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ODA EKONOMIKE E KOSOVËS | KOSOVA CHAMBER OF COMMERCE

# ANALYSIS OF THE RECYCLING VALUE CHAIN IN KOSOVO

PRISHTINA, 2022

## Research Information

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## List of Abbreviations

CE – Conformité Européenne

ERP - Economic Reform Program

EU - European Union

GIZ - Deutsche Gesellschaft für Internationale Zusammenarbeit

HDPE - High density polyethylene

IESB - Institute for Entrepreneurship and Small Business

INDP - Institute for Development Policy

ISCC – International Sustainability and Carbon Certification

ISO – International Organization for Standardization

IWMS - Integrated waste management strategy

KCC - Kosovo Chamber of Commerce

KEPA - Kosovo Environmental Protection Agency

KSA - Kosovo Statistics Agency

KSDW - Kosovo Sustainable Development Week

LDPE - Low density polyethylene

MESPI - Ministry of Environment, Spatial Planning and Infrastructure

NACE - Nomenclature of Economic Activities

NDS - National Development Strategy

PET - Polyethylene terephthalate

PVC - Polyvinyl chloride

SITC - Standard International Trade Classification

VAT- Value Added Tax

VET - Vocational Education and Training

WB - Western Balkan

## Key definition:

In this study the term ‘companies/firms’ refers to entities that are engaged and operate along the waste and recycling value chain, namely in one or more of the following activities: waste collection; sorting; processing; recycling; trading.

# Executive summary

According to the latest Circularity Gap Report 2022, our global economy is only 8.6 % circular, wasting 91.4 % of all we use (Circle Economy, 2022). The world's population is growing and with it the demand for raw materials. However, the supply of crucial raw materials is limited, indicating that some EU countries are dependent on other countries for such materials (European Parliament, 2021). In addition, extracting and using raw materials has a major impact on the environment as it increases energy consumption and CO2 emissions.

Circular economy is a sustainable alternative to the traditional linear (take-make-dispose) economic model. Reducing waste to a minimum by rethinking the need to purchase products, redesigning goods to be more sustainable, reusing, repairing, refurbishing, and recycling existing materials and products are key aspects of circular economy. The role of recycling in the circular economy model is extremely important: the recovered waste through recycling is reintroduced into the production system itself, promoting a more balanced, sustainable economic development, compatible with the care for the environment. A proper waste management system, based on the waste hierarchy, where waste is separated at source, with waste disposal being the least preferred option, is the foundation of a more sustainable society because it helps to upgrade the quantity and quality of recycled materials (EY Global, 2021). Essentially, the circular economy is a loop that goes through production, consumption, waste management and back to consumption again. As households sort more, the quality of recycled materials increases and producers will be more likely to integrate them into their products. This, in turn, will trigger the comprehensive upgrade of recycled products, meaning that more materials are recycled throughout the loop.

A circular economy model, which employs not only waste management, but reducing, redesign, reuse, repurposing, recycling and responsible manufacturing could support the development of new industries and jobs, reducing emissions and increasing efficient use of natural resources (including energy, water and materials) (CSIRO, 2022). Consumers will also be provided with more durable and innovative products that will increase their quality of life and save them money long-term. Moreover, moving towards a more circular economy could deliver benefits such as protecting the environment, improving the security of the supply of raw materials, increasing competitiveness, and stimulating innovation.

Circular economy is an industrial model that is restorative or regenerative by design and intent: products, components, and materials are always kept at their highest value. To date, the concept of circular economy is not well known and adopted in the business models of the companies in the private sector in Kosovo.

Circular economy is very important to be mainstreamed in the private sector to be in line with global trends. The ability of the traditional linear model to produce economic growth is being increasingly challenged, therefore there is a need to promote the adoption of alternative approaches that can work in the long term. A key factor to initiate a positive change is undoubtedly the business community.

To get an overview of the value chains and the active companies in the country, this study provides wide-ranging data from current status, needs, potential, and barriers to recycling. Drawing on both qualitative (focus group discussions) and quantitative (survey with recycling companies) evidence, the study provides important practical implications and policy recommendations for government, municipalities, donor organisations, business associations and recycling companies.

Based on the key findings, the performance of the recycling sector is promising. However, the sector faces several barriers related to equipment/machinery, taxes, institutional set-up, financing, and access to skilled labour, hindering the growth of companies and export.

The present study sheds light in a crucial aspect that is the need of the sector to invest in equipment/machinery. Based on the findings, firms of different size and experience in the field express the need and intention to invest in equipment and machinery in the near future. However, as the capital investment for machinery and equipment is very high, there is an emerging need for financing.

Excise tax on raw materials with neighbouring and other countries poses an obstacle to development and export of the sector. Therefore, the Kosovo government including the active role of the KCC need to find some form of export subsidy to increase the competitiveness in the market. Moreover, VAT on waste collection or raw materials is another obstacle which is not in line with the EU practices and should be considered by Kosovo government.

Additionally, the government and other business representative organisations such as KCC should take a leading role in lobbying to solve cross-border issues and consider introducing export incentives for this sector. In addition, this raises an important issue for recycling

companies to organise and have an active role in lobbying and advocating for friendly policies for the recycling sector, as well as for technical support, networking opportunities, know-how and training in different topics including circular economy.

Finally, concerning the financing of sector companies, findings suggest that there is a lack of state support for the recycling sector, therefore the Government and donor community should cooperate in designing financing schemes for capital investments in this sector, which in turn will support the transition towards circular economy.

# 1. Introduction

The European Commission adopted the new circular economy action plan in March 2020. The Circular Economy Action Plan provides a future-oriented agenda for achieving a cleaner and more competitive Europe in co-creation with economic actors, consumers, citizens, and civil society organizations (European Commission, 2022). The purpose of circular economy is to maximize the use of raw materials, so they can be used, reused, recycled, and remade by reducing the negative impacts in the environment. This economic system aims at the elimination of waste and the most efficient use of resources for production. In simple terms, products that have been consumed and discarded are brought back into the market through reuse and recycling (Alkhateeb, Muñoz, Rohmah, Tang, & Walter, 2017).

In recent years, Kosovo's private sector has increasingly engaged in environmentally sustainable practices, joining the global movement toward a more ecological environment (USAID, 2021). According to the US International Trade Administration (ITA, 2021), waste management and recycling is an attractive prospect sector for Kosovo. The low maturity level of the sector characterised by a growing waste generation and lack of proper infrastructure creates opportunities for international cooperation, namely for US companies to provide a variety of waste management and recycling services in Kosovo, including waste collection, machinery, and equipment for waste management.

According to Andreas von Schoenberg Consulting (2021), investing in Western Balkan (WB) countries' waste management infrastructure offers good business opportunities along the entire value chain. Serbia, Montenegro, and North Macedonia are stepping up their efforts to reduce their dependence on landfilling, modernize their waste management infrastructure and align

their legal framework with that of the European Union (EU). Moreover, there is increasing awareness towards recycling in those countries; therefore, these developments are creating business opportunities for waste management companies, equipment suppliers, and engineering firms.

According to the Kryeziu's (2020) report, the circular economy initiatives in Kosovo are scattered in some private sector companies' initiatives, in superficial discussions by non-governmental organisations, and with a deficient vision from the government to develop this system in the country. Indeed, the new National Development Strategy (NDS) 2021-2031 does refer to Circular Economy within its first pillar. The new NDS is pending for approval by the Government, while the Kosovo Economic Reform Program (ERP) 2022-2024 has been approved (The Prime Minister Office, 2022).

Given the above-mentioned and considering the gap in the representation of recycling companies in the country, KCC has entered a strategic partnership that aims to mainstream circular economy in the private sector of Kosovo. The initiative is supported by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH GIZ as part of the 'Sustainable Municipal Services' (Waste Management)' project, which itself is co-funded by the European Union and the German Federal Ministry for Economic Cooperation and Development. The initiative seeks to create a community of practice, with private recycling companies active in the country, where the topic of circular economy can be initiated and expanded further in the near future. Specifically, the present study offers an overview of the value chain and the active companies in the country, by providing insights on their current status, needs, potential, and barriers to recycling. This baseline study of the recycling value chain will help to further support the potential of companies, address their needs, and raise awareness on the importance of the recycling sector towards a sustainable development of the country.

The main part of this report is structured as follows: Initially, the purpose and objective of this study is depicted, followed by an overview of waste and recycling in Kosovo. The paper then focuses on the landscape sector and outlines the figures of waste generation, collection, recycling, and export, followed by value chain and institutional environment. After methodology aspects, results are presented and discussed. Finally, implications and recommendations for different stakeholders are drawn.

## 2. Purpose and objective of the study

The purpose of this study is to provide an overview of the waste management and recycling sector in Kosovo with the aim of identifying the potential for growth and exporting as well as provide policy recommendations for the relevant stakeholders to mainstream circular economy in Kosovo. The main objective is to assist in the gathering of primary data and the necessary information on the recycling value chain in the country. Specifically, the study aims to:

1. Carry out a detailed baseline study on companies operating along the recycling value chain in Kosovo;
2. Analyse the development potential and barriers of the recycling sector;
3. Propose policy measures and other recommendations to promote the development of the recycling sector.

## 3. Waste and recycling in Kosovo

According to Kosovo Statistics Agency (ASK, 2021), recycling consists of processing operation that turns waste materials into products, materials or substances that serve their initial purpose or another purpose. This includes the recovery of organic materials but does not include energy recovery and reprocessing into materials used as fuels or for backfilling operations.

The waste generation in the WB has been increasing since 2003, however, recycling rates remain at low levels, especially in Albania and Kosovo. Despite the presence of a recycling industry, recycling companies in these countries fail to acquire enough quality raw materials from the domestic market to operate at full capacity (Balkan Forum, 2021). Therefore, European Commission suggests the development of a network of recycling centres to increase the convenience of recycling and number of items that are prepared for reuse. This in turn would increase recycling rates and the amount of recycled material under producers' responsibility and decrease the financial burden on the public sector.

Municipalities and licensed companies are responsible for organising municipal waste collection and disposal in Kosovo. In urban areas the waste is mainly collected through joint collection points, while in rural areas the collection is done door-to-door. Significant progress has been made on expanding the waste collection coverage in Kosovo, which is reported to be

over 80% of the population since 2019, thus meeting the proposed target for 2021, but not yet 100 % (European Environment Agency, 2021).

In Kosovo, there are seven public companies which collect waste and transport it into sanitary landfills. However, not the entire territory is covered with waste collection services, especially deep rural areas. This, coupled with lack of enforcement capacities and low awareness, has led to the creation of 1,189 illegal landfills nationwide according to data reported for 2020 (Kosovo Environmental Protection Agency, 2020).

