-innovation and industrial symbiosis projects. Together, these measures position Kosovo to align with EU CE policies while creating green jobs, stimulating industrial diversification and enhancing long-term economic resilience[123].

As part of Strategic Objective 4.4 of the Integrated Waste Management Strategy (2024–2035), the Action Plan introduces an innovation grant system designed to stimulate the development and adoption of CE technologies and business models in Kosovo. This competitive grant scheme will target projects that promote waste prevention, reuse and recycling, with a particular focus on finding alternatives to single-use plastics and enhancing resource efficiency. The grants will be open to businesses, particularly SMEs, as well as research institutions, fostering industry–academia collaboration. Detailed eligibility criteria and application procedures will be developed as part of the scheme's design and calls for proposals will be launched in phases. The system aims not only to provide financial incentives for innovative solutions but also to strengthen technical capacity, accelerate technology transfer and open new market opportunities for circular products and services. In parallel, the Government will work with international

[123] Government of Kosovo. (2024). Kosovo Integrated Waste Management Strategy (2024-2035) and Action Plan (2024-2026). https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=100754#page=1.00&gsr=0. Accessed 26 September 2025

development partners to secure co-financing for the initial funding rounds. By 2030, the first round of applications is expected to be completed and by 2035 the final round, ensuring a long-term pipeline of CE innovations that contribute to green growth, job creation and industrial diversification[124].

The Energy Strategy 2022–2031[125] directly, aligns with circular economy principles by promoting renewable energy and energy efficiency, reducing dependency on finite resources and cutting emissions. Furthermore, it commits to "exploring options for phasing out coal, with a clear pathway towards complete coal phase-out by 2050 at the latest" and to "increasing the share of renewable energy to at least 35 % of electricity consumption by 2031." It also emphasises "ensuring a just and affordable transition for citizens and industries," "integrating innovation and advanced technologies into the energy system" and "strengthening cybersecurity and resilience in the energy sector." Directly, it aligns with CE principles by promoting renewable energy and energy efficiency, reducing dependency on finite resources and cutting emissions. Indirectly, it supports CE objectives through "deployment of storage solutions, demand response, and smart grids to enable flexible, efficient, and sustainable energy use," fostering technological innovation, enabling cleaner production processes and creating systemic efficiencies that contribute to decarbonisation and sustainable resource use across sectors[126].

Kosovo's voluntary Nationally Determined Contributions (NDC) are linked to the circular economy as they promote resource efficiency, renewable energy use, waste reduction, and regenerative land management, core CE principles, while aligning climate mitigation with sustainable production and consumption[127]. Kosovo's Climate Change Strategy (2019–2028)[128], while not using "circular economy" terminology, embeds key CE-aligned approaches particularly through its promotion of wastewater recycling, biofuel development, and green infrastructure as tools for reducing emissions and enhancing resource efficiency. Furthermore, by prioritising renewable energy deployment and carbon-neutral technologies in housing, transport, and industry, it implicitly supports the circular economy's principles of minimising waste, extending product lifecycles, and regenerating natural systems[129].

The Policy and Strategy on Forestry Development in Kosovo 2022–2030[130], under Specific Objective 4.4: "Private sector is financially and administratively supported", emphasises that a strong, financially viable private sector will drive both national economic growth and rapid forestry sector development. By providing financial, administrative, and

[124] Ibid
[125] Government of Kosovo (2021). https://me.rks-gov.net/wp-content/uploads/2023/04/Energy-Strategy-of-the-Republic-of-Kosovo-2022-2031-1-1.pdf. Accessed 26 September 2025
[126] Ministry of Economy. (2022). Energy Strategy 2022 – 2031. https://kryeministri.rks-gov.net/wp-content/uploads/2023/03/Energy-Strategy-of-the-Republic-of-Kosovo-2022-2031.pdf. Accessed 26 September 2025
[127] Ministry of Environment, Spatial Planning and Infrastructure. (2025). Kosovo's first and voluntary Nationally Determined Contributions (NDC). https://ammk-rks.net/assets/cms/uploads/files/DECISION%20GRK%20NO.%2020_253%20The%20Nationally%20Determined%20Contribution%20(NDC)%20of%20Kosovo.pdf. Accessed 29 September 2025
[128] Government of Kosovo (2021). Kosovo's Climate Change Strategy and Action Plan (2019–2028). Accessed 29 September 2025
[129] Ministry of Environment, Spatial Planning and Infrastructure-MESPI. (2018). National Climate Change Strategy 2019-2028. https://lfmwb.net/wp-content/uploads/2024/02/Climate-Change-Strategy-and-Action-Plan_sep_2018.pdf
[130] Government of Kosovo (2021). https://kryeministri.rks-gov.net/wp-content/uploads/2023/02/Policy-strategy-on-forestry-dev-in-Kosovo-2022-2030.pdf. Accessed 29 September 2025

incentive-based support to forest industries and owners "to be able to invest more in the green economy," the strategy directly or indirectly incorporates elements of circular economy principles, particularly in promoting sustainable resource use and value-added green products[131].

The Strategy for Industrial Development and Business Support 2030[132] provides an important place to the CE under Objective 4: "Facilitation of Green Industry". Kosovo's industrial policy seeks to drive the manufacturing sector toward low-carbon, resource-efficient and circular production systems. The strategy acknowledges that "Kosovo is still at the infant stage of establishing a green industry" and frames circularity, renewable energy adoption and input efficiency as central pillars for decoupling growth from environmental harm. The first sub-objective of Objective 4, "Support enterprises to increase recycling and circularity in manufacturing" promotes waste elimination, material recirculation and regeneration of natural systems. It notes that "Gross Value Added in sectors based on economic circularity is only 0.8 % of GDP" and that awareness of circularity remains limited, despite an "expanding… recycling value chain" with 175 active companies. Proposed actions such as "improving the overall awareness among manufacturers" and "creating an industrial waste market" are consistent with EU CE practices but will require regulatory support and infrastructure to deliver scale. The second sub-objective of Objective 4 "Support production and consumption of low carbon and green products" links environmental preservation with competitiveness, particularly in EU trade. The strategy highlights "limited awareness" and "very limited…green production incentives", while planning actions like "removing regulatory barriers…adopting a classification of green products" and enabling procurement reforms to stimulate demand[18].

The third sub-objective of Objective 4, "Support technological upgrading with focus on increasing energy and material efficiency" positions advanced manufacturing technologies as critical to resource efficiency and emissions reduction. While the strategy reports that "investment in fixed assets…is 30 % of GDP, four points higher than WB6 average", it concedes that there is no data on whether these investments target green upgrades. By prioritising "increasing the energy and material efficiency of production," this sub-objective creates an entry point for targeted financing, technology transfer and industrial symbiosis initiatives. Taken together, these sub-objectives make Objective 4 a clear policy vehicle for embedding CE principles into Kosovo's industrial base. However, achieving the intended impact will require addressing data gaps, institutionalising market incentives and ensuring CE-specific performance indicators guide policy so that strategy turns real progress toward a competitive, circular, and low-carbon economy[133]**Fehler! Textmarke nicht**

[131] Ministry of Agriculture, Forestry and Rural Development-MAFRD. (2021). Policy and Strategy on Forestry development In Kosovo 2022-2030. https://kryeministri.rks-gov.net/wp-content/uploads/2023/02/Policy-strategy-on-forestry-dev-in-Kosovo-2022-2030.pdf. Accessed 29 September 2025

[132] Government of Kosovo. Ministry of Industry, Entrepreneurship and Trade (2023). Strategy for Industrial Development and Business Support 2030. https://mint.rks-gov.net/desk/inc/media/8721BDAD-6637-435F-897B-6938E6C75907.pdf. Accessed 29 September 2025

[133] Note: Administrative Instructions that support the transition towards CE address the waste prevention at the design stage, improving recyclability, promoting reuse, reducing hazardous waste impacts, and enhancing the overall efficiency of resource use. Administrative Instructions are: (i)Administrative Instruction (GRK) No. 07/2023 on Packaging and Packaging Wastes; (ii) Administrative Instruction No. 11/2020 on Determining the Technical Requirements and Other Requirements for Plastic Bags; (iii) Administrative Instruction No. 26/2014 on Waste Management from Batteries and Accumulators; (iv) Administrative Instruction No. 27/2014 on Waste Management by

definiert.

The Strategy for Agriculture and Rural Development 2022–2028[134] acknowledges environmental sustainability as a core component, aligning with the Green Agenda for the Western Balkans and the EU's Common Agricultural Policy (CAP). The strategy promotes the "sustainable management of natural resources, including land, forests, and water" and encourages climate adaptation and renewable energy use principles fully consistent with circular economy (CE) priorities on resource efficiency and decarbonisation. The Circular Economy Roadmap of Kosovo has clearly outlined that in the strategy that "includes several principles of the circular economy, the bioeconomy, and the European Green Deal", and supports "regenerative approaches and synergies with the agrifood sector toward circular rural development." These elements are reflected in two key CE-related areas: sustainable natural resource management, which fosters resource-efficient farming, ecosystem preservation, and renewable energy integration, which explicitly highlight circularity, bioeconomic innovation, and regenerative rural development[135]. In addition, this strategy addresses sustainable agriculture and food production by emphasising the principles of the circular bioeconomy[136].

There are several administrative instructions that directly support CE principles, particularly through EPR[137]. Following the Law No. 02/L-30 on Waste (2008), EPR was strengthened in Law No. 04/L-060 and amended by Law No. 08/L-071, and the Deposit Refund System (DRS)[138]. The original Law No. 02/L-30 obligates manufacturers, importers, distributors and retailers of goods that increase waste generation to take responsibility for the waste produced throughout the product's life cycle. This includes requirements to reduce waste at the design stage, produce recyclable goods, and establish markets for reusable and recyclable products – practices that align with CE principles of waste prevention, design for circularity and market development for secondary materials.

The concept is further strengthened in Law No. 08/L-071 amending Law No. 04/L-060 on waste, which further defines EPR as a system of measures ensuring that producers bear

Packaging and Wrappings; (v)Administrative Instruction No. 11/2013 on Specification of Technical Requirements and Other Applications of Plastic Bags; (vi) Administrative Instruction No. 36/07 on Packaging and Packaging Waste; (vii) Administrative Instruction on the Management of Waste Electrical and Electronic Equipment (WEEE).

[134] Ministry of Agriculture, Forestry and Rural Development-MAFRD. (2021). Strategy for Agriculture and Rural Development 2022 – 2028. https://kryeministri.rks-gov.net/wp-content/uploads/2023/01/STRATEGJIA-2022-2028-FINAL-ENG-Web-Noprint-final-PDF.pdf. Accessed 29 September 2025

[135] Ibid

[136] OECD. (2024). Western Balkans Competitiveness Outlook 2024: Kosovo, Competitiveness and Private Sector Development. https://www.oecd.org/en/publications/western-balkans-competitiveness-outlook-2024-kosovo_ff74ae0e-en.html. Accessed 29 September 2025

[137] Note: Administrative instructions that support the transition towards CE address the waste prevention at the design stage, improving recyclability, promoting reuse, reducing hazardous waste impacts, and enhancing the overall efficiency of resource use. Administrative Instructions are: (i)Administrative Instruction (GRK) No. 07/2023 on Packaging and Packaging Wastes; (ii) Administrative Instruction No. 11/2020 on Determining the Technical Requirements and Other Requirements for Plastic Bags; (iii) Administrative Instruction No. 26/2014 on Waste Management from Batteries and Accumulators; (iv) Administrative Instruction No. 27/2014 on Waste Management by Packaging and Wrappings; (v)Administrative Instruction No. 11/2013 on Specification of Technical Requirements and Other Applications of Plastic Bags; (vi) Administrative Instruction No. 36/07 on Packaging and Packaging Waste; (vii) Administrative Instruction on the Management of Waste Electrical and Electronic Equipment (WEEE).

[138] Government of Kosovo. (2023). Administrative Instruction (Grk) No. 07/2023 on Packaging and Packaging Wastes. https://kryeministri.rks-gov.net/wp-content/uploads/2023/08/02.ADMINISTRATIVE-INSTRUCTION-GRK-NO.-072023-ON-PACKAGING-AND-PACKAGING-WASTES..pdf. Accessed 29 September 2025

financial or organisational responsibility for the waste stage of their products' life cycle, applying the "polluter pays" principle. This strengthens CE principles of producer accountability and life-cycle responsibility, encouraging more resource-efficient and eco-designed products. Additionally, the same amendment introduces the deposit refund system, which imposes a refundable fee on recyclable packaging (e.g. bottles, cans) returned for reuse or recycling. This directly supports CE objectives of material recovery, reuse, and closing resource loops, incentivising consumers to return packaging and thereby reducing landfill disposal while preserving the value of materials in the economy. Furthermore, implementing the DRS is of crucial importance as it will attract investments from the private sector, including foreign direct investments[20]. Together, these legal provisions create a supportive environment for transitioning to a more circular, resource-efficient system in Kosovo.

Kosovo's Economic Reform Program (ERP) for 2023–2025[139] has included several reforms across its reform agenda. That enables an environment for circularity by: (i) embedding climate and biodiversity protection into economic planning, (ii) redirecting waste toward productive use, (iii) regenerating natural systems and (iv) promoting sustainable consumption and production. By transforming waste, water, forestry and pollution control systems, Kosovo positions itself to shift from a linear extract-use-dispose model to a regenerative, resource-efficient economic model, aligned with EU accession goals and global sustainability commitments. Reforms related to pollution reduction, biodiversity, DRS, EPR, waste and forest management with related measures (reform No.9) aimed at supporting a systemic shift from linear resource use to circularity. Core interventions include the introduction of the EPR framework and the DRS, two foundational tools for internalising waste management costs and promoting closed material loops.