## 3.1 Figures at a glance

Table 1 summarizes the characteristics of waste management and recycling sector in Kosovo. Kosovo reported an increase of over 40% in total municipal solid waste treatment from 2015 to 2019, which can be mainly attributed to an increase in the share of the population connected to waste collection services (European Environment Agency, 2021). This corresponds to 178 kg per capita in 2015 and 253 kg per capita in 2019, roughly half of the EU average of 502 kg per capita in 2019. Notwithstanding, the waste per capita in 2020 increased to 272 kg (KEPA, 2022).

*Table 1. Summary of the main figures of the waste management and recycling sector in Kosovo.*

| Aspects | Figures | Source |
|---|---|---|
| **Total mixed municipal waste collected** | 430,145 ton/year | KEPA (2022 - data reported for 2020) |
| **Waste generation per capita** | 271.67 kg | KEPA (2022 - data reported for 2020) |
| **Potential recyclable waste** | 32% | KOSID (2017) |
| **Percentage of households with access to waste separation infrastructure** | 5% | KEPA (2022- data reported for 2020) |
| **Composition of the recycled waste** | Ferrous metals and other metals (69%)<br>Plastic waste (13%)<br>Paper and cardboard waste (14%) | KEPA (2020) |
| **Exported waste** | 2.6% | KEPA (2018) |
| **Recyclables' export** | 52.1 million Euro | ASK (2020) |
| **Waste collection** | Public companies<br>Private licensed companies (~70)<br>Informal waste pickers (~2000) | European Environmental Bureau (2020)<br>KEPA (2018)<br>European Environment Agency (2021) |

*Disclaimer: The latest official data published by the Kosovo Environmental Protection Agency (KEPA) has been presented for most categories. If data has not been included in the latest report published for the period of 2020, references to previous reports or other sources has been made.*

As of 2020, it is estimated that the total amount of municipal waste generated country wide is 430,145 ton/year (KEPA, 2022). With respect to recycling, the data from 2017 showed that

32% of collected waste in Kosovo is recyclable (KOSID, 2017). However, only about 5% of households have access to waste separation infrastructure (KEPA, 2020). This is far from the 50% target set by EU on reducing the waste generation and encouraging recycling. In terms of the composition of waste that is recycled, 69% of it is waste from ferrous metals and other metals, 13% plastic waste, and 14% waste from paper and cardboard (KEPA, 2020). The latest data published by KEPA for the reporting year 2020 does not provide information on waste composition, nor on the amount of the recycled waste. However, in 2019, several initiatives for glass recycling have been identified.

Waste recycling companies in Kosovo mainly recycle paper, metals, batteries, cans, organic matters, rubber, and plastic (Kryeziu, 2020). Indeed, these companies are increasingly finding profitable solutions to the visible waste problem in the country. Some companies have found ways to recycle Kosovo's waste into useful daily products and a substantial number of them extensively exported. Plastic and paper waste are recycled and mainly used to produce foil for levelling; recycled paper is finding ways of being used for paper packaging and toilet paper; the recycling of glass is oriented in mosaic glass tiles in limited quantity (Kabashi, 2021).

The comprehensive report by Alkhateeb, Muñoz, Rohmah, Tang, and Walter (2017) reveals types of plastics used and the main final plastic product in Kosovo. The types of plastics used in recycling industry: high density polyethylene (HDPE), low density polyethylene (LDPE), and polyvinyl chloride (PVC). Whereas the most important goods produced from them are foil for agriculture and construction, drainage pipes, shopping bags, bottles, containers, bottle caps, and thermos foil for wrapping.

## 3.2 Institutional environment

The Ministry of Environment, Spatial Planning and Infrastructure is the main responsible body at the central level of Government for setting the strategic framework, determining policies and laws to regulate the waste management sector. Meanwhile, municipalities have exclusive competences to organise and manage municipal waste within their respective territories.

According to the KEPA (2018), the government of Kosovo is aware of the economic benefits and savings potentials for the state budget that are to be gained through the development of the recycling sector. However, so far, the investments in the recycling industry from the private or public sector mostly remain planned but not implemented and operational.

The Kosovo Integrated Waste Management Strategy (KIWMS) is an integral component of the strategic framework and a key planning document for waste management in Kosovo. It sets strategic objectives, specific objectives, targets, and indicators for waste management, including recycling. The new KIWMS 2021-2030 was approved in May 2021, including its three year action plan. This Strategy is an important milestone to modernise the waste management sector and transition from basic services towards circular economy. The Strategy aims to create a new generation of integrated waste management infrastructure and services in Kosovo, while also promoting the values of circular economy and professionalising the waste management and recycling sector. As a specific objective, the Strategy aims to establish an industrial code for the waste management and recycling sector in national statistics. The three-year action plan lays out ambitious measures, the implementation of which requires high investment capital and technical expertise.

Municipalities are required to align their municipal waste management plans with the national strategic framework and legal framework. As of 2020, 31 municipalities have developed and approved Municipal Plan for Waste Management as required by law, however most of the municipalities should be undergoing a revision process of their plans as many have expired (KEPA, 2020). According to KEPA, the overall compliance of municipalities with the waste management and legal planning processes (e.g., developing and adopting municipal plans and respective regulations, employing waste management officials and environmental inspectors, contracting licensed operators, fee collection services, mandatory fines etc.) is around 69.4%.

## 3.3 Attitudes and actions towards recycling

In the latest years, there was an increased interest on promoting recycling in Kosovo, especially from foreign-initiated actions (INDEP, 2018). For instance, USAID supported three companies to recycle Kosovo's waste into useful products which are now being exported and creating new jobs (USAID, 2018). Namely, Tiki Mosaic collects glass waste from all over Kosovo and recycles it into mosaic tiles; Izolimi Plast recycles plastic waste and uses it as insulation material; AL-TEC is Kosovo's first meat recycling and animal feed production start-up.

With respect to ongoing or planned official campaigns to increase the sorting and recycling of waste, there was an official commitment through the action 'Let's clean Kosovo', implemented by a non-governmental organization in 2018, to clean up illegal landfills (European Environment Agency, 2021). Furthermore, GIZ, as part of its programme that supports municipalities to establish sustainable basic services and transition towards integrated waste

management, has piloted separation at source of recyclable waste in several municipalities and support home-composting practices. The organisation Green Art Center - Pristina ran an awareness campaign focusing on improving the organization of municipal waste services and promoting separation of waste at the source for seven municipalities in Kosovo with support of GIZ Kosovo.

The Kosovo Green Festival, established by USAID in 2016, and now led by the private sector, has played a significant role in promoting green technologies and production of sustainable materials, whilst supporting green businesses to create market linkages and increase sales (USAID, 2021). Similarly, the government of Kosovo jointly with international community and civil society (namely Ministry of Environment supported by the German Government and European Union), through GIZ organises the Kosovo Sustainable Development Week (KSDW), an annual high-level conference with aim to initiate a public dialogue and seek effective ways to promote sustainable development while advocating green economic growth. In the past topics have included decarbonization, climate change, energy transition, energy efficiency, circular economy, urban planning, etc.

## 4. Methodology

This study employs both qualitative and quantitative data collection and analysis. The qualitative study involved the data from the focus group discussion with recycling companies. The theme of barriers and potential for growth of waste management and recycling sector is subject to thematic framework analysis and its basic approach should be qualitative, because it should provide in-depth view of relevant issues as well as the reasoning behind its descriptions and proposed recommendations for improvement. Quantitative analysis of survey data through primary research is to be used to investigate the issues identified in focus group to larger sample of companies. Over the course of data collection basic qualitative data processing is provided, through classifying and/or categorization of topics and points (thematic units), to be suitable for retrieval and analysis. Data analysis is focused on key issues of the study for the purpose of integrity and coherence of thematic framework. Quantitative analysis is based on analysis using SPSS and producing cross tabulations for specific phenomenon. What follows we introduce the quantitative data analysis-based survey data first and then move to the focus group discussion findings.

## 4.1 Procedure

The survey team of the KCC staff were involved in conducting face to face interviews using an online platform for survey design Qualtrics. One day training with engaged staff for surveys was conducted to ensure the understanding of the questionnaire design and the technicalities of working with Qualtrics. The software allows for data management and data export to other software programmes such as Excel or SPSS, which was used for data analysis.

The sample for enterprise survey was carried out in more than 100 companies in the whole value chain of the recycling sector. However, the number of companies that completed the questionnaire was 68. Companies from both public and private sector in the Republic of Kosovo were the unit of analysis. The sample was randomly selected from the list of licensed operators / companies for waste management in Kosovo provided by MESPI and supplemented with the KCC list of member companies using the NACE Rev. 2 sub-sectors with the specific target of the waste and recycling sectors.

## 4.2 Sample

Table 2 reports descriptive statistics of the sample of all variables of interest. Majority of respondents are owners of companies or general managers (more than 80%) suggesting the high reliability of data as these two categories are better informed about companies. Most of responded also have completed university degree and general secondary education or Vocational Education and Training (VET) schools. Most of the companies are micro and small-sized enterprises (82.3%) from the region of Prishtina (39.1%) which have been operating between more than 10 years (75.4%) mainly in one location (32.3%).