The inclusion of construction and demolition waste management plans further extends CE to the built environment. Measures such as afforestation, forest value chain development and the operationalisation of the Kosovo Forest Information System[140] contribute to bio-based circularity and natural capital regeneration. The expansion of wastewater treatment and air pollution controls complements CE by supporting cleaner cycles of water and air, while the marking of protected areas and wildlife programmes anchor biodiversity as a functional asset within the circular model. Together, these reforms reshape environmental governance, infrastructure and resource flows to prioritise reuse, regeneration and sustainable value creation. Altogether, the most impactful CE reforms are those that embed resource recovery, product lifecycle responsibility and natural systems regeneration at the core of environmental and economic policy[141].

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[139] Government of Kosovo (2023). https://mfpt.rks-gov.net/desk/content/media/131FBDC9-AD9B-48D9-9714-29A7F2F1C5F4.pdf. Accessed 29 September 2025

[140] Kosovo Forestry Agency (2011). https://apkrks.net/en/kfis. Accessed 29 September 2025

[141] Other laws and documents that directly or indirectly support the transition towards a Circular Economy include: (i) Law on Environmental Protection (No. 03/L-025) (ii) Law on Waste (iii) Law on Water Resources of Kosovo (iv) Law on the Irrigation of Agricultural Lands (v) Law on Nature Protection (vi) Law on Land Regulation (vii) Law No. 04/L-188 on Treatment of Constructions Without Permit (viii) Law No. 02/L-26 on Agricultural Land (ix) Law No. 2003/3 on Forests in Kosovo (x) Law on Integrated Prevention and Control of Pollution (xi) Law on Air Protection from Pollution (xii) Law on Climate Change (xiii) The Law on Strategic Environmental Assessment (SEA) (xiv) The Guidelines on Sustainable Public Procurement (SPP) (xv) Policy and Strategy on Forestry Development in Kosovo 2022–2030 (xvi) National Development Strategy and Plan 2030 (draft). https://gzk.rks-gov.net/. Accessed 29 September 2025

In summary, although Kosovo has established a comprehensive legal framework rooted in the strategic objectives of the Sofia Declaration[7] and integrated CE elements across various sectoral strategies, it has so far failed to translate these commitments into concrete and impactful measures. Despite the clear identification of priority sectors, horizontal enablers, and substantial budget allocations, implementation remains fragmented, with limited fiscal incentives, weak enforcement mechanisms, and insufficient institutional coordination to stimulate innovation or mobilise the private sector. This policy gap has prevented Kosovo from capturing the momentum of CE-driven innovation and from leveraging it as a driver of industrial diversification, green job creation and sustainable economic development.

3.1.3.1. Bridging the policy, implementation and need in circular economy transition

Kosovo has made significant strides by adopting a Circular Economy Roadmap[120], an Integrated Waste Management Strategy (2024–2035)[123], and embedding circular principles in industrial, forestry and energy strategies. The introduction of EPR and DRS also reflects alignment with best practices. However, these provisions remain weak in enforcement, under-resourced and lacking enforceability. There is a policy implementation gap where many strategies exist on paper, but institutional capacity, monitoring mechanisms, enforcement and fiscal incentives are not yet robust enough to guarantee real change and a shift towards a circular economy.

Moreover, key horizontal enablers such as technology transfer, data infrastructure, regulatory clarity on waste classification, export rules, and inter-ministerial coordination are still underdeveloped. The absence of consistent performance metrics tied to circular objectives further hampers accountability. Without closing these gaps, the strategic ambition for circularity risks remaining aspirational rather than operational.

- **Legal and regulatory framework on design, mandatory for circular standards and eco-design**

  The legal framework does not impose mandatory eco-design, durability, reparability and material labelling into its product and environment laws, not just in strategy documents. These provisions should be enforceable and tied to EPR schemes. Enforcing these would create market demand for technology upgrades that firms must comply.

- **Policies and measures do not encourage innovation among circular businesses**

  Across all policy documents and measures reviewed, there is a noticeable absence of targeted support for circular innovation. While some initiatives offer limited assistance, they fall short of providing the financial depth or strategic focus needed to help businesses scale or invest in advanced technologies. Crucially, innovation, particularly in the context of developing or adopting cutting-edge circular solutions, is evident.

- **No export and waste shipment rules with EU/Basel Convention**

  Kosovo must protect in law clear, streamlined export rules for recovered

materials, ideally via accession to or alignment with the EU/Basel Convention[4] or via bilateral agreements. This reduces dependency on middlemen and lowers risk for firms. Harmonisation will also align Kosovo more closely with EU circular supply chains.

- **Lack of institutional capacity and monitoring systems**

There is a lack of a central CE authority or unit that would mandate over implementation, monitoring, enforcement and coordination across Ministries. Furthermore, the lack of a robust data and monitoring framework is evident which is important to track progress and adjust policies.

- **Circular economy measures are not consolidated under on strategic document**

As highlighted above, Kosovo has embedded CE elements across numerous national strategies, including waste management, industrial development, energy, agriculture and climate policy. While this reflects a strong commitment to sustainability, the fragmentation of CE-related objectives across multiple documents risks overlap, inefficiency and conflicting measures. To maximise policy coherence, resource efficiency and implementation effectiveness, it is crucial to consolidate core CE principles under a single, legally binding Circular Economy Strategy. This would not only enhance governance clarity but also support a more robust and accountable transition to a CE.

- **The lack of institutional coordination**

One of the most persistent challenges revealed during the desk research is the lack of institutional coordination across all CE-related strategies and policy documents in Kosovo. Despite the presence of multiple strategies addressing circularity, there is no designated coordinating mechanism to ensure coherence, monitor progress or facilitate cross-sector collaboration.

This institutional fragmentation leads to duplicated efforts, inconsistencies in implementation and missed opportunities for synergies between Ministries. Without a clear mandate or coordinating body to oversee the circular transition, policies risk operating in isolation, under-implemented and misaligned with national objectives or EU standards. Strengthening inter-ministerial coordination and establishing a dedicated CE coordination unit are critical steps to transform strategic ambition into actionable outcomes.

3.2. Baseline survey findings

This chapter presents the findings for Kosovo alongside comparative analysis with other Western Balkan economies and the EU average; however, data for Bosnia and Herzegovina were not collected in Flash Eurobarometer 498, and therefore are not included in the analysis tables.

3.2.1. Demographic data

The surveyed enterprises represent a diverse cross-section of Kosovo's economy, with the non-public services sector accounting for the largest share (35 %) of respondents. This is followed by the industrial sector (28 %), reflecting the strong presence of manufacturing and production-oriented firms within the national business landscape. Trade, hospitality and food services, construction, transport and ICT sectors each contribute 19 % of the sample, highlighting the significance of service-based and infrastructure-related activities in the private sector. Meanwhile, public services, primarily in the field of health care, make up 4 % while agriculture, forestry and fishing represent 2 % of surveyed firms. This distribution ensures that the findings capture perspectives from both production- and service-oriented companies.

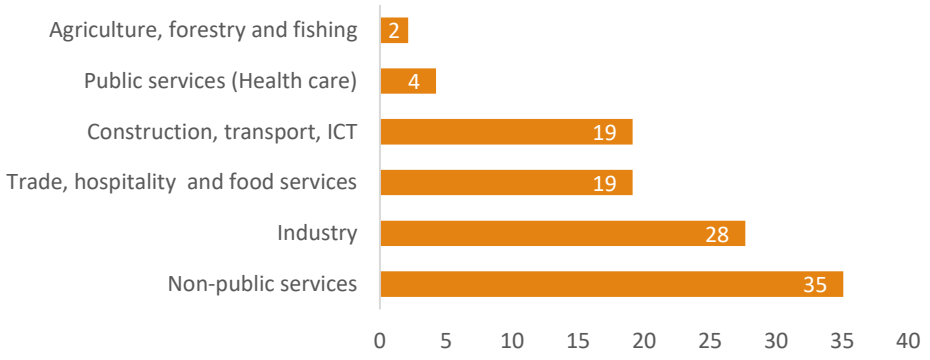

Figure 2: Sectors of the economy represented in the sample (in %)

The surveyed companies are predominantly micro and small enterprises, with 61 % employing 1–9 workers and 27 % having 10–49 employees. Only 12 % are medium or larger companies. This confirms that Kosovo's business structure is largely SME-based, with a limited presence of large enterprises, with an average of 22.47 employees per company.

Just under half of the surveyed companies came from Prishtina municipality (44 %), followed by Ferizaj (13 %). The average years in operation by the surveyed companies is 11.4 years, with the oldest being established in 1987 and the youngest in 2024. Over half of the surveyed companies (54 %) claimed that over the past two years, their annual turnover increased, while just under a third (29 %) declared that their annual turnover remained unchanged.

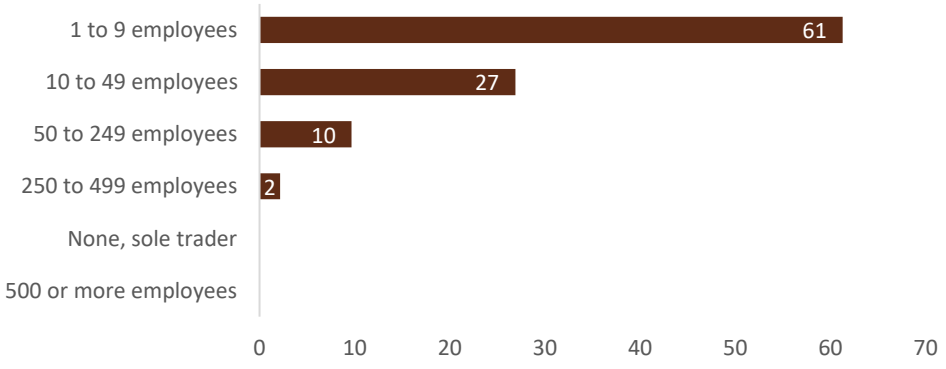

Figure 3: No. of employees grouped in ranges (in %)

Most surveyed companies reported a total turnover below EUR 500,000 in 2024, with 19 % earning under EUR 49,999 and another 31 % between EUR 50,000 and EUR 499,999. About 28 % had a turnover above EUR 500,000, including 14 % in the EUR 1–3 million range. Only a small share (2 %) exceeded EUR 15 million, while 7 % did not disclose their turnover.

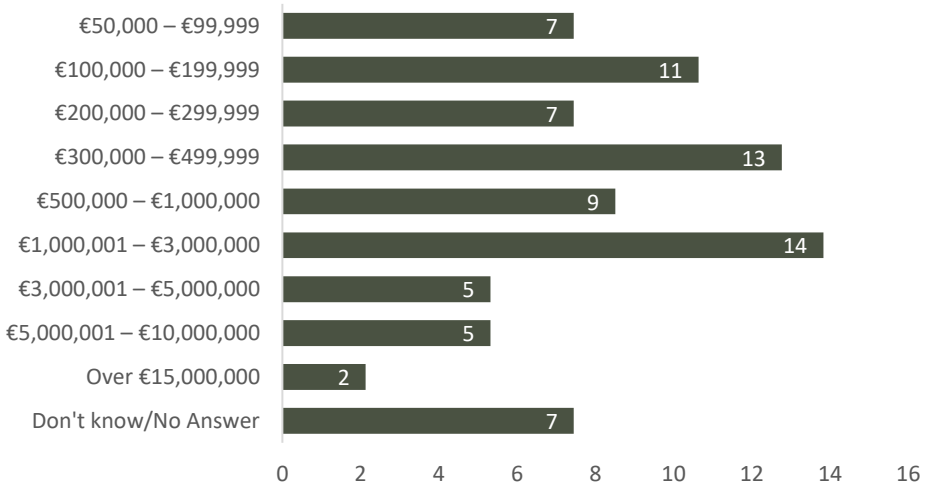

Figure 4: Company's total turnover in 2024 (in %)

The majority of surveyed firms in Kosovo engage in both product and service activities (40 %), while 34 % focus exclusively on services and 26 % on products. On the other hand, most surveyed firms in Kosovo sell their products or services directly to consumers (77.7 %), while 59.6 % also trade with other companies and 26.6 % supply public administration.

3.2.2. Private sector initiatives for enhanced resource efficiency

The survey shows that most companies in Kosovo are taking at least some steps to improve resource efficiency. The most common measures are energy saving (38 %), material efficiency (35 %), and waste minimisation (29 %), while smaller shares report water saving (16 %), use of renewable energy (11 %), recycling or reusing materials internally (9 %) and switching to greener suppliers (2 %). These results indicate that Kosovo's companies focus mainly on basic, cost-saving activities, with fewer moving toward more advanced circular practices such as eco-design or renewable-energy production. Larger manufacturing and construction companies are the most active, while smaller service-sector companies remain less engaged. Overall, resource efficiency in Kosovo is characterised by incremental progress, driven primarily by energy costs rather than by long-term circular strategies.

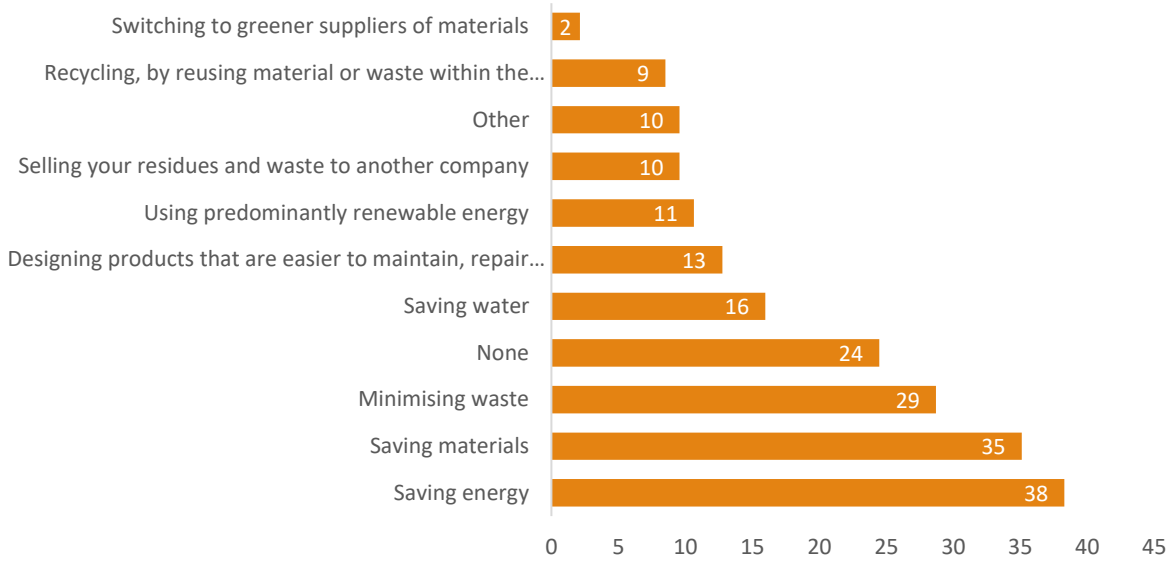

Figure 5: Actions undertaken by Kosovo's companies to be more resource efficient (in %)

Across the WB, similar patterns are observed, though with some variation. Kosovo's engagement in energy and material efficiency is higher than in Albania and North Macedonia, comparable to Montenegro and slightly lower than Serbia, which leads the region in most CE actions.