*Table 2. Descriptive statistics of the sample*

| | Frequency | Percentage |
|---|---|---|
| **Position in the organization** | | |
| Entrepreneur/owner | 32 | 50.0 |
| Manager (CEO) | 20 | 31.3 |
| Human resource manager | 1 | 1.6 |
| Other | 11 | 17.2 |
| **Education** | | |
| Less than primary | 2 | 3.1 |
| Primary school | 2 | 3.1 |
| Secondary general | 10 | 15.6 |
| Secondary vocational (VET) | 7 | 10.9 |
| University diploma | 43 | 67.2 |
| **Age of firm** | | |
| Less than 5 years | 6 | 9.2 |
| 5-9 years | 10 | 15.4 |
| 10-19 years | 24 | 36.9 |
| 20+ years | 25 | 38.5 |
| **Size (number of employees)** | | |
| Micro enterprise | 33 | 41.8 |
| Small enterprise | 32 | 40.5 |
| Medium enterprise | 13 | 17.7 |
| **Region** | | |
| Ferizaj | 6 | 9.4 |
| Gjakova | 4 | 6.3 |
| Gjilani | 8 | 12.5 |
| Mitrovica | 7 | 10.9 |
| Peja | 5 | 7.8 |
| Prishtina | 25 | 39.1 |
| Prizreni | 9 | 14.1 |
| **Number of operating locations** | | |
| 1 location | 21 | 32.3 |
| 2 locations | 16 | 24.6 |
| 3-5 locations | 15 | 20.0 |
| More than 5 locations | 65 | 23.1 |

## 4.3 Analytical approach

The research strategy employed in this study is a combination of qualitative and quantitative methods. The qualitative aspect consists of desk research and focus group interviews with companies and stakeholders. Desk research involved a literature review, the review of secondary data including project documents, assessments, evaluations, and previous studies. We carried out a literature review on the waste and recycling sector trends in Kosovo and beyond. The review of national strategic and official data from Kosovo Agency of Statistics provided data to depict sector of recycling in Kosovo. These critical studies were carefully

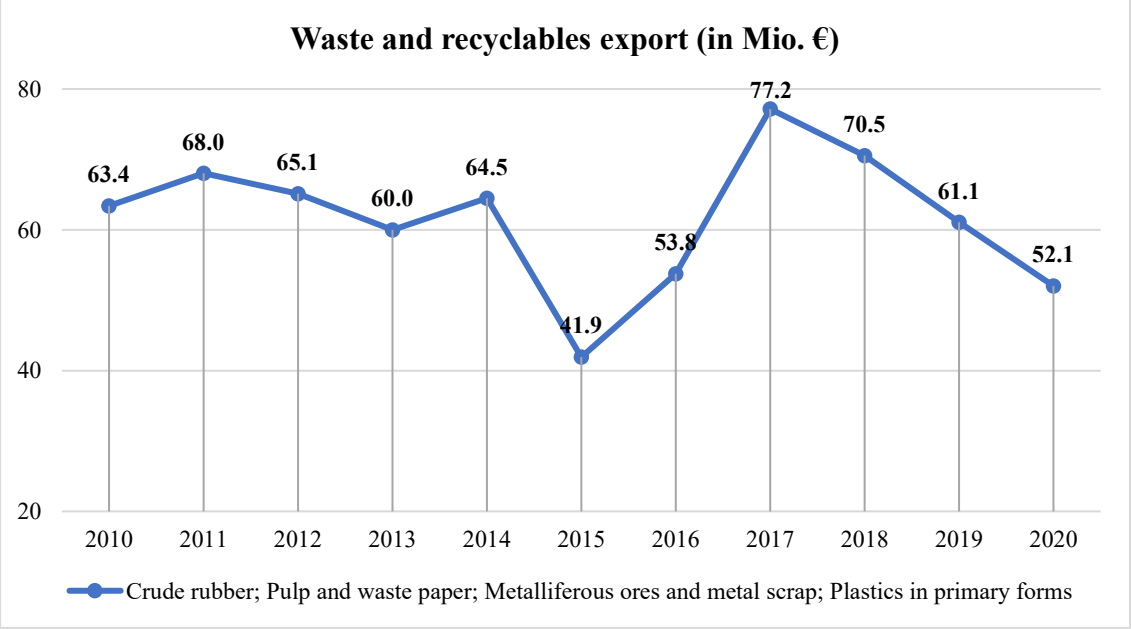
reviewed to inform the present study's analytical and methodological approach and ensure that the most relevant methodology is used to investigate Kosovo's waste management and recycling sector potential.

The methodology (Data analysis for semi-structured interviews) was carried out in several steps. The first step was to collect all reports regarding the waste management and recycling sector in Kosovo. Then, we conducted a focus group discussion with recycling companies and semi-structured interviews with stakeholders and, within this phase, compared and contrasted findings of the literature. Based on the new topics emerged from focus groups and semi-structured interviews we designed the questionnaire for quantitative analysis.

## 5. Findings from Company Survey

According to the Kosovo Agency of Statistics, the total waste export in 2020 amounted to 52.1 million Euro. Based on the Standard International Trade Classification (SITC), this amount includes crude rubber, pulp and wastepaper, metalliferous ores and metal scrap, and plastics in primary forms. However, data indicates a decreasing export volume from 2017 when the exported peaked to 77.2 million Euro. Figure 1 illustrates this trend, where the full data is represented in the Table 3 below.

*Figure 1. Waste and recyclables export in Kosovo 2010-2020*



Source: Kosovo Agency of Statistics

*Table 3. Waste and recyclables export in Kosovo per year and category (in Euros)*

| Year | Crude Rubber (Incl. Synth. and Reclaimed) | Pulp and waste paper | Metalliferous Ores and Metal Scrap | Plastics in Primary Forms | Total |
|---|---|---|---|---|---|
| 2010 | 0 | 238,258 | 62,886,203 | 272,882 | 63,397,342 |
| 2011 | 34 | 721,309 | 66,722,939 | 588,770 | 68,033,052 |
| 2012 | 10,184 | 820,146 | 63,541,266 | 757,615 | 65,129,211 |
| 2013 | 1,627 | 800,999 | 58,358,493 | 843,934 | 60,005,053 |
| 2014 | 3,604 | 1,560,567 | 61,757,340 | 1,166,550 | 64,488,061 |
| 2015 | 1,150 | 1,515,696 | 39,411,117 | 992,033 | 41,919,996 |
| 2016 | 335 | 2,058,991 | 50,636,223 | 1,086,726 | 53,782,275 |
| 2017 | 6,400 | 2,458,440 | 73,317,565 | 1,387,245 | 77,169,649 |
| 2018 | 0 | 2,550,694 | 66,748,108 | 1,224,329 | 70,523,131 |
| 2019 | 199 | 2,006,021 | 57,350,638 | 1,716,586 | 61,073,443 |
| 2020 | 1,800 | 1,470,046 | 48,944,567 | 1,637,233 | 52,053,646 |

Source: Kosovo Agency of Statistics

As of 2019, there were 175 active firm in the recycling value chain (Figure 2). The list is dominated by wholesale of waste and scrap metal (22%), followed by collection of non-hazardous waste (19%), collection of hazardous waste (18%), production of plastic in primary form (15%), treatment and disposal of non-hazardous waste (11%), repair activities and other waste management services (7%), dismantling of scrap metal (6%), and treatment and disposal of hazardous waste (1%).

Figure 2. Active taxpayer firms by activity as of 2019 (N=175)

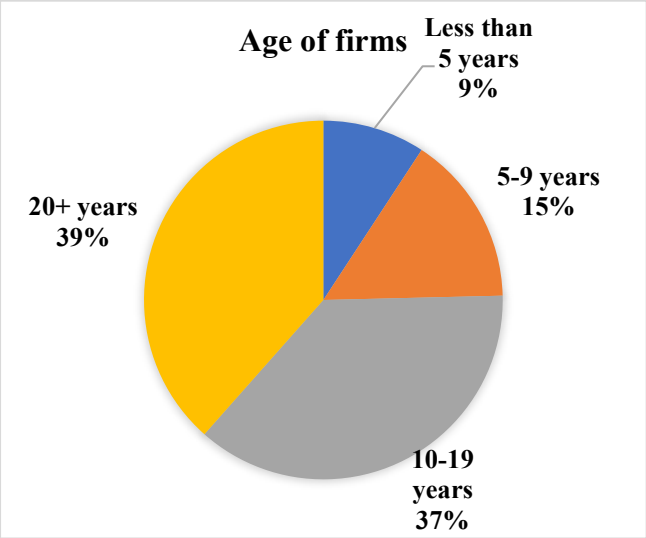

Source: Kosovo Chamber of Commerce

# 6. Survey findings

## 6.1 Current status

Participating firms ranged in age from less than five years to over twenty years (Figure 3). The majority of responding organizations (76%) were ten years or older. The remaining firms have been operating for 5-9 years (15%) and less than 5 years (9%). Considering the number of employees (Table 4) and age (Figure 3), companies in this sector industries tend to be larger, older, and probably more stable. This implies that recycling is a mature sector that has passed the emerging phases of industry growth and that there is potential for future growth as well.

*Figure 3. Age of participating firms*




The results indicate that the total number of employees (full time and part time) in 2019 was 2,932 and the annual growth rate in 2022 was about 10% or 3,215 employees in total. Whereas the expected number of employees in three years is expected to grow by approximately by 17%. These data indicate the potential of the sector to grow over the years and suggest the opportunity for employment growth and exporting in the future. Table 4 provides the full details.

The increasing number of employees in the sector implies the potential of the sector to grow over the years. As companies are planning to extent their operations and investment plans, this implies that the number of manpower is expected to increase as well. In other words, additional workers in new production lines would be required or technical operators to manoeuvre with the new machineries and equipment.

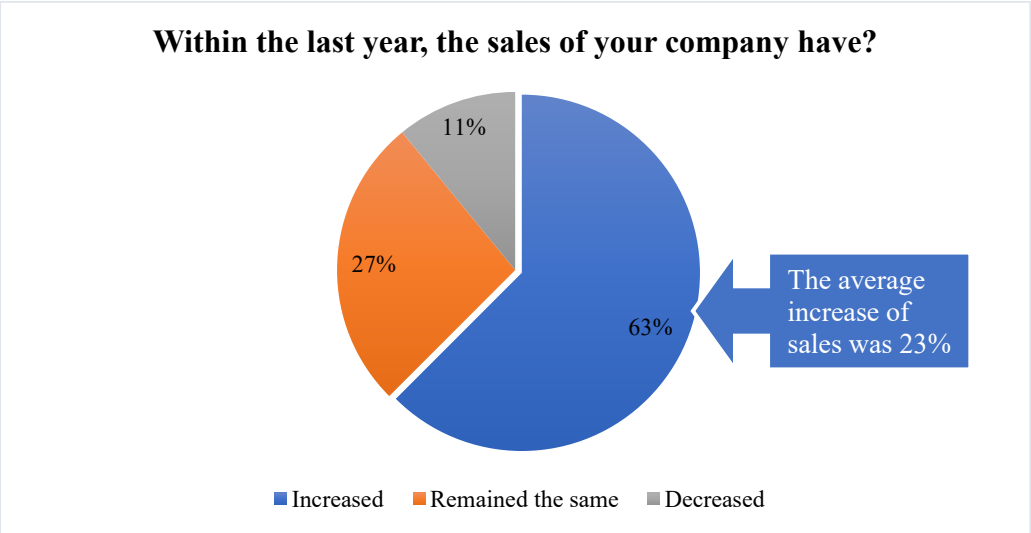
*Table 4. Total number of employees in the sample (full time and part time) per year*

| | No. of employees 2019 | No. of employees 2022 | Expected number of employees in 3 years from now (in total) | Growth in employment 2019-2022 (in %) | Expected growth in employment 3 years from now (in %) |
|---|---|---|---|---|---|
| **Full time employees** | 2747 | 3009 | 3528 | 10% | 17% |
| **Part time employees/seasonal** | 185 | 206 | 308 | 11% | 50% |
| **Total** | 2932 | 3215 | 3836 | 10% | 19% |

Capacity utilisation is 52%, whereas current production capacity per month is 8.847 ton. If capacity utilisation is increased to 100%, the production capacity will be 17,013 per month and 204,156 per year. The reason why internal capacity is not fully utilised might be attributed to many factors, yet, equipment and machinery might be one of the main reasons. This is also supported by the survey results, which reveal that equipment and machinery is the biggest barriers that recycling firms face. This is in turn might have detrimental effect on the capacity utilization as well.