Table 1: Actions undertaken by WB's and EU companies to be more resource efficient (in %)

Actions	EU	AL	ME	MK	RS	XK
Saving energy	61	23	41	22	44	38
Saving materials	57	8	33	11	38	35
Minimising waste	64	10	42	16	44	29
None	9	49	15	31	16	24
Saving water	46	8	31	8	28	16
Designing products that are easier to maintain, repair or reuse	26	9	17	8	17	13
Using predominantly renewable energy	19	4	6	8	7	11
Selling your residues and waste to another company	24	13	21	25	28	10
Other	2	3	2	2	1	10
Recycling, by reusing material or waste within the company	47	18	21	11	26	9
Switching to greener suppliers of materials	33	6	25	8	19	2

Serbia and Montenegro show stronger integration of renewable energy and waste-recovery systems, supported by better-developed policy and financing frameworks. Kosovo's companies, while active in efficiency improvements, remain constrained by limited technical expertise and a lack of dedicated support mechanisms. Nonetheless, the data suggest that Kosovo's business community is keeping pace with regional trends, showing a solid foundation for future CE expansion once access to finance and advisory services improves.

In the EU, a clear majority of companies, typically over 60 %, report taking resource-efficiency actions, with a broader mix of energy, waste and material savings. Kosovo's 29–85 % range highlights both progress and the remaining gap in CE maturity. Expanding national incentives, demonstration projects, and awareness campaigns could accelerate Kosovo's convergence with EU practices in resource management and sustainable production.

3.2.3. Planned resource-efficiency actions

Looking ahead, the survey shows that 49 % of companies in Kosovo plan to introduce additional resource-efficiency actions over the next two years, signalling growing awareness and commitment to sustainability.

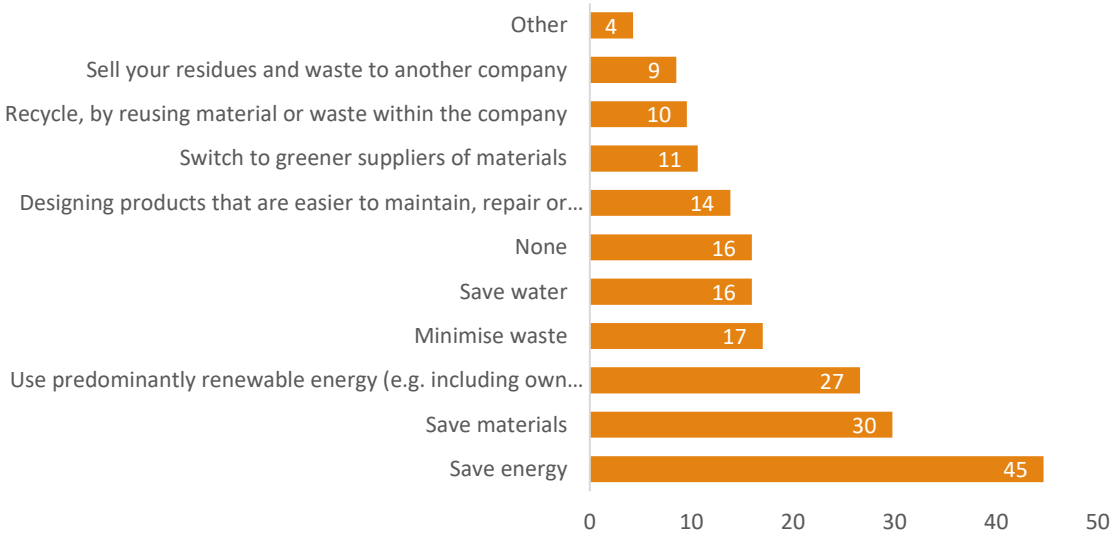

Figure 6: Actions to be undertaken by Kosovo's companies in the next two years to be more resource efficient (in %)

The most frequently mentioned intentions include further energy saving (45 %), material efficiency (30 %) and using renewable technologies (27 %). Smaller shares of companies plan to adopt waste minimisation (17 %), water-saving technologies (16 %) or recycling and reuse practices (10 %). These planned actions indicate that Kosovo's companies aim to deepen existing efforts rather than shift toward more advanced circular approaches such as eco-design or industrial symbiosis. Most plans are operational and focused on cost reduction, reflecting an early stage of strategic CE planning across the private sector.

Kosovo's forward-looking plans are generally in line with Albania and North Macedonia, where companies also prioritise extending existing energy and material-efficiency measures. In Serbia and Montenegro, the share of companies planning new CE actions is somewhat higher, particularly in renewable energy and waste valorisation, supported by stronger regulatory and funding frameworks. Kosovo's companies show similar motivation but face greater financial and technical constraints. The growing number of companies expressing intent, however, signals an encouraging shift from passive awareness to proactive planning, suggesting readiness to respond to clearer incentives or institutional support.

Table 2: Actions to be undertaken by WB's and EU companies in the next two years to be more resource efficient (in %)

Actions	EU	AL	ME	MK	RS	XK
Save energy	53	17	51	22	43	45
Save materials	48	14	38	8	31	30
Use predominantly renewable energy (e.g. including own production through solar panels, etc.)	30	12	34	19	23	27
Minimise waste	50	14	38	12	34	17
Save water	41	8	44	8	27	16
None	20	59	24	31	20	16
Designing products that are easier to maintain, repair or reuse	27	7	21	7	16	14
Switch to greener suppliers of materials	32	1	24	5	22	11
Recycle, by reusing materials or waste within the company	39	5	14	8	28	10
Sell your residues and waste to another company	24	10	19	12	25	9
Other	2	0	0	5	1	4

Compared with the EU, where most companies, typically over 53 %, plan to save energy, Kosovo's 43 % participation shows meaningful progress. This, however, highlights the need for stronger policy and financial instruments to help companies move from planned intentions to effective implementation aligned with EU sustainability standards.

3.2.4. Impact of resource-efficiency actions on production costs

The survey shows that 35 % of Kosovar companies report that resource-efficiency actions have reduced their production costs over the past two years, confirming that cost savings are the primary motivation for most CE initiatives. Another 20 % of them indicate that production costs have remained stable, while 30 % report an increase, often due to rising input prices. The remaining companies did not observe measurable effects yet, perhaps because their actions were too small (marginal). These results suggest that efficiency improvements, especially in energy, materials and renewable energies, are already delivering tangible benefits. However, limited measurement systems mean that many companies cannot fully quantify the long-term gains from their investments.

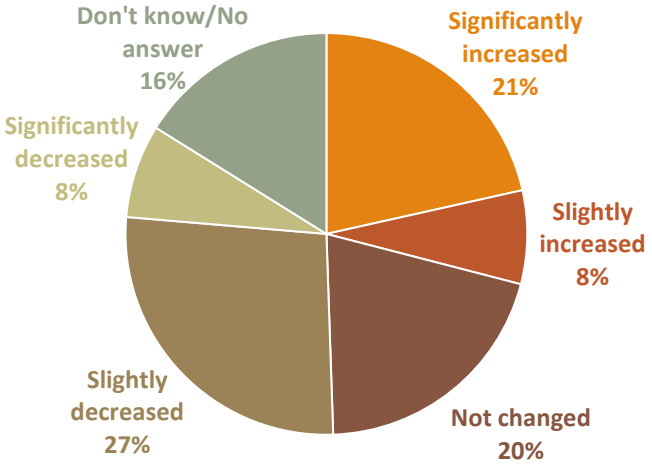

Figure 7: The impact Kosovo's companies' undertaken resource efficiency actions had on the production costs over the last two years

Across the WB, the overall pattern is similar: most companies that act on resource efficiency experience cost reductions. Kosovo's 35 % is slightly higher than Albania, where fewer companies report measurable savings, but somewhat lower than Serbia, North Macedonia and Montenegro, where larger industrial companies achieve stronger impacts from energy and material optimisation. The regional picture suggests that resource efficiency is not only an environmental need but also a competitive strategy, particularly in energy-coal-dependent economies like Kosovo's.

Table 3: The impact that WB's and EU companies' undertaken resource efficiency actions had on the production costs over the last two years (in %)

Impact	EU	AL	ME	MK	RS	XK
Significantly increased	10	18	6	18	11	22
Slightly increased	21	14	13	13	18	8
Not changed	26	20	9	22	14	20
Slightly decreased	27	24	50	35	44	27
Significantly decreased	4	9	14	9	7	8
Don't know/No answer	12	14	8	3	5	16

When looking at EU MS, around 31 % of EU companies report cost reductions. Kosovo's 35 % result shows clear progress and an alignment with early EU transition patterns. Establishing measurement frameworks and sharing best practices could help companies in Kosovo to track and amplify the cost benefits of CE.

3.2.5. Investment in resource efficiency

The survey reveals that the majority of Kosovar companies invest modestly in resource efficiency. About 31 % of companies spend 1–5 % of their annual turnover, while 18 % allocate 11–30 %. A smaller group, 7 %, invest more than 30 %, typically large manufacturers or export-oriented companies. Meanwhile, 14 % of companies invest less than 1 %, and 16 % report no investment at all. These figures suggest that resource-efficiency investment in Kosovo is mostly incremental and cost-driven, focusing on

replacing outdated equipment or improving insulation rather than transformative innovation. Most companies use internal funds and view such investments as operational necessities rather than strategic environmental commitments.

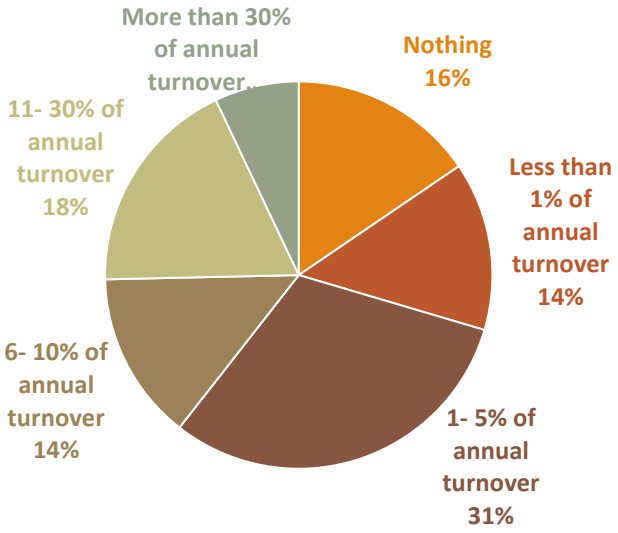

Figure 8: Average annual investment in resource efficiency among Kosovo companies

Kosovo's investment intensity is mostly similar to other WB economies; however, what stands out significantly is Kosovo's lowest number of companies that do not invest in resource efficiency. Furthermore, Kosovo's companies (18 %) tend to invest a higher share of the annual turnover in resource-efficiency, which is very high compared to the average WB spending (4 %) in the same range. Kosovo's companies demonstrate growing awareness and readiness to invest, but the scale remains constrained by liquidity challenges and limited green financing instruments. The reliance on self-funding and the absence of fiscal incentives or preferential loan schemes restrict expansion into advanced CE technologies.

Table 4: Average annual investment in resource efficiency among WB and EU companies

Investments	EU	AL	ME	MK	RS	XK
Nothing	25	21	24	24	23	15
Less than 1 % of annual turnover	22	13	20	21	17	14
1-5 % of annual turnover	27	24	30	25	28	31
6-10 % of annual turnover	8	31	10	13	16	14
11-30 % of annual turnover	3	1	4	7	8	18
More than 30 % of annual turnover	2	1	6	6	4	7

When comparing with EU, where the typical investment pattern is more consolidated, with 27 % of companies investing 1–5 %, while smaller shares exceed 10 %, Kosovo's 31 % in the same range shows that its companies are not far behind in engagement levels but differ significantly in financing capacity and sustainability of investments. While EU companies often invest through established financial instruments and regulatory compliance frameworks, Kosovo's actions are largely ad hoc and project-dependent.

3.2.6. Support used and external assistance received for resource efficiency

The survey results show that Kosovar companies rely overwhelmingly on their own financial and technical resources (70 %) to implement resource-efficiency measures, reflecting both strong internal motivation and a lack of structured external support. Only a minority benefit from external assistance (12 %), which mainly consists of public or donor grants (100 %). Another external source of support appears to be access to funding from banks or investment institutions (45 %), while over a quarter of them receive advice from private consulting or audit companies (27 %), followed by assistance from private funding from friends or relatives (18 %) or non-financial assistance from business associations and supply-chain partners (18 %).