More than half of the respondents (63%) indicated that their sales within the last year increased. Whereas 27% and 11% declared no variation in sales level or a decrease, respectively. The average increase of sales was reported to 23%.

*Figure 4. Variation of sales within the last year and percentage of increase*



## 6.2 Value chain of the waste management and recycling sector in Kosovo

Value chain analysis is a useful tool which provides a clear picture of business activities that are often carried out in different stages; allows identification of activities that add more value and are more lucrative than others; surfaces lead firms and power differences between actors in the chain (Schmitz, 2005). Waste management in Kosovo goes through three main phases (Alkhateeb, Muñoz, Rohmah, Tang, & Walter, 2017). First, in the waste generation phase, homes and private businesses pay 3-5 Euros per month as a waste collection fee. In the second phase, recyclable waste is collected by individual waste collectors who sell the waste either to middlemen or directly to recycling companies or sorting facilities. Finally, waste is sorted and transferred to recycling companies for processing. According to KEPA (2018), there are around 70 licensed business that process collected recyclables les and export them.

Private companies engaged in waste collection, management, and processing buy unsorted, unprocessed waste and other valuables from more than one source. These companies purchase waste from supermarket chains, private and public enterprises, as well as from informal waste collectors (ERAC, 2019). Most of the waste collected and processed by companies is sold as export. Except for some metal scrap, there is no significant demand for recyclables by the domestic industry (European Environment Agency, 2021).

Notwithstanding, the European Environment Agency (2021) shows that, currently, only a very small share of waste is recycled in Kosovo, and as this is mainly done by informal resource collectors there are no official data on the quantities. Indeed, informal resource collectors play an important role in the collection of recyclable waste; it is estimated that around 2000 individuals could be individually engaged in informal collection throughout Kosovo, but there are no data or official measurements to assess the level of activity.

### 6.2.1 Value chain of Kosovan recycling firms: Evidence from the quantitative survey

The sector value chain analysis involves examining the various stages of a product's production, from raw material source all the way through the final purchase by end-users. The value chain analysis is a useful tool for both analytical and policy purposes. Based on an

original survey data of 68 recycling firms, this section defines and maps the value chain of the waste management and recycling sector in Kosovo.

Figure 6 represents graphically the value chain map based on the survey data. It represents the different steps and actors and allows to clearly understand the connections between them. The value chain of recycling firms in Kosovo consists of four main steps: waste collection, sorting, processing, and selling. From the point of waste-creation to eventual re-use as part of a new product, several complex processing and conversion operations take place and the materials pass through several changes of ownership before returning to a new-life with a consumer.

The results of the survey show an unequal distribution of firms across the different phases of the value chain. As illustrated in Figure 6, the majority of recycling companies focus on the waste-processing phase (38% of total companies), with a comparatively small number of companies dealing with waste collection (30%), sorting (20%), and selling (12%).

Firms are supplied with raw materials and inputs from different sources. Similarly, they sell processed of final outputs locally or export, using different sales channel. A more in-depth analysis for each value chain step is provided below.

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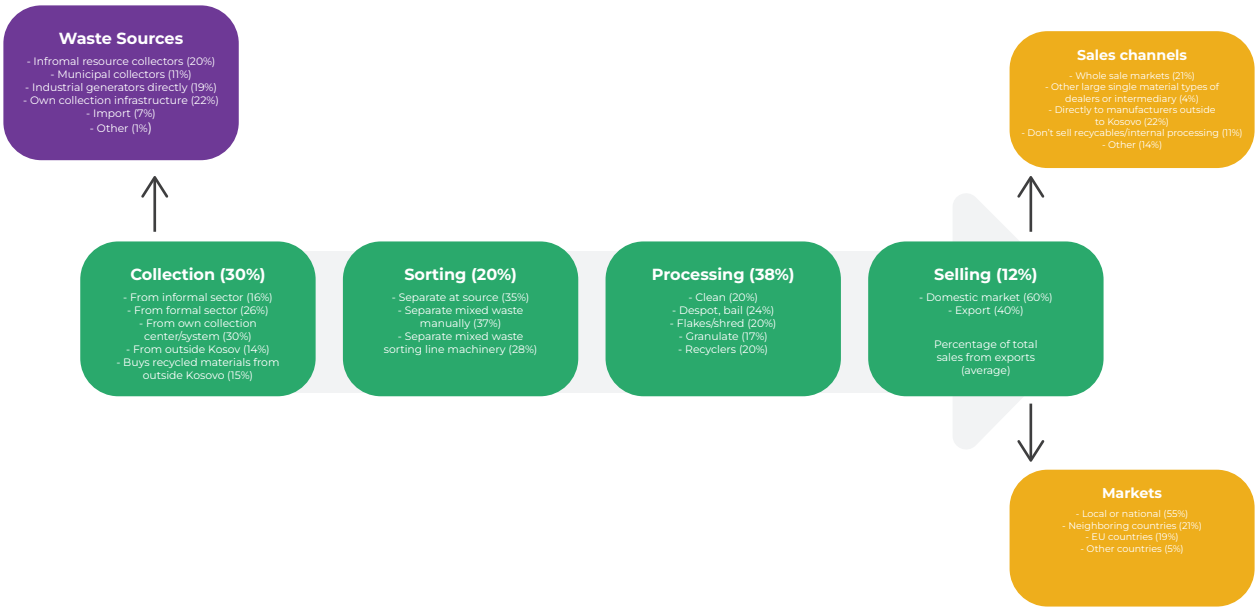
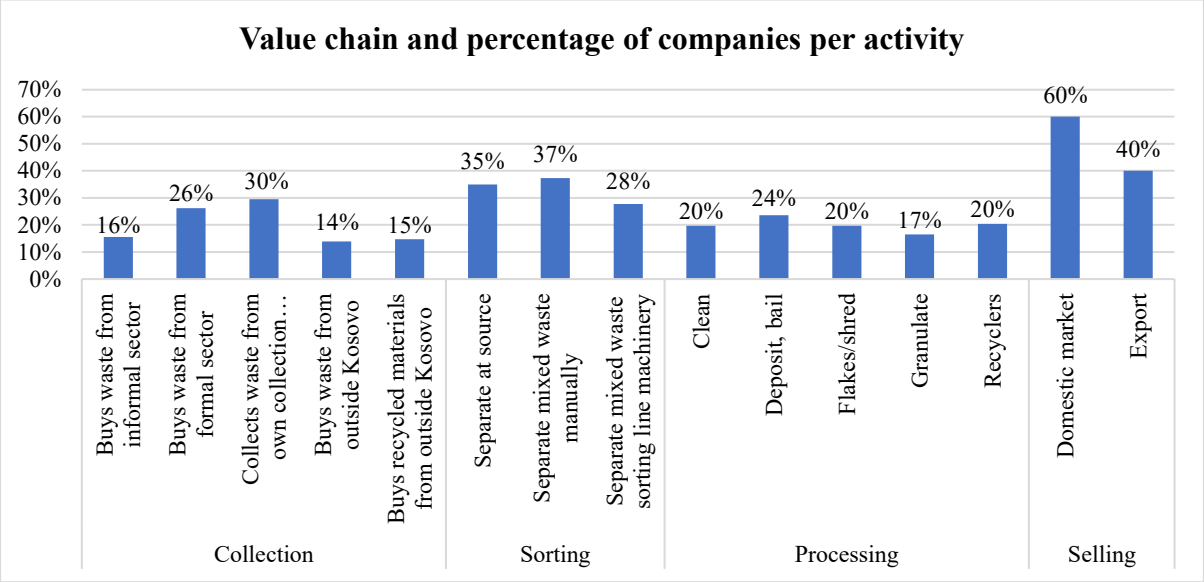


Based on the graphical representation above, we put forward a more detailed elaboration of the value chain of the recycling sector in Kosovo. Figure 7 represents the percentage of companies per activity on the value chain of the sector. In waste collection, most of the companies collect waste from own collection system (30%). Indeed, this is a very promising result because having 30% of the firms which are supplied via their own collection points indicates substantial investments in this sector. Moreover, more than a quarter of waste (26%) is bought from formal sector, implying that the waste management and recycling sector is cooperating with other sectors to buy waste and it is crucial to push forward this cooperation. On the other hand, the percentage of waste imported is low. The relationship with local collaborators ensures shorter delivery and lead times, just in time manufacturing, and avoids the complexity of dealing with overseas firms, or import taxes.

While companies might have invested in their own collection infrastructure, this is not the case in sorting facilities. In the second phase, those companies dealing with waste sorting, mainly separate mixed waste manually (37%). The manual separation raises the issue of inefficiency and incurs high manpower costs. Therefore, it crucial the automation and digitalization waste sorting by through intelligent separation technologies for materials that sorts different kinds of plastics in recycling processes. A large portion of companies (35%) rely on separate at source. This might be a positive sign for an increasing awareness of individuals towards separate at source, although it is still in a very early stage. GIZ has been involved in numerous pilot projects across, to promote separation of materials by type at the point of discard so they can be recycled.

With respect to the third stage or processing, the companies which process waste deal more or less with all activities: deposit and bail (24%), clean (20%), flake/shred (20%), recycling (20%), and granulate (17%). From this distribution of sub activities, it can be inferred that there is no specific activity which attracts a greater attention of market actors to focus on.

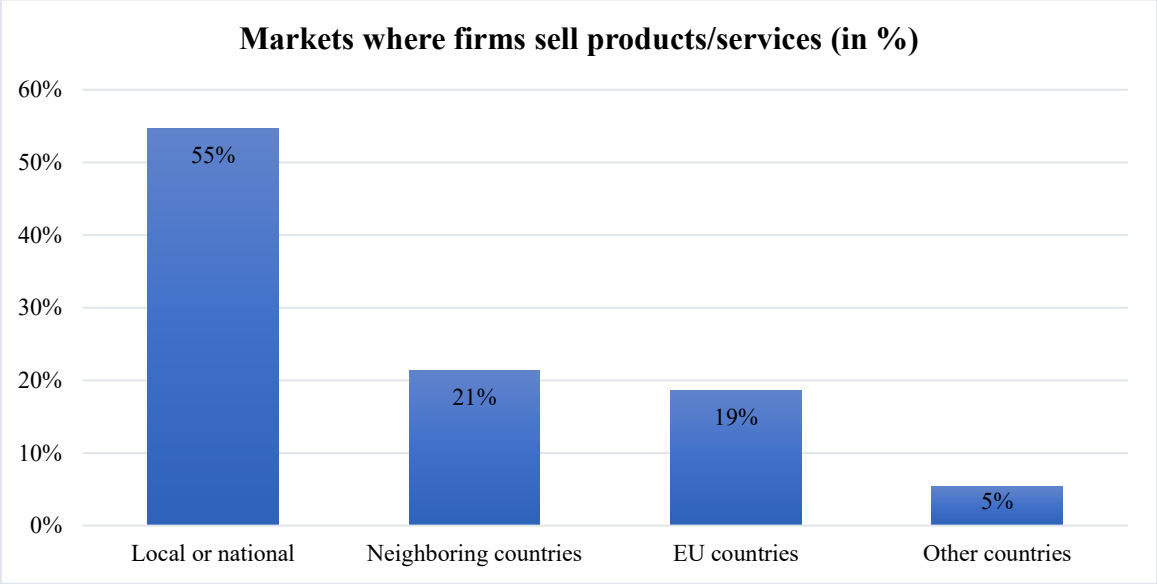
*Figure 6. Value chain and percentage of companies per activity*




Finally, the companies who sell, they mainly penetrate in the domestic market (60%) compared to export (40%). This evidence suggests us to put forward a more detailed analysis concerning the markets where firms sell products/services.

The results show that more than half of the companies (55%) sell their products/services locally, 21% in neighbouring counties, 19% in EU countries, and 5% in other markets. The findings indicate that currently, Kosovan recycling firms are not very much oriented towards export. The lack of export orientation might be explained a lack of full internal capacity utilization and existing export barriers, which will be further elaborated later. Those two factors do not allow to meet the international demand; hence firms focus on the local market. Notwithstanding, a local marketing approach is not beneficial for companies in the long-term mainly because of limited market size and access to raw materials. The focus only in the domestic market is translated as low-profit margins, hence, extending the business internationally poses greater opportunities for generating profit, particularly if the firms are willing to diversify their offerings. Similarly, in a domestic market, access to raw materials and labour might be limited. Therefore, in the long-term, Kosovan recycling firms should aim international markets as in this way they might obtain more easily and cheaply raw materials or might get exposed to new know-how and expertise.

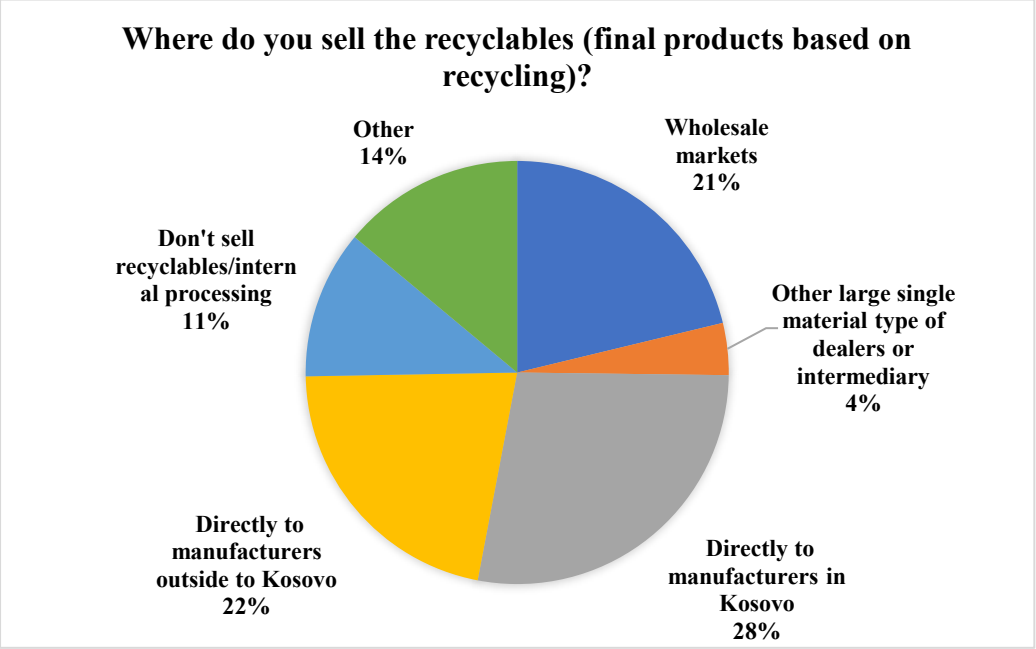
*Figure 7. Markets where firms sell products/services (in percentage)*




The recycling companies in Kosovo utilize different sales channels. They sell their recycling-based final products directly to manufacturers in Kosovo (28%), directly to manufacturers outside Kosovo (22%), wholesale markets (21%), other large single material style of dealers of intermediary (4%), don't sell recyclables only internal processing (11), and others (14%).

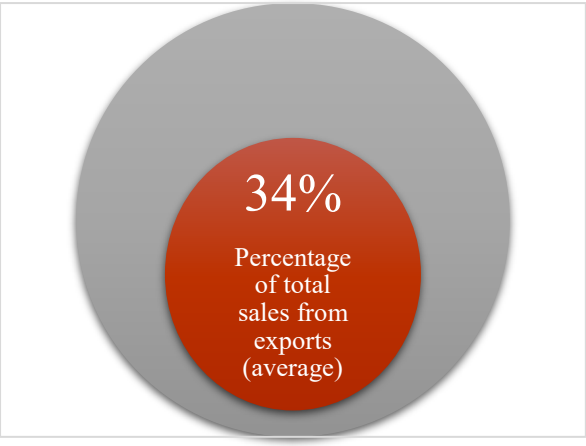
In other words, direct selling (locally or internationally) is a dominant approach among Kosovan recycling firms. In one hand, direct selling reduces overhead and advertising costs. Moreover, it is an effective way to build long-lasting customer relationships as customers benefit from the convenience and personal attention they receive from direct salespeople. However, direct selling requires extensive efforts on customer interactions and attracting new clients might be cumbersome. Therefore, in the long-term, recycling firms in Kosovo might consider adopting indirect selling methods, i.e., through intermediaries. This is especially important for entering foreign markets where local knowledge is crucial and sales outsourcing might be a viable option.

*Figure 8. Sales channels (in percentage)*



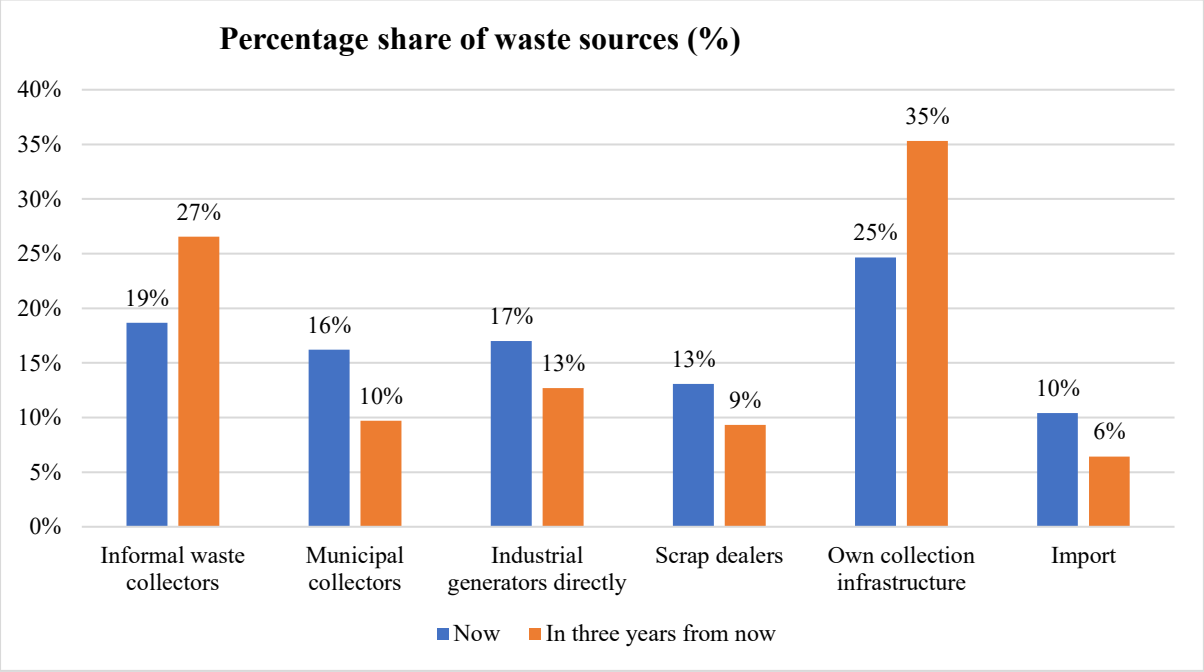

The findings indicate that for those companies that export, on average 34% of the total sales is generated by export.

*Figure 9. Average percentage of total sales from exports*




In conducting a more thorough analysis of waste sources, a comparison is presented below which shows how firms currently collect waste and what are their plans in three years from now. In the future, own collection infrastructure (35%) and the share of pickers (27%) as waste sources are expected to increase. This implies that a large portion of companies in Kosovo are keen to invest in their internal facilities in order to improve their collection infrastructure by increasing reliability and flexibility of operations. Relying on own collection resources provides control over the process and facilitates capacity and inventory management. Whereas, municipal collectors, industrial generators, scrap dealers, and import will decrease compared to the current practices. This might explain the tendency of companies to rely less on third party suppliers by reducing their bargaining power hold-up likelihood.

*Figure 10. Percentage share of waste sources (now versus in three years from now)*




## 6.3 Potential and future trends of waste management and recycling sector

Drawing on the data from our questionnaire, the total purchased waste in 2021 reached 1,048,977 tons, or 7% less than in 2019 (1,129,050 tons) and 13% less planned for 2022 (917,110 tons). The most purchased waste materials in 2021 were cardboard and paper (925,265 tons or 82%), non-ferrous metal (51,857 ton or 5%) and steel (47,636 tons or 4%). A similar trend is noted for the purchase plans in 2022: cardboard and paper (805,500 tons or 88%), non-ferrous metal (50,570 ton or 6%) and steel (51,520 tons or 6%).