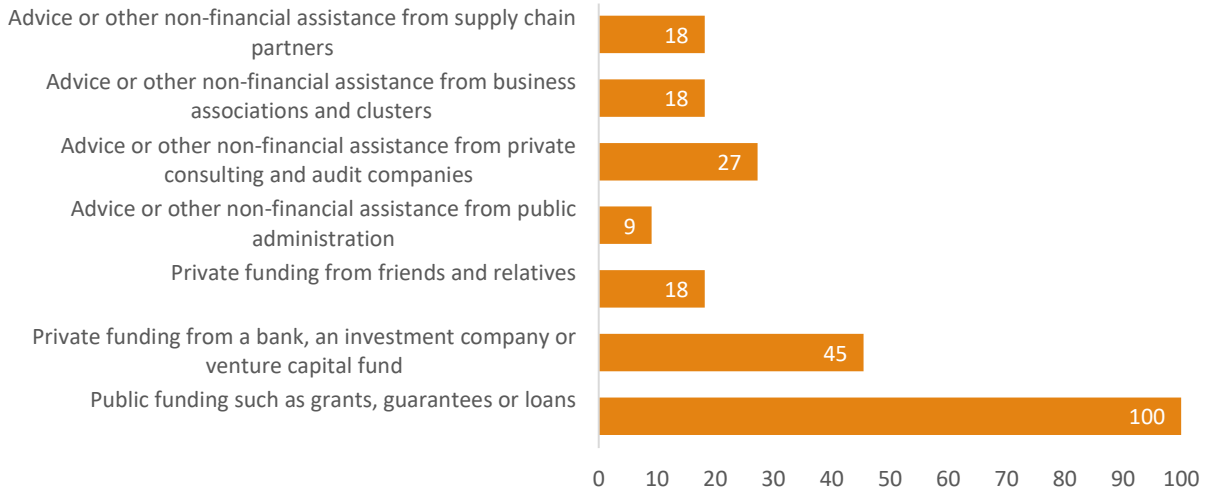

Figure 9: Types of external support Kosovo companies rely on in their efforts to be more resource efficient (in %)

These findings highlight a system in which most companies act independently, relying on internal funding and occasional project-based support, which is heavily dominated by public or donor-funded programmes, rather than on an established national financing or advisory infrastructure.

Compared with neighbouring WB economies, Kosovo's profile is unique for its complete reliance on public funding. In Serbia and Montenegro, public schemes also play a major role, but companies access a broader mix of financial and advisory channels, including private banks, consulting companies, and public institutions. Albania and North Macedonia, by contrast, depend more on informal or family-based financing, reflecting weaker institutional mechanisms.

In the EU, support structures are far more diversified, where 36 % of companies benefit from public funding, but significant shares also access bank loans (28 %), consulting services (39 %), and supply-chain partnerships (30 %). By contrast, Kosovo's 100 % reliance on public funding highlights the need to broaden and institutionalise private-sector engagement.

Table 5: Types of external support WB and EU companies rely on in their efforts to be more resource efficient (in %)

Types of support	EU	AL	MK	ME	RS	XK
Public funding such as grants, guarantees or loans	36	6	8	53	74	100
Private funding from a bank, an investment company or a venture capital fund	28	21	38	17	29	45
Private funding from friends and relatives	10	50	21	1	7	18
Advice or other non-financial assistance from public administration	23	6	3	45	27	9
Advice or other non-financial assistance from private consulting and audit companies	39	0	12	30	13	27
Advice or other non-financial assistance from business associations and clusters	29	18	14	7	22	18
Advice or other non-financial assistance from supply chain partners	30	12	6	8	24	18

3.2.7. Difficulties encountered in setting up resource-efficiency actions

The survey results indicate that Kosovar companies face considerable barriers when attempting to implement resource-efficiency measures. The most frequently mentioned difficulty is the complexity of administrative or legal procedures (54 %), far exceeding any other obstacle.

Figure 10: Difficulties encountered by Kosovo companies when trying to set up resource efficiency actions (in %)

Other expected challenges include a lack of qualified human resources (19 %), difficulty in accessing finances (13 %), and technical and cost-related constraints, such as the cost of environmental actions (14 %). A smaller share (10 %) mentions limited demand for resource-efficient products, while only 6 % report encountering no significant barriers. These figures suggest that institutional and procedural complexity remains the most significant obstacle to circular transition in Kosovo, while financial and knowledge-related

gaps compound the problem, particularly among small and medium-sized companies.

Across the WB, similar barriers are reported, but the scale of administrative difficulty in Kosovo is substantially larger. While in Serbia, Montenegro and North Macedonia, about one-third of companies mention regulatory complexity, in Kosovo, more than half identify it as a major constraint. The prevalence of human resource shortages and limited technical expertise also appears more pronounced in Kosovo than in neighbouring economies, reflecting a smaller skills base and weaker institutional coordination. In contrast, companies in Albania and Serbia report greater concerns about market demand and supply-chain gaps than administrative burdens. This comparison highlights Kosovo's distinct institutional barrier pattern, where bureaucracy and limited inter-agency coordination impede companies more than market factors.

Table 6: Difficulties encountered by WB and EU companies when trying to set up resource efficiency actions (in %)

Difficulties	EU	AL	ME	MK	RS	XK
Complexity of administrative or legal procedures	34	13	31	24	38	54
Technical requirements of the legislation not being up to date	18	3	22	14	25	14
Cost of environmental actions	27	16	13	12	14	14
Lack of specific environmental expertise	23	21	23	10	22	14
Difficulty in accessing finances*						13
Lack of supply of required materials, parts, products or services	24	27	23	19	27	12
Difficulty to adapt environmental legislation to your company	21	7	10	8	20	11
Lack of demand for resource efficient products or services	20	9	24	12	20	10
Difficulty in choosing the right resource efficiency actions for your company	21	12	11	10	17	7
None	32	35	38	31	24	6
Complexity associated with environmental labelling and certification	19	0	17	7	13	3
Other	1	8	1	3	2	3

* This option was part of the Kosovo survey only

Compared to Kosovo, in the EU, the pattern is markedly different. Around 34 % of companies cite administrative complexity, considerably lower than Kosovo's 54 %, and a larger share emphasise the cost of environmental actions (27 %) and lack of supply of required materials (24 %). This suggests that EU companies operate within a more predictable regulatory framework, while for Kosovo, the findings point to an urgent need to simplify environmental procedures, digitalise administrative processes and strengthen advisory support, particularly for SMEs.

3.2.8. Measures that would help companies become more resource efficient

The survey shows that Kosovar companies view grants or subsidies (66 %) as the measure that would most help them improve resource efficiency. Other key needs include demonstrations of new technologies or processes (21 %), consultancy services (19 %), advice on funding opportunities (18 %), and self-assessment tools (18 %). Smaller shares highlight better cooperation between companies (17 %) or access to databases with case studies (9 %), while 10 % say none of the listed measures would help. These results confirm that most companies associate efficiency improvements with financial capability and practical know-how rather than regulatory change. The strong preference for grants reflects a financially constrained SME base, which lacks access to affordable loans or dedicated green-finance schemes.

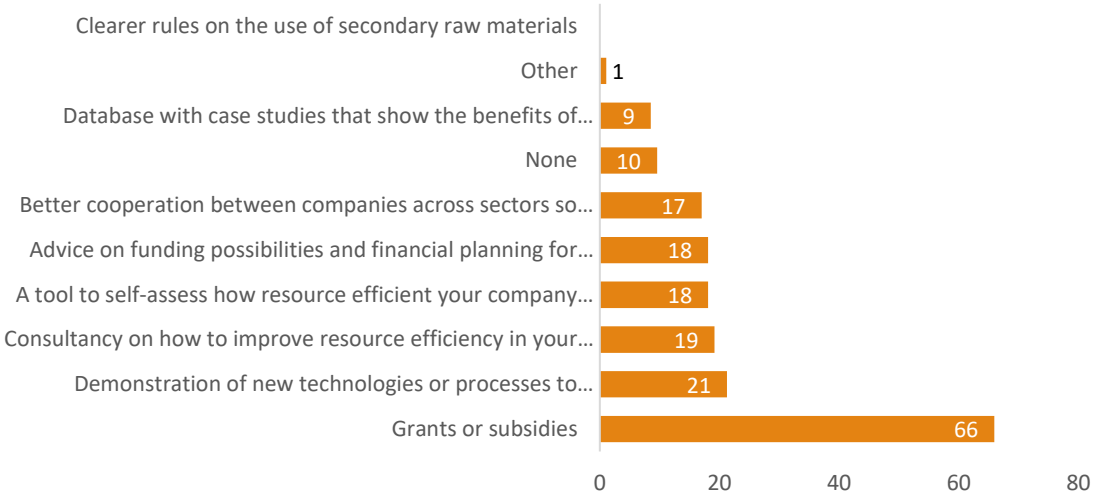

Figure 11: Measures needed by Kosovo companies to be more resource efficient (in %)

Across the WB, similar needs appear, but Kosovo's reliance on direct financial support is notably stronger than in its neighbours. Companies in Serbia and Montenegro also favour subsidies but place greater emphasis on advisory and cooperation networks, while companies in Albania and North Macedonia highlight the importance of information-sharing. Kosovo's profile thus reflects an earlier stage of CE ecosystem development, where funding remains the decisive enabler for progress.

In the EU, support preferences are more balanced: alongside grants, companies widely use consultancy and demonstration programmes. Kosovo's 66 % demand for subsidies underlines the absence of a comprehensive support framework.

Table 7: Measures needed by WB and EU companies to be more resource efficient (in %)

Measures	EU	AL	ME	MK	RS	XK
Grants or subsidies	36	18	55	53	56	66
Demonstration of new technologies or processes to improve resource efficiency	22	12	11	14	22	21
Consultancy on how to improve resource efficiency in your company	25	21	24	17	25	19
A tool to self-assess how resource efficient your company is with respect to other companies	15	6	10	4	7	18
Advice on funding possibilities and financial planning for resource efficiency investments	20	19	30	22	16	18
Better cooperation between companies across sectors so that new processes to re-use waste and by-products can be develop	26	22	17	14	25	17
None	17	31	16	10	11	10
Database with case studies that show the benefits of resource efficiency for companies	16	4	3	6	13	9
Other	1	4	0	2	1	1
Clearer rules on the use of secondary raw materials	19	8	19	12	18	0

Broadening access to technical advice and demonstration projects would help reduce dependence on financial aid and bring Kosovo's business environment closer to the EU's integrated resource-efficiency model.

3.2.9. Companies offering green products or services

The survey results show that only a small share of Kosovar companies currently offer green products or services (13 %), while over a third (38 %) plan to introduce them within the next two years. Almost half (49 %) report no such offerings and no plans to develop them. These results highlight that Kosovo's green market remains in an early developmental stage, with awareness growing but practical implementation still limited.

Across the Western Balkans, Kosovo lags behind in the current share of companies offering green products, though it stands out for its higher share of planned adoption. North Macedonia leads the region, followed by Serbia and Montenegro, while Albania and Kosovo record the lowest engagement levels. However, Kosovo's 38 % of companies planning to enter the green segment in the next two years suggests an accelerating transition — driven more by intention than by capacity.

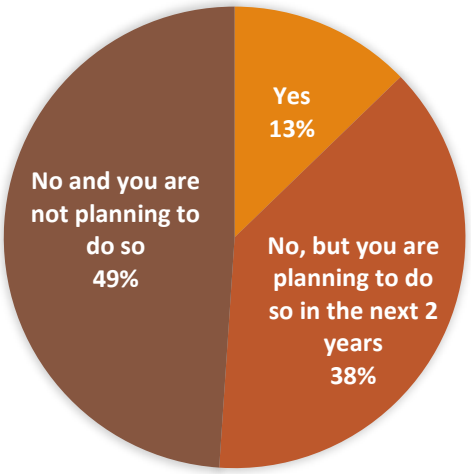

Figure 12: Green products or services offered by Kosovo companies

Regional comparisons show that neighbouring economies with clearer regulatory frameworks and stronger support programmes achieve higher levels of practical implementation, whereas Kosovo's companies still rely heavily on project-based or donor-funded initiatives to test green innovations.

Table 8: Green products or services offered by WB and EU companies (in %)

Green products offered	EU	AL	ME	MK	RS	XK
Yes	32	21	26	36	25	13
No, but you are planning to do so in the next 2 years	11	20	19	25	25	38
No, and you are not planning to do so	54	49	49	34	47	49
Don't know/No answer	3	10	6	5	4	0

When analysing the EU companies, around 32 % of them already offer green products or services, while only 11.2 % plan to do so, indicating a far more mature market. Kosovo's 13 % active share highlights its early-stage position but also its growth potential. Expanding certification systems, providing fiscal incentives for eco-innovation, and supporting partnerships between producers and service providers could help increase the number of greener products and services offered by Kosovo's companies.

3.2.10. Share of turnover from green products or services

Among Kosovar companies that already offer green products or services, the survey shows that 25 % report these products and services account for up to 5 % of their total turnover, while 8 % derive 6–10 %, and 17 % report 11–30 %. A further 25 % state that green products represent 31–50 % of turnover and 17 % more than 75 %, indicating that a small group of companies relies heavily on them. None reported a share between 51–75 %, and 8 % were unsure. Overall, the results point to a conclusion that the majority of companies are still in the early stages of developing green products and services, while a few are emerging as specialised players.

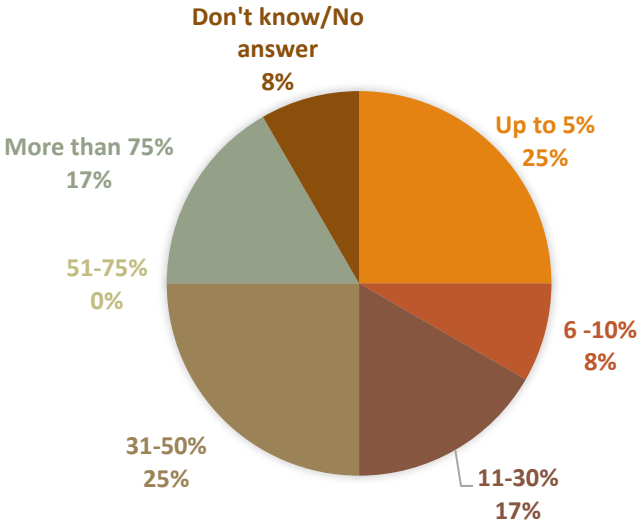

Figure 13: Average annual turnover from green products and services among Kosovo companies

Across the WB, most economies display a similar trend, low turnover shares among the majority of companies, with a small group of advanced green producers. Kosovo's distribution is broadly comparable to Montenegro and Serbia, where most companies earn under 10 % from green sales, but below Albania, which has more companies deriving significant income shares from sustainable products. Kosovo's results also resemble North Macedonia's, where green activity is modest but expanding. The data indicate that Kosovo's green economy remains fragmented, with a handful of companies successfully commercialising sustainable solutions.

Table 9: Average annual turnover from green products and services among WB and EU companies

Turnover percentage	EU	AL	ME	MK	RS	XK
Up to 5 %	29	10	34	39	22	25
6 -10 %	14	27	9	18	17	8
11-30 %	14	3	19	13	13	17
31-50 %	7	26	9	7	5	25
51-75 %	6	13	14	5	14	0
More than 75 %	17	7	14	12	22	17
Don't know/No answer	13	15	0	8	8	8

In the EU, around 29 % of companies generate up to 5 % of turnover from green products, and a notable 17 % exceed 75 %, reflecting a more mature and diversified market. Kosovo's similar share of high green performers (17 %) is encouraging but built on a far narrower base. Strengthening domestic demand and promoting export-oriented value chains would enable Kosovo's companies to progress toward the more balanced green-revenue structure seen in EU markets.

3.2.11. Duration of selling green products or services

Among Kosovar companies that already sell green products or services, almost all have been active for a while, with 97 % reporting selling them for more than three years, 3 %

for between one and three years, and none for less than one year. The data suggest that these companies are relatively stable and specialised, while a few new entrants are joining the market. This points to a slow pace of expansion, where existing actors sustain operations.

Table 10: Duration of selling green products or services by WB and EU companies

Duration	EU	AL	ME	MK	RS	XK
Less than one year	8	28	1	13	4	0
Between 1 and 3 years	26	2	15	13	21	3
More than 3 years	64	70	83	66	71	97
Don't know/No answer	3	0	0	9	4	0

Across the WB, Kosovo stands out for having the highest share of companies active for more than three years, compared with Albania, Serbia, Montenegro and North Macedonia, where green production is more evenly distributed between older and newer entrants. In those economies, growing numbers of companies have entered the green segment within the past one to three years, indicating a more dynamic but less mature market.

On the other hand, 64 % of EU companies that have offered green products have done so for more than three years, reflecting a broader and more competitive green market. Kosovo's 97 % long-term participation rate thus indicates a mature but narrow segment.

3.2.12. Main markets for green products or services

Among Kosovar companies that sell green products or services, the national market remains dominant (67 %), followed by exports to the EU and associated economies (UK, Iceland, Lichtenstein, Norway and Switzerland) (50 %), while 8 % of companies report selling to other European markets, 8 % to the USA and another 8 % to Africa.

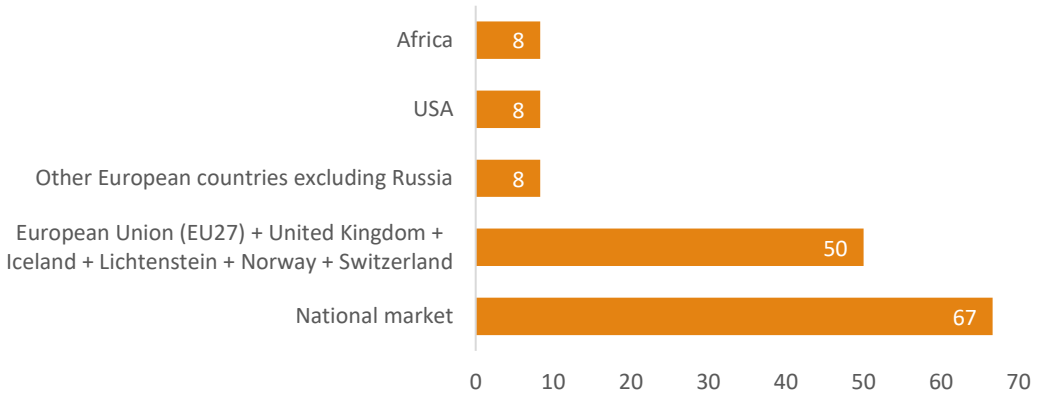

Figure 14: Main markets for green products or services produced by Kosovo companies

This distribution suggests that Kosovo's green companies are primarily domestically oriented but are increasingly developing export connections with EU markets. The relatively high share of EU-linked trade indicates that a small but capable group of exporters has achieved compliance with European quality and sustainability standards, while the rest of the market continues to rely on local demand.

Across the WB, Kosovo shows one of the most internationalised green-business profiles. While neighbouring economies such as Montenegro, North Macedonia, and Serbia remain overwhelmingly national in focus, with more than 90 % of turnover generated domestically, Kosovo and Albania record notably higher integration with the EU market.

Table 11: Main markets for green products or services produced by WB and EU companies

Regions	EU	AL	ME	MK	RS	XK
National market	86	66	98	92	93	67
European Union (EU27) + United Kingdom + Iceland + Lichtenstein + Norway + Switzerland	18	23	7	7	19	50
Other European economies excluding Russia	5	15	1	5	18	8
Russia	2	0	0	0	0	0
North America economies except USA	2	0	0	0	0	0
USA	3	0	0	3	2	8
South America + Central America excluding Brazil	1	0	0	0	0	0
Brazil	1	0	0	0	0	0
Africa	2	0	0	2	2	8
Middle East	2	0	0	1	0	0
China + Hong Kong + Macau	2	0	0	0	1	0
South Korea	1	0	0	0	0	0
Japan	1	0	0	1	0	0
Other Asian economies	1	0	0	1	0	0
Australia + New Zealand + Oceania	1	0	0	0	2	0
Don't know/No answer	5	0	0	1	3	0

On the other hand, most EU companies (86 %) also report the domestic market as their main source of green turnover. Kosovo's 67 % domestic reliance, combined with its 50 % EU exposure, indicates encouraging progress toward internationalisation, though still on a limited scale.

3.2.13. Types of support used for the production of green products or services

The survey results show that all Kosovar companies offering green products or services (100 %) rely on their own financial resources, while 42 % also depend on their own technical expertise, and only 8 % receive external support, of which 100 % is from public funding. This total reliance on self-financing underscores both the determination and the constraints of Kosovo's green companies. On the other hand, the reliance on public funding only when external assistance is sought makes Kosovo companies grant-driven and project-dependent, with minimal involvement of banks, investors, or national advisory systems.

Table 12: Type of support WB companies rely on to produce their green products or services (in %)

Type of support	EU	AL	ME	MK	RS	XK
Its own financial resources	62	67	67	86	80	100
Its own technical expertise	56	28	51	18	56	42
External support	24	36	14	8	13	8
Other	2	0	0	1	4	0
Don't know/No answer	7	0	11	4	1	0

In the wider region, companies show a more balanced mix of funding sources and advisory support. Companies in Serbia and Montenegro combine public assistance with private investment and consulting services, while those in Albania and North Macedonia often rely on informal or family-based financing. Unlike Kosovo, where external aid is almost exclusively public, other WB economies have broader access to private and institutional funding, reflecting gradual policy development and stronger cooperation with financial institutions and business associations.

Table 13: Type of external support WB companies receive to produce their green products or services (in %)

External support	EU	AL	ME	MK	RS	XK
Public funding such as grants, guarantees or loans	20	35	0	40	37	100
Private funding from a bank, investment company or venture capital fund	20	3	2	36	18	0
Private funding from friends or relatives	8	0	0	19	27	0
Advice or other non-financial assistance from public administration	13	3	12	23	30	0
Advice or other non-financial assistance from private consulting and audit companies	21	39	38	21	17	0
Advice or other non-financial assistance from business associations and clusters	23	22	10	22	30	0
Advice or other non-financial assistance from supply chain partners	35	61	12	34	21	0
Other	12	3	62	0	0	0
Don't know/No answer	11	0	0	12	3	0

In the EU, the pattern is significantly more diversified: 62 % of companies use their own funds, 56 % rely on in-house expertise, and 24 % benefit from external support, which is widely spread across all other options and more. Most of the external financial support to EU companies comes from public and loans, while the other support is led by cooperation with other supply chain partners. Compared with this, Kosovo's 100 % self-financing rate reveals a structural gap in the national innovation and support system. Establishing dedicated green-finance instruments, innovation vouchers and public–private advisory networks would reduce the current overreliance on self-funding and 100 % reliance on public support and help companies adopt a more sustainable, EU-aligned model of green production.

3.2.14. Types of support needed to launch green products or services

For Kosovar companies that do not yet offer green products or services, the survey shows a strong preference for financial incentives (43 %) as the most effective form of support to help them enter the green market. Other frequently mentioned needs include assistance with identifying potential markets or customers (23 %), technical support and consultancy for product or process development (20 %), and consultancy services for marketing and distribution (19 %).

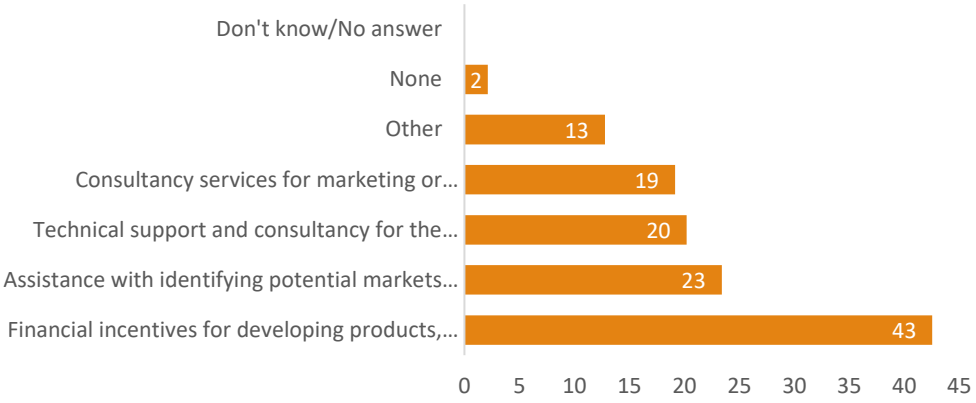

Figure 15: Type of support Kosovo companies need to launch green products/services (in %)

A small proportion (13 %) suggests other types of assistance, while only 2 % say they require no support. These results indicate that financial constraints remain the main barrier to green innovation, but companies also recognise that market information and technical expertise are essential for turning financial aid into viable commercial outcomes. The fact that nearly all non-green companies identify at least one type of needed support shows a high level of latent interest in entering the green economy if enabling mechanisms are provided.

Across the WB, similar priorities are evident, but Kosovo's companies display a more balanced mix of needs. While companies in Serbia, Montenegro, and North Macedonia place slightly greater emphasis on financial incentives, those in Albania and North Macedonia also stress market identification and consultancy support. Kosovo's pattern suggests that companies are aware of both financial and knowledge barriers to green innovation, reflecting a more comprehensive understanding of what is required for transition. However, the relatively high share of companies calling for financial incentives demonstrates that limited liquidity and lack of tailored funding remain the dominant structural obstacles.

Table 14: Type of support WB companies need to launch green products/services (in %)

Type of support	EU	AL	ME	MK	RS	XK
Financial incentives for developing products, services or new production processes	31	42	46	46	48	43
Assistance with identifying potential markets or customers	18	10	32	11	27	23
Technical support and consultancy for the development of products, services and production processes	19	9	16	18	18	20
Consultancy services for marketing or distribution	14	22	17	20	15	19
Other	2	4	0	2	1	13
None	39	40	19	18	23	2
Don't know/No answer	4	0	6	7	5	0

In the EU, 31 % of companies cite financial incentives as their top need, lower than Kosovo's 43 %, and a much higher share highlights the importance of technical and market-support mechanisms. This difference reflects the EU's more developed ecosystem of advisory and innovation services. To approach that model, Kosovo should complement direct funding with technical consultancy, market intelligence, and help companies not only access finance but also design, develop and market green products effectively.

3.3. Circular economy business models: a multiple-case study in Kosovo

The section below briefly presents three case studies conducted with firms in Kosovo, which are analysed in comparison to the EU examples discussed earlier. For detailed case descriptions, see Annex 2. Each of these firms demonstrates notable alignment with the core components of CEBMs, such as resource recovery, product-life extension, and waste valorisation, mirroring several strategies found in EU-based cases. However, the most significant difference lies in the broader ecosystem in which these businesses operate. In the EU, CE ecosystems are more mature and supported by comprehensive legal frameworks, well-established sectoral coordination, access to financing, and the integration of advanced technologies that facilitate innovation and scalability.

By contrast, CE practices in Kosovo remain at an embryonic stage. While the case study firms exhibit strong entrepreneurial initiative and clear potential for environmental and economic value creation, they face systemic barriers that hinder growth. These include limited institutional support, the absence of a coherent national or industry-level CE strategy, underdeveloped infrastructure and cultural perceptions that do not yet fully value circularity. As a result, their ability to scale up and integrate into formalised circular value chains remains constrained, underscoring the importance of enabling ecosystems in driving the success of CEBMs.

3.3.1. Eco-Kos

Eco-Kos[142] is a good example of how a business in the HoReCa sector (hotels, restaurants, cafés) can shift from a linear to a circular model by turning waste into a resource. The company collects used cooking oil and exports it to North Macedonia, then to Austria, to be turned into biodiesel, since Kosovo lacks the facilities and rules to support this process locally. This case study shows how circular businesses can work even in places without strong recycling systems, but also highlights the challenges, like the need to export waste and compete with informal markets.

Business type and customers: Eco-Kos operates as a B2B company, collecting used cooking oil from commercial kitchens, restaurants, hotels and cafés and incentivising these suppliers, called "generators", through payments based on oil quality. While they serve both regular and spot clients, Eco-Kos prioritises long-term contracts to ensure stable and efficient operations.

Circular Business Model and strategic drivers: Eco-Kos is a circular business focused on recycling waste into energy and reducing pollution, but its impact remains incremental due to weak policy, education, and enforcement. While the foundations for transformation exist, systemic reform is needed to unlock full potential.