The quantities of purchased organic waste, LDPE, and steel have increased in 2021 and they are expected to increase in 2022 also. Organic waste had an increase of 100% in 2021 and it is planned to increase by 11% in 2022; LDPE increased 28% in 2021 and it is planned to increase by 22% in 2022; steel increased 74% in 2021 and it is planned to increase by 8% in 2022.

Whereas, a substantial negative trend is noted in the quantity of purchased materials of PET (-42% in 2021; -61% in 2022), mixed and/or other plastics (-49% in 2021; -98% in 2022), and aluminium (-17% in 2021; -88% in 2022). Despite the fact that in practice PET circulation is still high, this negative purchase trend of PET and other plastic materials which yields from the survey might be explained by the fact companies are buying from informal sectors. Whereas

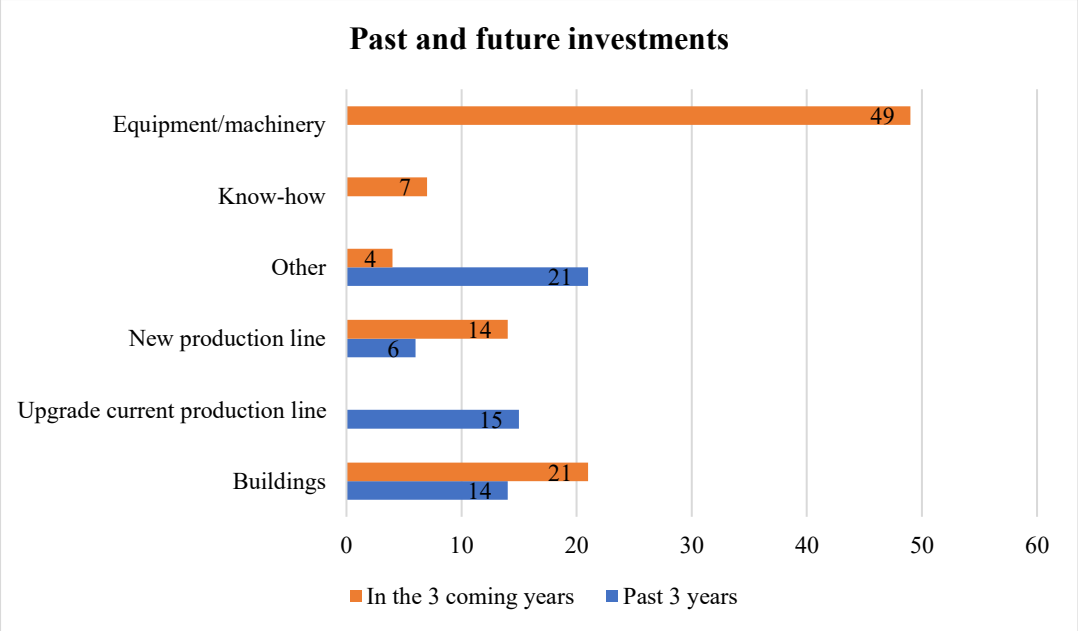
with respect to aluminium, its use especially for beverage packaging has been on the decline (Calma, 2020).

*Table 5. Quantity of purchased materials (in tons) during 2019-2021 and volume projections for 2022*

| Material (in tons) | Quantity 2019 | Quantity 2021 | % of increase 2021 | Plans to purchase waste in 2022 | % of increase 2022 |
|---|---|---|---|---|---|
| Cardboard & paper | 1,020,880 | 925,265 | -9% | 805,500 | -13% |
| Non-ferrous metals | 42,227 | 51,857 | 23% | 50,570 | -2% |
| Steel | 27,391 | 47,636 | 74% | 51,520 | 8% |
| Mixed &/or other plastics | 30,435 | 15,456 | -49% | 270 | -98% |
| Low density polyethylene (LDPE) | 3,530 | 4,530 | 28% | 5,540 | 22% |
| Aluminum | 2,072 | 1,713 | -17% | 210 | -88% |
| High density polyethylene (HDPE) | 1,020 | 1,010 | -1% | 1,210 | 20% |
| Others | 790 | 665 | -16% | 1,440 | 117% |
| Organic | 250 | 500 | 100% | 555 | 11% |
| Polypropylene | 150 | 175 | 17% | 170 | -3% |
| Polyethylene terephthalate (PET) | 155 | 90 | -42% | 35 | -61% |
| Glass | 130 | 50 | -62% | 70 | 40% |
| Polystyrene | 20 | 30 | 50% | 20 | -33% |
| Electronic Waste | 0 | 0 | | 0 | |
| Masonry | 0 | 0 | | 0 | |
| **Total** | **1,129,050** | **1,048,977** | **-7%** | **917,110** | **-13%** |

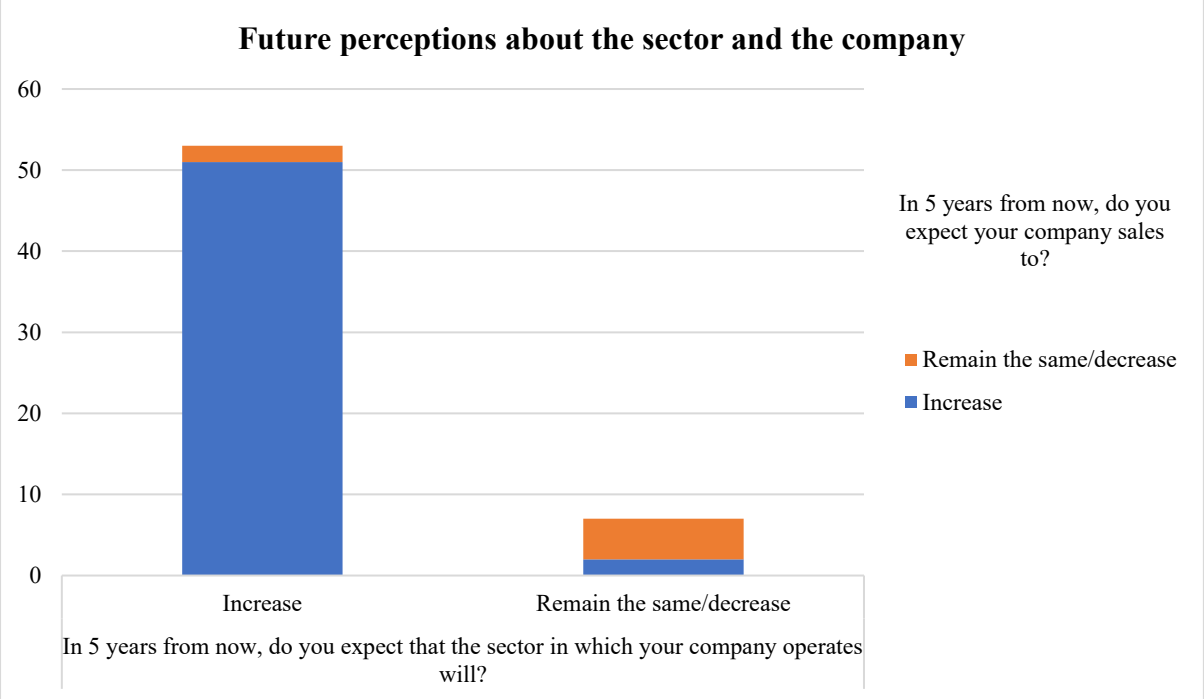
Concerning the investment made in the past three years, companies mainly invested in buildings, upgrading current production lines, and new product lines. Whereas in the coming three years, they plan to invest in equipment/machinery, buildings, new production lines, and as well in know-how. The need of the sector to constantly invest in their capacities might be due to the positive trend of sales. As shown earlier, 63% of the companies expressed that their sales increased within the last year while the average increase of sales was reported to be 23%. Furthermore, given that 34% of the sales portfolio derives from export, there might be the need to invest and increase the quality of existing systems/products in order to match requirements of the foreign markets. It is worth to note that none of the respondents invested in know-how and equipment/machinery in the past and these are solely future long-term plans. Considering high requirements in terms of advanced technology to move towards circular economy, investment in know-how is an imperative. Investments in new technologies would foster innovative advances that are essential to the circular economy model, such as recycling. In other words, new technologies would enable the paradigm shift towards circular economy possible, as they would provide the tools that are able to lower costs, automate tasks, and even create economic value.

*Figure 11. Past and future investments*



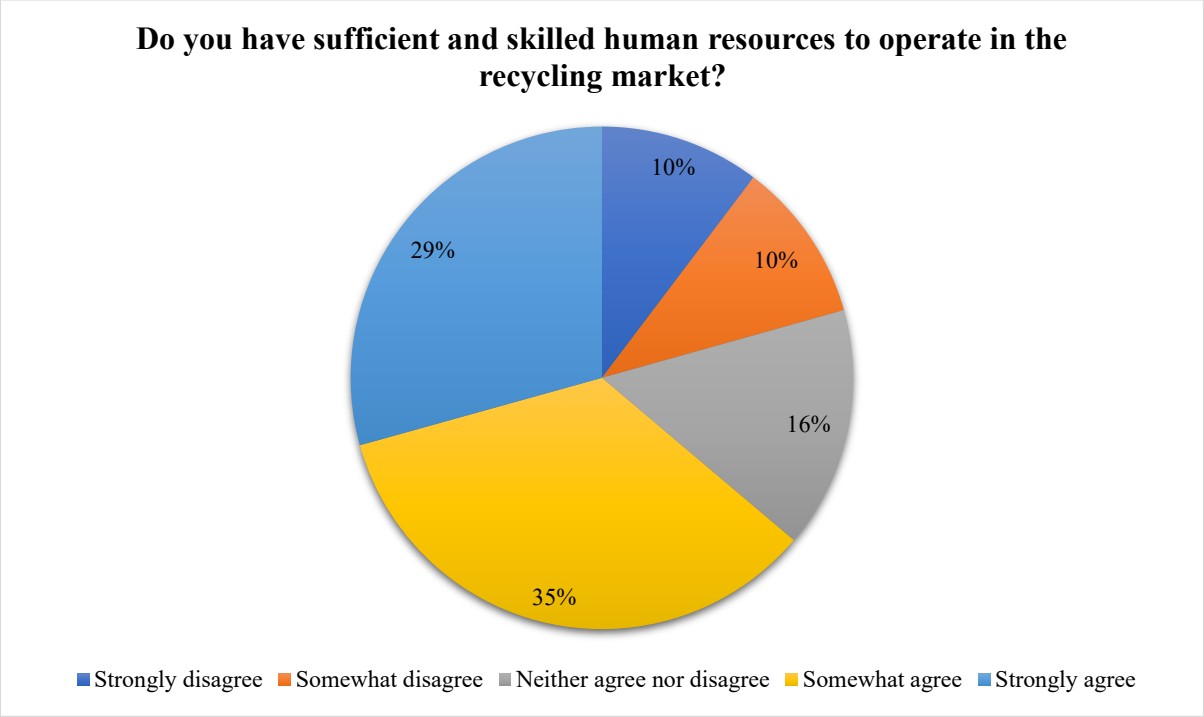

Not surprisingly, the companies who expect an increase of the sector where they operate, they expect their sales to increase as well.

*Figure 12. Future perceptions about the sector and the company*




The vast majority of the sample consider that they have sufficient skilled human resources to operate in the recycling market. About 35% of the firms somewhat agree with this statement and 29% strongly agree.

*Figure 13. Availability of skilled human resources to operate in recycling market*




## 7. Needs and barriers of the recycling firms

First, an obvious barrier is lack of necessary infrastructure for separation at source. GIZ has already initiated several pilot projects in different municipalities, to promote separation of materials by type at the point of discard so they can be recycled. However, apart from the licensed companies who export recyclables, there is no adequate recycling infrastructure for further treatment and processing.

Current approved legislation does not comprehensively address the concept of Circular Economy and, consequently, makes it difficult to implement this process in practice. For this reason, new legislation needs to be drafted to ensure the inclusion of the relevant concept and terminology of the circular economy, providing facilities to persons, entities (for-profit and non-profit) that are contributing or planning to contribute to stimulating the circular economy in the country (Gjoka, 2020).

The main obstacles that slow down the development of the circular economy in Kosovo is the lack of public awareness of the benefits they may derive from the circular economy as well as

the lack of state financial support that stimulates the circular economy in the country (Gjoka, 2020).

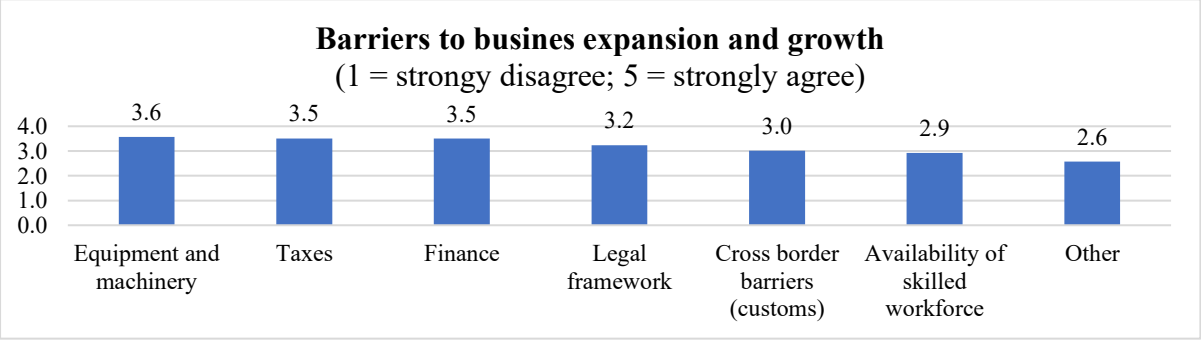
Research suggests that communities in Kosovo are not aware of the core concept of the circular economy model, the path towards its development, and the benefits of its adoption. Even though there is a common will towards protecting the environment, there is a lack of complete understanding of how companies and individual actions contribute towards a progressively healthy existence (Hapçiu, 2019). Not knowing the terminology, hinders understanding of the circular economy as well as the building components that enable its development (Gjoka, 2020).

According to European Environment Agency (2021), the financial viability of sorting and recycling plants is undermined by informal sector activities. Meaning, informal resource collectors play an important role in the collection of recyclable waste throughout Kosovo; however, there are no data on, or official measurements of the waste quantities collected in this way. As informal sector has been extensively operating for a few years now in the waste management, they inflict new challenges for the formal sector. For instance, the informal sector works closely with small businesses who seek profit rather than practicing their activities for the sake of environmental benefits and child labour is very common whose work conditions are unfavourable and include high life risk (INDEP, 2018).

## 7.1 Needs and barriers: survey results

The main barriers that the sector is facing are reported as following: equipment and machinery (3.6), taxes (3.5), finance (3.5), legal framework (3.2), cross border barriers (3.0), and availability of skilled workforce (2.9) *(1= strongly disagree, 5 = strongly agree)*.

*Figure 14. Barriers to business expansion and growth*




Companies characterized with a decrease in sales within the last year, are mostly challenged by barriers such as finance (4.71), equipment and machinery (4.57), and taxes (3.43). In those

companies where sales remined the same, the most prevailing barriers were equipment and machinery (3.5), taxes (3.38), and availability of skilled workforce (3.07). Finally, companies which witnessed an increase in sales, consider taxes (3.61), legal framework (3.58), and equipment and machinery (3.42) as the most hindering factors in expansion and growth.

Next, the barriers that companies face to expansion and growth are analysed with respect to the phase of the value chain they are involved ore their activity.

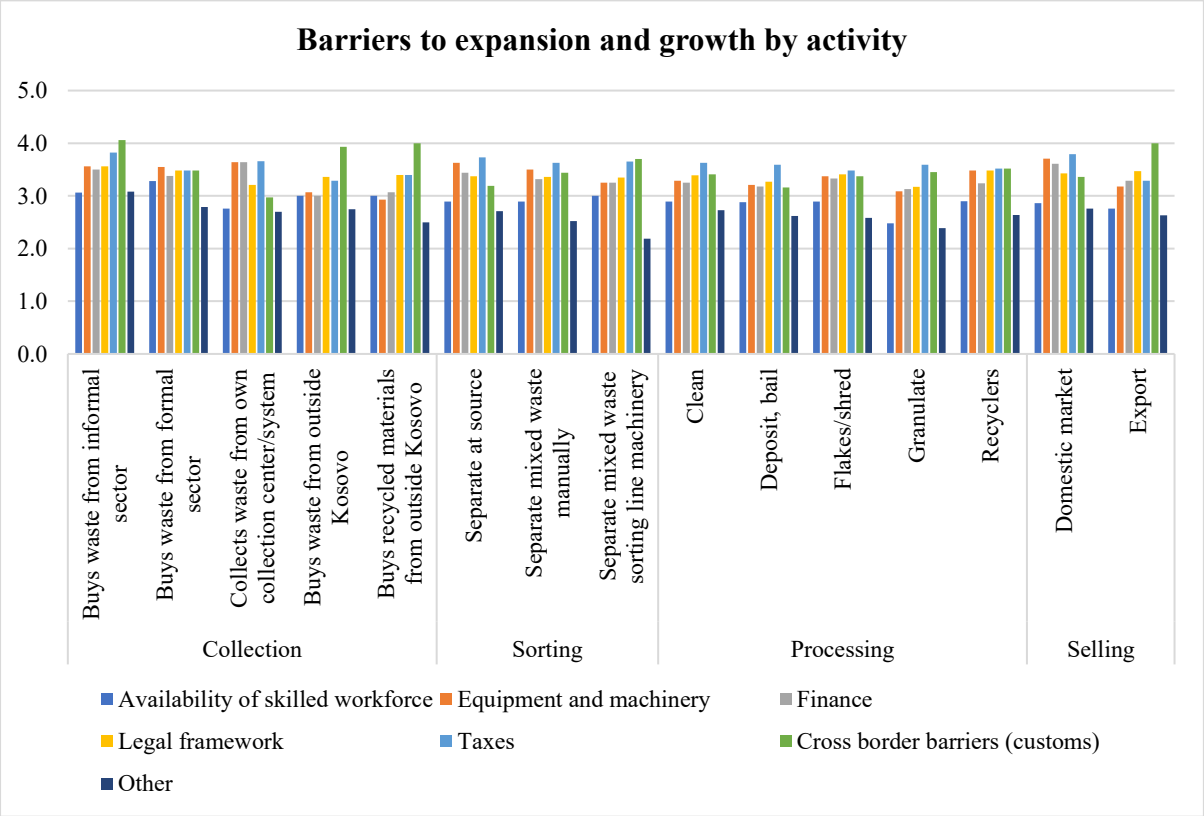
Generally speaking, cross border barriers and taxes are the most common faced barriers by companies. According to the phase of the value chain they are involved, the main barriers for collection and selling companies are cross border barriers (customs) (3.7 in both cases) whereas for sorting and processing companies are taxes (3.5 and 3.6, respectively).

The following section elaborates more in the detail the main barriers faced by companies according to their activity:

- **Buys waste from informal sector:** cross-border barriers (4.1), taxes (3.8), legal framework (3.6) and equipment and machinery (3.6).
- **Buys waste from formal sector:** equipment and machinery (3.6), legal framework (3.5), taxes (3.5) and cross border barriers (3.5).
- **Collects waste from own collection center/system:** taxes (3.7), finance (3.6) and equipment and machinery (3.6).
- **Buys waste from outside Kosovo:** cross border barrier (3.9), legal framework (3.4) and taxes (3.3).
- **Buys recycled materials from outside Kosovo:** cross border barriers (4.0), legal framework (3.4) and taxes (3.4).
- **Separate at source:** taxes (3.7), equipment and machinery (3.6), finance (3.4) and legal framework (3.4).
- **Separate mixed waste manually:** taxes (3.6), equipment and machinery (3.5), legal framework (3.4) and cross border barriers (3.4).
- **Separate mixed waste sorting line machinery:** taxes (3.7), cross border barriers (3.7), and legal framework (3.4)
- **Clean:** taxes (3.6), legal framework (3.4) and cross border barriers (3.4).
- **Deposit, bail:** taxes (3.6) and legal framework (3.3).
- **Flakes/shred:** taxes (3.5), equipment and machinery (3.4), legal framework (3.4), and cross border barriers (3.4).

- **Granulate:** taxes (3.6), cross border barriers (3.5), and legal framework (3.2).
- **Recyclers:** equipment and machinery (3.5), legal framework (3.5), taxes (3.5) and cross border barriers (3.5).
- **Domestic market:** taxes (3.8), equipment and machinery (3.7) and finance (3.6).
- **Export:** cross border barriers (4.0), legal framework (3.5), finance (3.3) and taxes (3.3).