Types of CEBMs: This model is based on the principle of “waste-as-value” model, of the following CEBMs types: (i) resource recovery which includes recovering Used Cooking Oil (UCO) from local sources; (ii) circular supply chains that integrate their waste into biofuel production in Austria; (iii) product-as-feedstock model in which waste is direct input into another value chain (biodiesel production).

R-Strategies: Eco-Kos actively applies four R-strategies:

- recover is primary business model is based on recovering UCO from waste streams;
- repurpose, by giving cooking oil a second life as energy (biofuel);
- reduce, by encouraging proper disposal, Eco-Kos reduces environmental damage caused by improper UCO handling;
- rethink as the company has redesigned logistics and oil filtration with improved tech, including solar-powered cisterns for safer, cleaner operations.

Environmental benefits (direct and indirect): Eco-Kos contributes to environmental protection in several tangible ways: (i) reduces illegal dumping in rivers and canals; (ii) protects water and soil by preventing used oil from entering wastewater systems; (iii) enables green energy production (biodiesel) in Austria; (iv) educates suppliers about oil quality, standards, and environmental impact.

Barriers: Eco-Kos faces multi-level barriers, legal, market, behavioural, and infrastructural, that inhibit both operational efficiency and the scalability of its circular business model (CBM). These barriers are (i) the lack of a regulatory framework on CE; (ii) market informality and price pressures; (iii) lack of financial incentives.

[142] Eco Kos L.L.C. https://www.eco-kos.com. Accessed 27 March 2026

Behavioural and cultural Barriers: Many business owners still prioritise profit over environmental impact when disposing of used oil, highlighting a cultural gap in circular thinking that Eco-Kos addresses only partly through payments, without broader public awareness efforts.

Actors and ecosystem dynamics: Key enabling actors are: (i) Austrian biodiesel partner which is the final processor of the oil and a critical value chain enabler, providing both technical guidance and market access; (ii) North Macedonian intermediary that facilitates cross-border logistics and standards verification; (iii) International Sustainability & Carbon Certification (ISCC), as an EU Certification Body, enables participation in the formal circular biofuel economy, which requires rigorous sustainability documentation; (iv) AgroVet (auditor)[143] which conducts annual sustainability audits, ensuring environmental and operational compliance. Actors acting as barrier: (i) local government/municipalities, and despite their potential role in scaling collection to households, municipalities are currently uninvolved; (ii) Kosovo government, which lacks an enforceable legal framework or institutional incentives for CBMs; (iii) other local businesses (suppliers), where some comply, still engage in short-term transactions with informal buyers.

3.3.2. KOS-CAT Recycler SHPK

KOS-CAT Recycler SHPK[144] is a small but growing Kosovo-based business that recycles used automotive catalytic converters, recovering valuable metals like platinum and palladium for export. Rooted in the founder's local trade experience, the company plays a key role in circular supply chains through in-house processing and cross-border sales, though its growth is limited by gaps in legal and technological infrastructure.

Business type and customers: Operating through a hybrid Business to Business (B2B) and Business to Customer (B2C) model, the company sources used converters from auto part dealers, individuals, and scrap yards, relying on strong local relationships to maintain a steady supply, while partnering with regional traders to export processed material to European metal recovery firms.

Circular Business Model and strategic drivers: KOS-CAT Recycler SHPK's business model focus is on recovering valuable metals from end-of-life vehicle components, combining the founder's financial motivation with a growing commitment to reducing pollution. Though not initially designed as a circular business, the model naturally evolved into one, using in-house tools and minimal inputs to process scrap into high-value material for export, illustrating how small, experience-driven startups can create circular impact despite limited policy support.

Types of CEBMs: (i) resource recovery, extracting value from used catalytic converters by grinding and exporting ceramic content; (ii) circular supply chains is partially related as the business acts as an upstream supplier, not a full loop, which reinserts recovered materials into global markets, especially Germany and Poland.

[143] AgroVet. https://www.bio-garantie.at/en/company. Accessed 27 March 2026

[144] KOS-CAT Recycler SHPK. https://koscatrecycler.com/. Accessed 27 March 2026

R-Strategies: The company applies only one R-Strategy, Recycle

Environmental benefits (direct and indirect): KOS-CAT Recycler SHPK provides important environmental benefits by diverting hazardous metals from landfills, reducing pollution, and supporting material circularity through metal recovery and export.

Barriers: The business faces structural and institutional barriers that limit its capacity to scale: (i) export barriers since Kosovo is not a member of the Basel Convention; (ii) outdated technology; (iii) lack of institutional support; (iv) policy vacuum.

Actors and ecosystem dynamics: KOS-CAT Recycler SHPK operates within a fragmented but functional ecosystem, driven by a small internal team and a decentralised network of local suppliers, with processed materials exported via intermediaries in North Macedonia to EU buyers. While the company has built a working value chain through entrepreneurial effort, it remains disconnected from key institutional actors — such as municipalities, Ministries and financial institutions highlighting the broader challenge of scaling circular business in low-infrastructure settings like Kosovo, where policy support, public-private dialogue and formal integration into green frameworks are largely absent.

3.3.3. Kosovo Glass Recycling & Co

Kosovo Glass Recycling & Co is a glass recycling enterprise that evolved from grassroots community clean-ups into a formal CE business, combining local waste collection with design-driven reuse. Since restructuring in 2024 with British-Albanian investment, the company has specialised in sorting and processing both post-consumer and industrial glass into niche products like bespoke furniture and glass sand, blending environmental impact with market innovation and aiming to expand exports to regional and EU markets.

Business type and customers: (i) design/build and furnishings sector purchases its glass-infused concrete tables or decorative products; (ii) pool, kitchen, and water filtration system providers buy the glass sand (crushed glass) for filtration media.

Circular Business Model and Strategic Drivers: (i) environmental mission where the founder motivations cited preserving ecology and preventing illegal dumping of glass into rivers or landfills; (ii) market differentiation as they offer unique design and filtration products that competitors do not (iii) vertical sourcing by taking glass directly from manufacturers allows greater control over input quality; (iv) export ambitions through tapping into external markets provides scale potential beyond local demand constraints.

Types of CEBMs: (i) resource recovery, where the firm collects glass waste and processes it into usable raw materials (glass sand, decorative glass aggregates); (ii) circular supply chains, as their recycled glass becomes an input (filtration media, decorative concrete) in supply chains beyond waste disposal.

R-Strategies: Based on the data, the company appears to apply a selective set of R-strategies: (i) repurpose where the business takes glass waste and convert it into architectural or decorative elements (e.g. glass embedded in concrete tables); (ii) remanufacture/reprocess as they transform crushed window glass into glass sand suitable for filtration systems; (iii) rethink as they reimagine waste glass not as refuse but as a design and filtration resource.

Environmental benefits: (i) prevents industrial and post-consumer glass from being illegally dumped in rivers or landfills (ii) captures large volumes of glass, at least 30 tons, in early operation as input for reuse. Indirect benefits: (i) Reduces the need for virgin silica extraction by substituting recycled glass in filtration media; (ii) incentivises better waste sorting and collection behaviour among communities, municipalities, and businesses; (iii) raises awareness of material circularity: clients perceive their engagement as contributing to environmental protection, which can amplify positive norms.

Barriers: (i) legal and regulatory gaps; (ii) complex licensing and export procedures; (iii) lack of subsidies or grants; (iv) high capital costs to adopt latest technology; (v) mindset and cultural barriers.

Actors and ecosystem dynamics: (i) suppliers: glass waste providers (households, factories, municipal pickups); (ii) customers: B2B clients in design and filtration sectors; (iii) municipalities: engaged in selecting collection points and collaborating in waste collection logistics; (iv) investors: delivering capital and sometimes market connections; (v) non-governmental organisations (NGOs)/supporting organisations: potential collaborators or donors though not clearly named.

4. Annexes

Annex 1: Interview protocol

General description of business

1. Could you describe your business?
   - What products or services do you offer? How long have you been operating?
2. How did the idea for this circular model emerge in your business?
   - Was it part of the original business model or a later transition?
3. What motivated your shift towards a circular economy business model?
   - Was it environmental, financial, customer-driven, or policy-related?
4. How would you describe your main customer segment(s)?
   - Are you mainly B2B, B2C, or a mix? What characterises your typical customer?
5. Some businesses use different strategies to reduce waste, keep materials in use, or provide products as a service. I'm going to describe five common circular business models. Can you tell me which ones best describe your business, and how? (you can choose more than one if it fits to your CEBMs)

No	Model	Explanation
1	Circular Supply Chains	You use materials that are recycled or natural instead of new/raw ones.
2	Resource Recovery	You take back used products or waste and turn them into something useful.
3	Product Life Extension	You make your products last longer by fixing or reusing them
4	Sharing Models	Your products are shared or used by many people, not just one owner.
5	Product-Service Systems	You offer your product as a service — like renting or subscription — instead of selling it.

Circular strategies (R-strategies)

1. Which of the following strategies does your business use: refuse, rethink, reduce, reuse, repair, refurbish, remanufacture, repurpose, recycle, recover?
   - Could you give an example of how each of these (or some) are applied in your operation?
2. Are any of these strategies supported by partnerships (e.g., with manufacturers or recyclers)?
   - If yes, please provide examples.
3. What role does technology (e.g., apps, IoT, digital tracking) play in your business model?
4. Are there specific processes (e.g., logistics, maintenance, data analytics) that are critical to your model's success?

Organisational Form

1. How is your company organised to support this model? (e.g., partnerships, internal teams, value chain changes, other actors)

Actors

1. Do you collaborate with other stakeholders (suppliers, customers, municipalities)? If yes, how are roles and responsibilities shared?
2. Who are the main actors involved in your circular business model, and what roles do they play? Please list key stakeholders inside and outside your organisation
3. Could you list the key actors involved in your circular business model, and explain which ones have played an enabling role and which have acted more as barriers? (e.g., internal Actors (within the business, external business partners (suppliers, business partners, etc.), customers, government & regulatory bodies (municipal and governmental level - ministries, etc)).
    - What kind of support do they provide (e.g., technical, financial, regulatory, logistical)? (if enabling)
    - What specific actions or attitudes from these actors create challenges? Are there actors (e.g., suppliers, regulators, customers) that make it harder to implement your circular model? (barrier)

Value Creation & Environmental Impact

1. What types of value does your business create beyond financial profit? (e.g., energy savings, water reduction, waste avoidance, social inclusion)
2. Can you quantify any of the benefits? (e.g., % savings, CO2 reduction, resource use)
3. How do customers perceive this value?

Barriers

1. What were/are the main barriers to implementing this business model?
    - Customer mindset, financing, supplier engagement, regulation?
2. How do you overcome these challenges?
3. Are there any government policies, regulations, or programs that have helped you implement or scale your circular model?
4. Have you benefited from any tax reductions, grants, or public funding?
5. Are there national or local strategies promoting circular economy or sustainability that align with your work?
6. Have you faced any legal or regulatory challenges that make it harder to operate a circular model?
7. Do you feel that the current policy environment supports circular businesses enough
8. What's missing in the policy framework? What would you recommend changing?
9. Could you evaluate policies that pose a barrier (if any)? Please specify which policies?
10. Have there been any contextual or cultural factors that acted as barriers to your circular business model?
    - Have consumer perceptions, habits, or cultural expectations made it difficult to introduce or scale your model?

- How is your circular model perceived within your industry or among peers? Is there scepticism or resistance to change among competitors, suppliers, or partners?

Future outlook

1. What are your future plans for scaling or expanding this model?
2. Do you see this model as **incremental** (small-scale change) or **transformative** (systemic change)?
3. What would help your company grow this model further?

Thank you for your time, and we wish all the best!

Annex 2: Detailed description of CEBMs case studies

Eco-Kos

This business is fully embedded in industrial symbiosis and exemplifies a linear-to-circular transition for the HoReCa sector. It also highlights the challenge of operating a CEBM in a non-circular ecosystem i.e., where legal obligations to recycle are absent and informal markets still absorb much of the waste.

Eco-Kos is a waste management enterprise based in Kosovo that specialises in the collection and initial processing of UCO from the HoReCa sector such as hotels, restaurants and cafés. The company was officially registered in 2018 and began operating in 2019, following licensing. The business idea emerged through a recommendation from an Albanian businessman in North Macedonia, who was seeking partners for an international circular supply chain in biofuels.

Eco-Kos provides sealed and standardised barrels to clients, which are used to collect oil from fryers. These are picked up weekly or bi-weekly during high seasons by the company's logistics team. Once collected, the UCO is transported to their central depot, where it undergoes filtration and preliminary processing before being exported to North Macedonia and finally converted to biodiesel in Austria.

The general manager stated that "we export 100 % of the oil we collect. The processing happens outside Kosovo, because the infrastructure and regulation for biofuel production don't exist here yet."[145]. The company currently employs 10 people and is part of a cross-border circular supply chain, with verified certification from International Sustainability and Carbon Certification (ISCC) from the EU.

Eco-Kos operates a classic resource recovery model, transforming a waste product UCO, into a valuable energy source (biodiesel). It is an example of a CE startup emerging from informal waste systems, leveraging cross-border partnerships to overcome local infrastructural and regulatory gaps. The firm's position as a collector, not a processor, points to a missing middle in Kosovo's green value chain

Business type and customers

Eco-Kos is a B2B company, working with commercial kitchens, restaurants, hotels and cafés. These suppliers, also known as "generators"[146] of waste oil, are incentivised to participate via direct payments, the value of which depends on the quality of the oil measured by the presence of food residues and water content. The general manager stated that "the price is set according to the stock exchange, but it depends on whether the oil is clean and filtered. If it's 60 kg in total and only 55 kg is usable oil, the value drops."[147]. Their customer network includes both contracted regular suppliers and spot clients, although Eco-Kos emphasises the importance of long-term contracts for operational efficiency.

[145] ECO-KOS Manager
[146] Ibid
[147] Ibid

Circular business model and strategic drivers

Eco-Kos currently achieves incremental gains by modifying behaviour at the business level and reducing pollution, but is constrained from realising transformative change without systemic reform. The general manager stated that "Our model is incremental…transformative change will need time, policy, and investment."[148]. The building blocks for transformation exist (certification, cross-border trade, infrastructure), but lack the connective tissue of policy, education, and enforcement. Since its inception, Eco-Kos was designed as a circular enterprise, with environmental goals at its core. The company is driven by the concept of recycling waste into energy, and it directly benefits from EU CE directives, particularly those enabling ISCC certification and cross-border traceability. The general manager stated, "It's not just a business idea; it's about contributing to a better environment... especially because restaurants near rivers used to dump the oil straight into the water."[149].

Types of CEBMs

This model is based on the principle of "waste-as-value" model, but made more complex by international interdependence. Eco-Kos showcases how small circular businesses can insert themselves into EU-led sustainable value chains, but only by aligning with global standards (e.g. ISCC), and relying on external infrastructure for upcycling. Locally, the system is still pre-circular.

The business combines elements of the following CEBMs types:

- Resource recovery, which includes recovering UCO from local sources;
- circular supply chains that integrate their waste into biofuel production in Austria;
- product-as-feedstock model in which waste is directly input into another value chain (biodiesel production).

R-strategies

The business has several integrated R-strategies and as the manager stated, "We started with manual filtration and plastic jugs. Now we use thermal solar-powered cisterns, which also reduce fire risk."[150]. These strategies of Eco-Kos have evolved from a low-tech collector to a semi-automated logistics and filtration system, showing that R-strategies are scalable. The use of solar energy for oil processing also shows early signs of decarbonisation within the circular loop, a model of green technology adoption based on international standards.

Eco-Kos actively applies several R-strategies (4Rs), including:

- recover – primary business model based on recovering UCO from waste streams;
- repurpose – by giving cooking oil a second life as energy (biofuel);
- reduce – by encouraging proper disposal, Eco-Kos reduces environmental damage caused by improper UCO handling;

[148] Ibid
[149] Ibid
[150] Ibid

- rethink – as the company has redesigned logistics and oil filtration with improved tech, including solar-powered cisterns for safer, cleaner operations.

Environmental benefits (direct and indirect)

The environmental benefits here are both quantifiable (volumes of UCO diverted, tonnes of biodiesel enabled) and systemic (changing habits, preventing pollution, enabling clean energy). This is a good example of CEBMs. As the general manager stated, "before, the oil was just dumped into rivers. Now we collect it properly, and it becomes energy. That's a real transformation."[151], it can have an impact beyond the business boundary, influencing social and ecological systems.

Eco-Kos contributes to environmental protection in several tangible ways:

- reduces illegal dumping in rivers and canals;
- protects water and soil by preventing used oil from entering wastewater systems;
- enables green energy production (biodiesel) in Austria;
- educates suppliers about oil quality, standards, and environmental impact.

Barriers

Eco-Kos faces multi-level barriers, legal, market, behavioural, and infrastructural, that inhibit both operational efficiency and the scalability of its CBEM.

Regulatory vacuum

One of the most persistent obstacles is the absence of legislation mandating that businesses hand over used cooking oil to licensed waste operators. The general manager stated that "Kosovo is the only country in the region that doesn't legally require businesses to hand over used oil to licensed collectors."[152]. This legal gap allows a parallel informal market to thrive, where unlicensed collectors purchase and resell waste oil without any environmental oversight or certification. Without regulatory support, voluntary participation becomes the only option, and it is typically financially motivated, not environmentally. This underscores a common issue in emerging circular economies: businesses cannot fully internalise environmental externalities without legal pressure or strong incentives.

Market informality and price pressures

The presence of an unregulated waste economy creates a double bind for formal circular businesses: they carry the cost of compliance, but lack the policy protection or market recognition to leverage it. This highlights the need for stronger enforcement mechanisms and incentivised compliance. Eco-Kos competes with grey market actors who may offer higher prices to suppliers by avoiding taxes and standards, and as the manager stated, "the black market continues to grow... they don't pay VAT, they don't filter, and they

[151] Ibid
[152] Ibid

still win suppliers."[153]. This undermines formal collectors and makes it difficult to maintain price competitiveness, especially when Eco-Kos also invests in certification, traceability, and infrastructure.

Lack of financial incentives

This lack of fiscal support reflects a broader institutional misalignment, a mismatch between environmental goals (e.g., waste reduction, circularity) and budgetary frameworks that fail to prioritise them. Unlike in the EU, where green activities often benefit from green taxonomies, Eco-Kos operates in a context where the polluter doesn't pay, and the recycler isn't rewarded. Eco-Kos has applied for several grants, particularly for storage and logistics equipment (e.g., cisterns), but only succeeded in securing a digitalisation grant. More importantly, they receive no tax exemptions or subsidies for their circular activities.

Behavioural & cultural barriers

Despite growing awareness, many business owners still see used oil primarily as a commodity, not a pollutant or environmental risk, and the manager stated that "the main motivation for suppliers is still money, not environmental impact.[154]". This reveals a cognitive and cultural lag in circular thinking. Changing mindsets requires more than information. It requires systemic visibility (e.g., eco-labelling, media campaigns) and customer-facing incentives. Eco-Kos partially addresses this with direct payments, but lacks public awareness partnerships to scale behavioural change.

Actors and ecosystem dynamics

Eco-Kos operates in a fragmented yet evolving ecosystem, involving both enabling and restrictive stakeholders. Eco-Kos's most significant enablers are external, highlighting a recurring theme in emerging CBMs: domestic ecosystems are underdeveloped, and growth often depends on plugging into global circular value chains. This dependency is efficient but fragile, especially without domestic policy coherence.

Key enabling actors:

- The Austrian biodiesel partner, which is the final processor of the oil and a critical value chain enabler, providing both technical guidance and market access;
- North Macedonian intermediary that facilitates cross-border logistics and standards verification;
- ISCC (EU Certification Body) enables participation in the formal circular biofuel economy, which requires rigorous sustainability documentation;
- Agrovet (Auditor), which conducts annual sustainability audits, ensuring environmental and operational compliance.

Actors who are absent in terms of supporting CEBMs

The absence of domestic institutional champions creates a vacuum where compliance is

[153] Ibid
[154] Ibid

voluntary, enforcement is weak, and investment risk remains high. To scale effectively, CBMs like Eco-Kos need multi-stakeholder alignment, particularly with municipalities, customs authorities, and environmental agencies. Some of these actors are listed below:

- Local Government/Municipalities, and despite their potential role in scaling collection to households, municipalities are currently uninvolved;
- Kosovo Government, which lacks an enforceable legal framework or institutional incentives for CBMs;
- Other local businesses (suppliers), where some comply, many still engage in short-term transactions with informal buyers.

Future outlook: scaling, strategy and policy implications

Eco-Kos has a clear vision for growth, but its path forward depends on policy support, cultural change, and investment. Scaling up the business, the Eco-Kos it is related to several internal and external factors. These factors include:

- Household collection network: partnering with municipalities to extend UCO collection beyond restaurants to households, a largely untapped source of cooking oil waste;
- technological upgrades by adopting more advanced automated filtration systems, solar-powered cisterns, and smart logistics to reduce risk and improve throughput;
- Policy advocacy through lobbying for legal mandates, fiscal incentives, and public campaigns to support licensed collectors and reduce informal waste markets;
- legal reform, where a national law mandating UCO handover to licensed operators would instantly formalise the market;
- green incentives through grants for filtration equipment, tax deductions for circular exporters, and Value Added Tax (VAT) exemptions for green suppliers;
- public education campaigns focused on restaurants and households to shift perception from "waste" to "resource";
- institutional collaboration through frameworks for municipalities to co-own or co-manage household collection programmes. Knowledge sharing: engage universities, NGOs, and media to build awareness and spread best practices in circularity.

KOS-CAT Recycler SHPK

KOS-CAT Recycler SHPK is a Kosovo-based enterprise specialising in the recycling of automotive catalytic converters, a key component in vehicle emission systems. Established in 2020, the company has positioned itself within a circular supply chain by collecting, dismantling, and processing used catalytic converters valuable due to their high content of precious metals such as platinum, palladium, and rhodium. Currently operating with a small team of four employees, including one part-time worker, KOS-CAT Recycler SHPK has seen steady growth and expects its turnover to rise further in the coming year. The business idea originally stemmed from the founder's experience in trading catalytic converters, which gradually evolved into establishing a domestic recycling and export operation.

The company's process involves purchasing used converters, separating the metal casing (iron) from the ceramic core, which contains the valuable metals. The ceramic part is then ground using in-house milling machines. The separated iron is sold to local scrap yards, while the powdered catalyst material is exported to Germany and other EU markets, such as Poland and, previously, even Singapore and Malaysia. The manager stated that “The business grew out of hands-on experience in the local trade, we realised there was room to build a recycling loop right here, instead of just passing materials through.” KOS-CAT Recycler SHPK operates at the interface of resource recovery and circular supply chains, but its role is shaped by limitations in the legal and technological infrastructure. While the company fulfils a critical environmental and economic function, it faces institutional and operational constraints that limit its ability to scale.

Business type and customers

The business did not begin as a traditional recycling venture but transitioned naturally into a circular model due to the nature of the product and the founder’s market knowledge. Catalytic converters, while often discarded, contain high-value metals, making them a viable resource for recovery. According to the founder, the motivation was twofold: financial opportunity and the belief in the importance of a cleaner, more sustainable environment.

KOS-CAT Recycler SHPK operates on a B2B and B2C hybrid model, working with auto part resellers, individual car owners, and scrap dealers who supply end-of-life catalytic converters. The company maintains close relationships with a network of suppliers, which is essential to ensure a consistent flow of raw material. Customer interactions are primarily transactional, and the pricing structure is based on the type, size, and weight of the converter. For the company, supply chain reliability is critical as noted by the owner, “Without suppliers and individuals bringing in catalytic converters, our supply chain breaks. Everything depends on that connection.”. KOS-CAT Recycler SHPK’s customer model reflects the hyper-localised sourcing common in emerging circular economies. It relies not just on B2B contracts but on building trust and informal relationships with individuals and businesses in the automotive sector. The owner state that “our supply chain would break without the people who bring us the converters. We rely on both auto part dealers and individuals.”. On the export side, the business collaborates with trading firms in North Macedonia, who act as intermediaries in the international sale and shipment of processed catalytic converter material, mostly to European metal recovery companies.

Circular business model and strategic drivers

The business model centres on recovering and exporting valuable material from end-of-life vehicle components. The founder’s motivation was as financial opportunity from converting scrap into high-value material as the owner stated "we saw a need to protect the environment while also creating a viable business." and a growing commitment to reducing pollution and waste Although circularity was not the original design, it became a natural fit for the business due to the high embedded value in the waste stream. The model requires minimal material input beyond the converters and uses in-house tools for processing.

The company relies on traditional scrap practices with elements of CEBMs by ensuring materials are processed and reinserted into international supply chains, rather than sent to landfill. The founder also believes strongly in the positive environmental impact, stating that a cleaner business model not only makes economic sense but also helps reduce pollution. This case illustrates how small circular startups can emerge from bottom-up, experience-driven innovation, combining economic necessity with sustainability consciousness. However, in the absence of policy incentives, the scaling of such models depends heavily on the entrepreneur's capacity to self-organise and self-finance and the owner stated that "we saw a need to protect the environment while also creating a viable business. We don't just sell scrap, we recover value.". KOS-CAT Recycler SHPK was created with a circular model in mind, aiming to recover valuable metals from discarded materials. The founder's financial motivation was coupled with a growing environmental awareness, particularly around the waste generated by end-of-life vehicle components.

Types of CEBMs

KOS-CAT Recycler SHPK embodies a resource-focused circular loop, where local waste becomes global feedstock. However, due to export barriers, the business must operate indirectly through intermediaries highlighting the importance of policy harmonisation for enabling circular trade. KOS-CAT Recycler SHPK reflects a linear-to-circular, not a complete loop. Because the value chain ends outside Kosovo, the model illustrates how developing economies often act as raw material suppliers in circular systems without capturing downstream value (e.g., refining, production). This calls for policy implications in terms of encouraging businesses to invest to retain more value locally. Furthermore, the business has potential to grow, but it needs significant investments in particularly in technology, as the owner stated, "we started with basic tools like shears and small mills. With better tech, we could double production and hire more workers.".

KOS-CAT Recycler SHPK integrates multiple CEBMs types:

- Resource recovery, extracting value from used catalytic converters by grinding and exporting ceramic content;
- circular supply chains is partially related as the business acts as an upstream supplier, not a full loop, which reinserts recovered materials into global markets, especially Germany and Poland.

R-strategies

The company demonstrated that R-strategies can be layered and adapted, even in small enterprises. However, the lack of advanced technology limits efficiency, proving the critical need for financial instruments or leasing programmes to support circular SMEs in upgrading equipment. KOS-CAT Recycler SHPK primarily operates under a resource recovery model, extracting valuable metals from used catalytic converters. It also contributes to circular supply chains by supplying processed material to international buyers, though it does not directly close the loop. While its materials may serve as feedstock for industrial use abroad, this is outside the scope of the company's own business model and therefore cannot be fully categorised under the "product-as-feedstock" model.

Environmental benefits (direct and indirect)

Although KOS-CAT Recycler SHPK does not currently quantify its environmental impacts, the environmental benefits embedded in its operations are both direct and systemic. By collecting and dismantling used catalytic converters, the company helps divert hazardous components — particularly heavy metals like platinum, palladium, and rhodium — from landfills or illegal disposal routes. This not only prevents potential soil and water contamination but also contributes to public health protection by keeping toxic materials out of the informal waste stream. Furthermore, by recovering these metals and exporting them for further processing, the company indirectly reduces the need for virgin metal extraction, which is often environmentally destructive and energy intensive. This material circularity, while externally completed, has ripple effects throughout the local system: it encourages responsible waste handling practices among auto part suppliers and demonstrates to small actors that what was previously considered trash holds real, extractable value.

From a CE perspective, KOS-CAT Recycler SHPK exemplifies how small-scale recyclers can provide substantial environmental services, even without formal recognition or public funding. Operating without subsidies or sophisticated tracking systems, the company still fulfils functions often performed by formal recycling infrastructure in developed contexts. However, the absence of measurement, reporting, or certification presents a double-edged sword. On the one hand, it keeps operating costs low; on the other, it limits the company's ability to be acknowledged within policy frameworks, attract green investment, or integrate into verified environmental, social, and governance (ESG) supply chains. This highlights a common dilemma for circular micro-enterprises in the Global South: they generate real ecological value but remain invisible within institutional systems that prioritise traceability, standardisation, and scalability.

Barriers

The business faces structural and institutional barriers that limit its capacity to scale:

- Export barriers: the owner stated that "we can't export directly to Europe. Everything must go through Macedonia.". The reason is that Kosovo is not a signatory to the Basel Convention, which prevents direct export of processed waste materials to EU MS. KOS-CAT Recycler SHPK must route all exports through North Macedonia, adding cost and risk. This has a direct impact on a business's ability to increase its income as well as have direct contact with other possible partners in the EU.
- Technological limitations exist where the company uses small-scale grinders and lacks automation. Equipment capable of processing 2000 kg per cycle is financially out of reach, yet necessary to scale.
- No institutional public, KOS-CAT Recycler SHPK has not received grants, subsidies, or tax incentives or any form of support from institutions. These instruments, according to the findings, would scale up the business, such as increasing their export, hiring more employees and would encourage the business to invest in technology. Besides these, the owner appeals to relevant Ministries (Ministry of Environment and Spatial Planning and Ministry of Foreign Affairs and Diaspora) to

speed up the process of removing the direct exporting barrier to the EU had no results so far.
- Policy vacuum where there is no dedicated CE strategy, no incentives for recyclers, and no government-facilitated trade frameworks for metal waste.

Actors and ecosystem dynamics

KOS-CAT Recycler SHPK operates within a fragmented but functional ecosystem comprised of both internal and external actors. Internally, the business is structured around a lean team: the owner oversees strategy and operations, supported by a technician responsible for dismantling and grinding catalytic converters, along with a secretary and accountant who manage administrative and compliance tasks. Externally, the company relies heavily on a decentralised network of suppliers, including individuals and small auto-part businesses that deliver used converters. The processed material is then exported via intermediaries in North Macedonia, who facilitate access to foreign buyers, primarily metal recovery firms based in Germany and Poland. Despite this active value chain, several key actors remain notably absent. Local municipalities, environmental agencies, relevant Ministries, and financial institutions play no formal role in supporting or regulating the business. This isolation reflects a broader structural weakness: circular enterprises like KOS-CAT operate without integration into policy frameworks, technical ecosystems, or support programmes.

From a CE perspective, this actor landscape illustrates the challenges of scaling green business in low-infrastructure environments, such as in the case of Kosovo. The company has managed to build a working value chain through entrepreneurial initiative, yet it remains disconnected from institutions that could enhance its legitimacy, stability, and growth. This lack of engagement undermines the formation of a mature CE ecosystem at the national level as well as at the local level. The absence of public-private dialogue, institutional support, and coordinated policy efforts forces circular enterprises to rely solely on informal networks and cross-border relationships.

Future outlook: scaling, strategy and policy implications

The founder of KOS-CAT Recycler SHPK expresses confidence in the business's growth potential but emphasises that progress depends heavily on structural support and access to enabling conditions, most importantly, institutional support. Internally, the company aims to scale by investing in higher-capacity grinding machinery, which would significantly improve processing efficiency and throughput. This upgrade would not only increase profitability but also justify hiring additional workers, expanding both economic and environmental impact. Furthermore, with improved capacity, the business could purchase and process larger volumes of catalytic converters, deepening its role in Kosovo's emerging recycling market. However, realising this vision requires key policy changes. The most important barrier to overcome among these is the ability to export processed waste directly to the EU, currently blocked by Kosovo's non-alignment (not being a member) with the Basel Convention. The founder calls for either alignment with international treaties or the establishment of bilateral trade agreements that enable lawful and efficient export routes. Additionally, future plans also depend on the extent the targeted financial instruments would be aligned with the CE, such as green SME grants or equipment financing schemes, to support technological adoption. More broadly, recyclers like KOS-

CAT Recycler SHPK should be formally recognised within Kosovo's Circular Economy Strategy, with clear implementation pathways and institutional backing.

Overall, this case demonstrates that transformation is not driven by business effort alone; it is equally shaped by the policy environment and ecosystem that could be created in cooperation with institutions and the private sector. KOS-CAT Recycler SHPK's potential to become a regional recycler with higher value capture and broader environmental benefits hinges on relatively modest interventions: legal export access, capital investment support, and strategic inclusion in national planning. Without these, even well-functioning micro-enterprises risk stagnation, trapped in small-scale loops despite having proven technical and market viability.

Kosovo Glass Recycling & Co

Kosovo Glass Recycling & Co is a glass recycling enterprise which, though legally formalised most recently, traces its conceptual roots back to 2019 and was restructured with a British–Albanian investment in 2024, at which point it became an SHPK (LLC). The company focuses on collecting glass waste, sorting by colour and type (e.g. bottle glass vs. window/architectural glass), and processing these fractions into novel products. For example, bottle glass is used in design elements (e.g. bespoke concrete tables), while crushed window glass is milled into glass sand (used for filtration systems, e.g. in kitchens and swimming pool water treatment). Uniquely, the firm does not limit itself to post-consumer waste; it also sources glass directly from glass manufacturers. Its product lines vary by size, use case, and form. Exports currently account for approximately 10 % of sales (primarily to Albania), but the company's medium-term goal is to shift to a majority export orientation targeting EU and regional markets.

Over time, the idea for this circular model developed through local community clean-ups: early efforts involved neighbourhood waste sorting (glass, plastic, aluminium). When glass quantities grew, the founders explored what to do with the collected material sustainably. They combined market research, design experiments, and prototyping to shape a niche glass repurposing business.

This origin story demonstrates how circular ventures often emerge from grassroots waste practices rather than top-down mandates. Their early community action provided both physical inputs and legitimacy, enabling the firm to carry forward into a formal recycling business. Importantly, they blurred the line between waste management and value creation, embedding reuse and design thinking from the outset.

<u>Business type and customers</u>

By targeting industrial users of filtration media and architectural designers, the company is placing itself in upstream markets that can absorb higher value recycled inputs. This avoids competing with commodity glass recyclers and helps ensure economic viability in markets where pure waste glass resale may yield low margins. Kosovo Glass Recycling & Co operates primarily in the B2B space.

Its customers fall into two major categories:

- Design/build and furnishings sector purchases its glass-infused concrete tables or decorative products;
- pool, kitchen, and water filtration system providers buy the glass sand (crushed glass) for filtration media.

The filtration sand product is currently the main revenue generator due to volume demand. The firm also claims that many customers place symbolic value on partnering with a recycling business, perceiving it as a contribution to environmental sustainability. Some of its glass is taken from glass factories directly, demonstrating vertical sourcing flexibility.

Circular business model and strategic drivers

This model reflects a somewhat hybrid circular business by combining material recovery with value-added product design. The fact that the firm transforms waste into higher-value goods (not just crushed glass) gives it more resilience to commodity fluctuations. Their export ambition also shows foresight in overcoming local demand limitations. The circular model is not an afterthought; it is central to their business proposition. Their process closes material loops: glass waste is reactivated into usable products, not just recycled into low-grade applications.

Strategic drivers include:

- Environmental mission where the founder's motivations cited preserving ecology and preventing illegal dumping of glass into rivers or landfills;
- market differentiation as they offer unique design and filtration products that competitors do not;
- vertical sourcing by taking glass directly from manufacturers allows greater control over input quality;
- export ambitions through tapping into external markets provide scale potential beyond local demand constraints.

Types of CEBMs

This combination of resource recovery and supply chain insertion is a common and pragmatic path for recycling firms. They don't just reduce waste — they insert recovered material into productive loops. Over time, if they adopt models like leasing or modular design, other CEBMs types could be added, but for now, their strength lies in material reintegration.

From the interview, the following CEBMs are measurable:

- resource recovery, where the firm collects glass waste and processes it into usable raw materials (glass sand, decorative glass aggregates);
- circular supply chains, as their recycled glass becomes an input (filtration media, decorative concrete) in supply chains beyond waste disposal.

R-strategies

These are appropriate choices given their operational scale and market niche. Repurposing

and remanufacturing allow them to capture greater value than mere downcycling. Rethinking is critical in giving legitimacy to their model: changing how both suppliers and clients see waste glass. Their strategy is selective and focused rather than attempting all R-forms at once.

Based on the data, the company appears to apply a selective set of R-strategies:

- repurpose where the business takes glass waste and converts it into architectural or decorative elements (e.g. glass embedded in concrete tables);
- remanufacture/reprocess as they transform crushed window glass into glass sand suitable for filtration systems;
- rethink as they reimagine waste glass not as refuse but as a design and filtration resource.

Environmental benefits (direct and indirect)

Even in the absence of formal measurement, businesses like this perform vital ecosystem services. Particularly in regions with weak waste regulation, small recyclers serve as guardrails against environmental degradation. Their challenge is converting these unpriced benefits into recognised credits or incentives within policy or ESG systems — otherwise they remain undervalued in economic decision-making.

Although Kosovo Glass Recycling & Co does not present formal metrics, the environmental impacts are meaningful.

Direct benefits:

- prevents industrial and post-consumer glass from being illegally dumped in rivers or landfills;
- captures large volumes of glass — at least 30 tons in early operation — as input for reuse.

Indirect benefits:

- reduces the need for virgin silica extraction by substituting recycled glass in filtration media;
- incentivises better waste sorting and collection behaviour among communities, municipalities, and businesses;
- raises awareness of material circularity: clients perceive their engagement as contributing to environmental protection, which can amplify positive norms.

Barriers

To mitigate these, the firm has turned to commercial loans, reinvesting profits, and educating stakeholders to adopt its material collection model. Kosovo Glass Recycling & Co faces multiple structural and operational barriers:

- legal and regulatory gaps, where there is a lack of specific legislation for glass waste processing. Glass waste is often treated as general waste, making permitting, licensing, and export of recycled material cumbersome;

- complex licensing and export procedures: these include environmental, export, or waste processing licenses, which are time-consuming, slowing expansion;
- lack of subsidies or grants: there is no existing support for advanced recycling or circular ventures in the region;
- high capital costs for technology: scaling up (e.g. advanced crushing, sorting, or filtration systems) requires investments that are difficult to finance;
- mindset and cultural barriers, where in many municipalities or among suppliers, glass waste is not considered a valuable resource. Some may resist change or see recycling as an extra burden.

Actors and ecosystem dynamics

This ecosystem reflects a transitional circular cluster: private actors and municipalities are beginning to cooperate, but institutional frameworks lag. Strengthening this ecosystem will require formal recognition of glass recyclers, capacity building in local governments, and bridging NGOs or research bodies to support technical and policy linkages. Internally, the business comprises the owner, a small core team of employees, and investors (British and Albanian).

Externally, key actors include:

- Suppliers: glass waste providers (households, factories, municipal pickups);
- customers: B2B clients in the design and filtration sectors;
- municipalities: engaged in selecting collection points and collaborating in waste collection logistics;
- investors: delivering capital and sometimes market connections;
- NGOs/supporting organisations: potential collaborators or donors, though not clearly named.

The enabling roles include municipalities providing collection infrastructure and investors backing scale. Barriers arise when legislation is absent or when support from regulators is weak, forcing glass waste to be treated like general refuse. The fragmentation in local policy and the absence of industrial reuse incentives further complicate the ecosystem.

Future outlook: scaling, strategy and policy implications

In the near term, Kosovo Glass Recycling & Co plans to increase production capacity, diversify its glass-based product lines, and expand export markets beyond Albania into the EU and regional markets. Strategically, they aim to invest in more advanced sorting, crushing, and finishing technologies, which will reduce processing costs and improve product consistency. They also intend to deepen partnerships with municipalities for collection and to scale client relationships in filtration and architectural sectors.

For systemic scaling, key policy enablers are essential: the establishment of regulations distinguishing glass waste, simplified licensing for recycling operations, export facilitation rules, and perhaps public financial support mechanisms (grants, tax breaks). Inclusion of glass recycling enterprises in national strategies on the CE would help legitimise and institutionalise their role.

This path underscores that circular business scaling depends as much on policy framework as on operational growth. With relatively modest interventions, streamlined licensing, recognition, and export support, this venture could evolve from a local niche player into a regional circular glass hub, capturing more value locally and reducing waste burdens across municipalities.

POLICY ANSWERS

ABOUT POLICY ANSWERS

POLICY ANSWERS (R&I POLICY making, implementation ANd Support in the WEsteRn BalkanS) supports policy coordination in the Western Balkans and with the EC and the EU. 14 partner organisations, representing network nodes in the region and EU expert organisations, support policy dialogue through formal meetings (such as ministerial and steering platform and ad-hoc policy meetings), monitoring and agenda setting, capacity building and implementation of the EU's Western Balkan Agenda, as well as the alignment of thematic priorities. The project implements regional pilot activities and offers an information hub based on the westernbalkans-infohub.eu online information platform. The partners provide analytical evidence via monitoring and mapping activities of the stakeholder ecosystem, of the implementation of the Western Balkans Agenda and of the Western Balkans' integration into the European Research Area as well as via strategic foresight. POLICY ANSWERS also allows for tailored and targeted capacity building activities in the Western Balkans as well as regional alignment of priorities in relation to the digital transformation, the green agenda and towards healthy societies. Pilot activities provide learning opportunities on policy and programme level and reach out to final beneficiaries related to improved academia-industry cooperation, researcher mobility, inclusion of youth in policy processes, promotion of research infrastructures and increased innovation skills in all areas.

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