*Figure 15. Barriers to expansion and growth by activity*



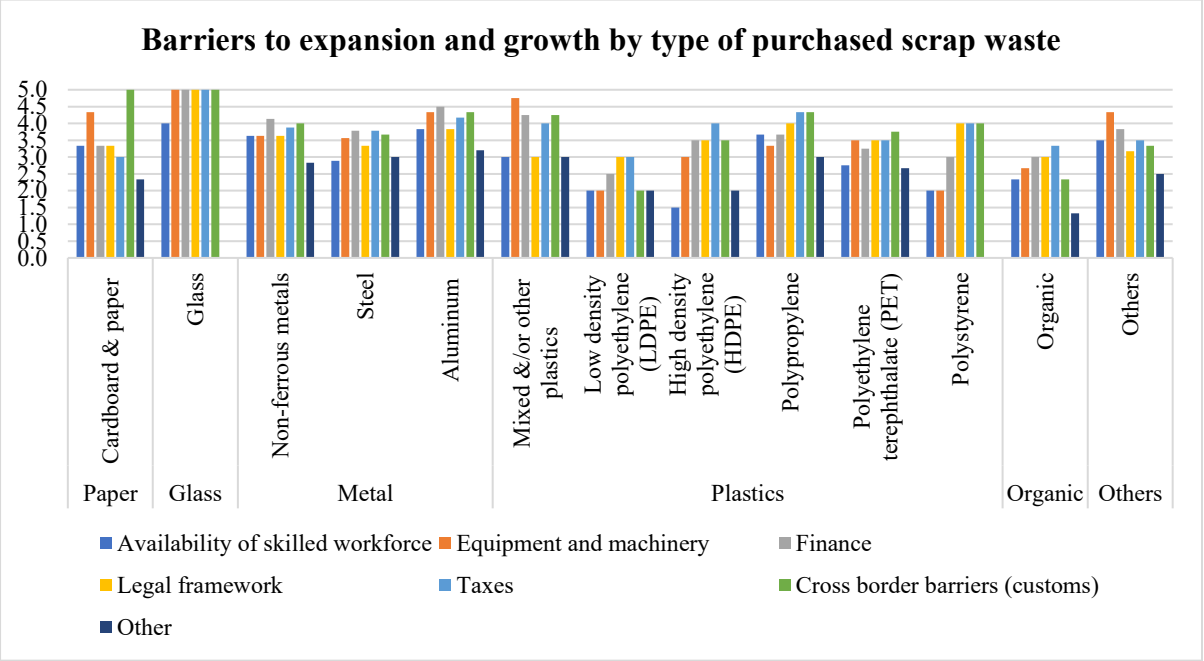

In order to better understand the factors that hinder companies' expansion and growth, the barriers are analysed with respect to the type of scrap waste that companies purchase. The main barriers for companies that purchase paper and glass waste are cross border barriers (5.0 in both cases), for companies purchasing plastic and organic waste are taxes (3.8 in both cases), for companies purchasing metal waste is finance (4.1), and for companies purchasing other scrap waste the main barrier are equipment and machinery (4.3).

Below are summarized the main barriers faced by companies according to the type of scrap waste material they purchase:

- **Cardboard and paper:** cross border barriers (5.0) and equipment and machinery (4.3).

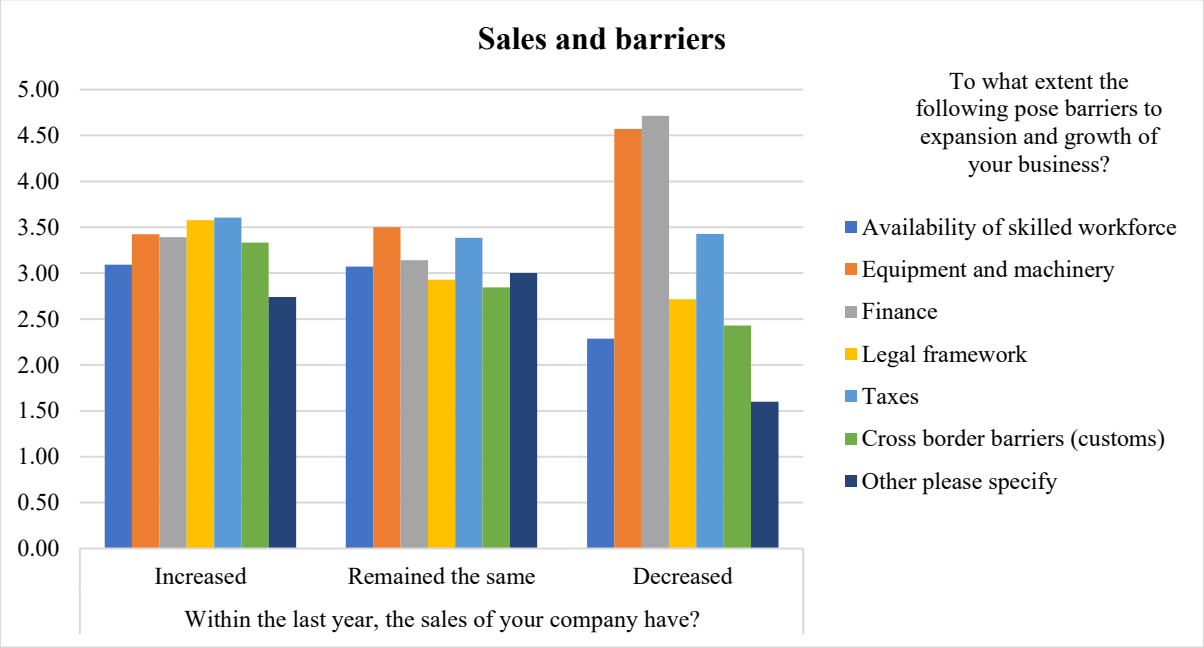
- **Glass:** equipment and machinery (5.0), finance (5.0), legal framework (5.0), taxes (5.0) and cross border barriers (5.0).
- **Non-ferrous metals:** finance (4.1), cross border barriers (4.0) and taxes (3.9).
- **Steel:** finance (3.8), taxes (3.8) and cross border barriers (3.7).
- **Aluminium:** finance (4.5), equipment and machinery (4.3) and cross border barriers (4.3).
- **Mixed and/or other plastics:** equipment and machinery (4.8), finance (4.3) and corss border barriers (4.3).
- **Low density polyethylene (LDPE):** legal framework (3.0), taxes (3.0) and finance (2.5).
- **High density polyethylene (HDPE):** taxes (4.0), finance (3.5), legal framework (3.5) and cross border barriers (3.5).
- **Polypropylene:** taxes (4.3), cross border barriers (4.3) and legal framework (4.0).
- **Polyethylene terephthalate (PET):** cross border barriers (3.8), legal framework (3.5) and taxes (3.5).
- **Polystyrene:** legal framework (4.0), taxes (4.0) and cross border barriers (4.0).
- **Organic:** taxes (3.3), finance (3.0) and legal framework (3.0).
- **Others:** equipment and machinery (4.3) and finance (3.8).

*Figure 16. Barriers to expansion and growth by type of purchased scrap waste*



In companies where sales within the last year either decreased or remained the same, some parallels can be drawn based on the barriers that hindered their expansion and growth. Meaning, in both cases, the two most common barriers are taxes and equipment and machinery. For the former, the findings are complemented with the other findings from the focus group where many of the founders/managers raised the issue of taxes and excise to export. Therefore, the government should take this into consideration and design tax policies which increase the competitiveness and facilitate the export.

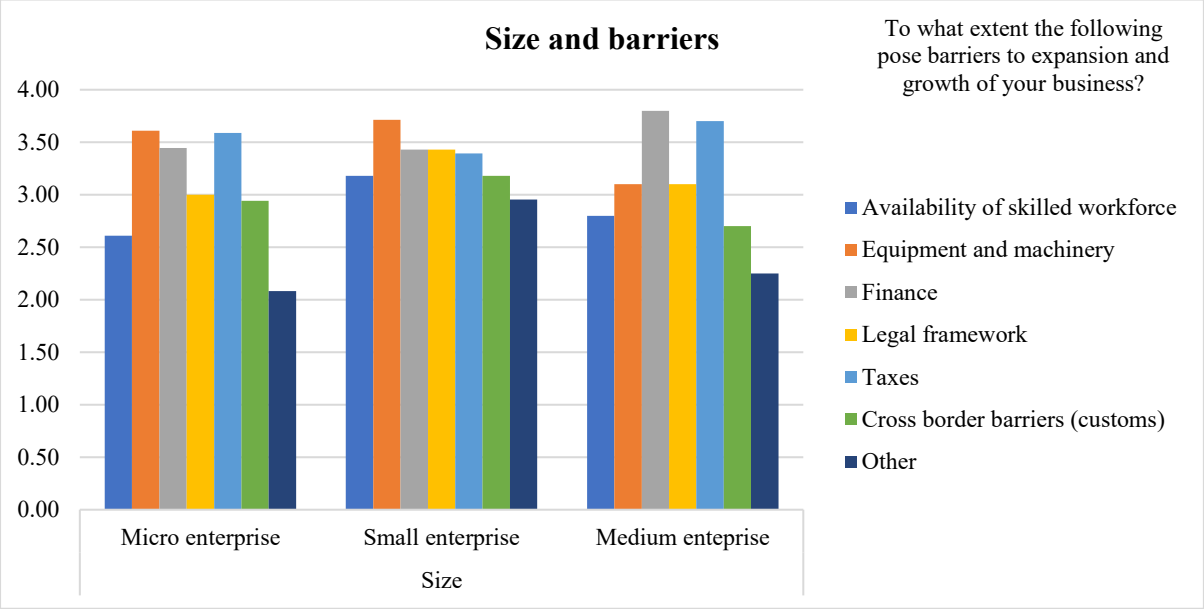
*Figure 17. Sales variation and barriers*




Barriers were further elaborated according to size of the company and age or experience in the field. The figures below represent the results from this perspective. Based on the crosstabulation analysis, a similar pattern can be noted in the total average score of the barriers in both cases. Meaning, equipment and machinery, finance, and taxes are the three barriers which on average score highest based on company size and age.

When analysed more in details, the main barriers that medium-sized companies face are finance (3.80) and taxes (3.70). Whereas micro (3.61) and small firms (3.71) consider equipment and machinery as the main barrier. As expected, medium enterprises are considered to have larger internal capacities and to be more stable, therefore, their main concern is finance to support further development plans. On the other hand, for micro and small firms, equipment and machinery are pivotal, hence a lack of these resources hinders their operations.

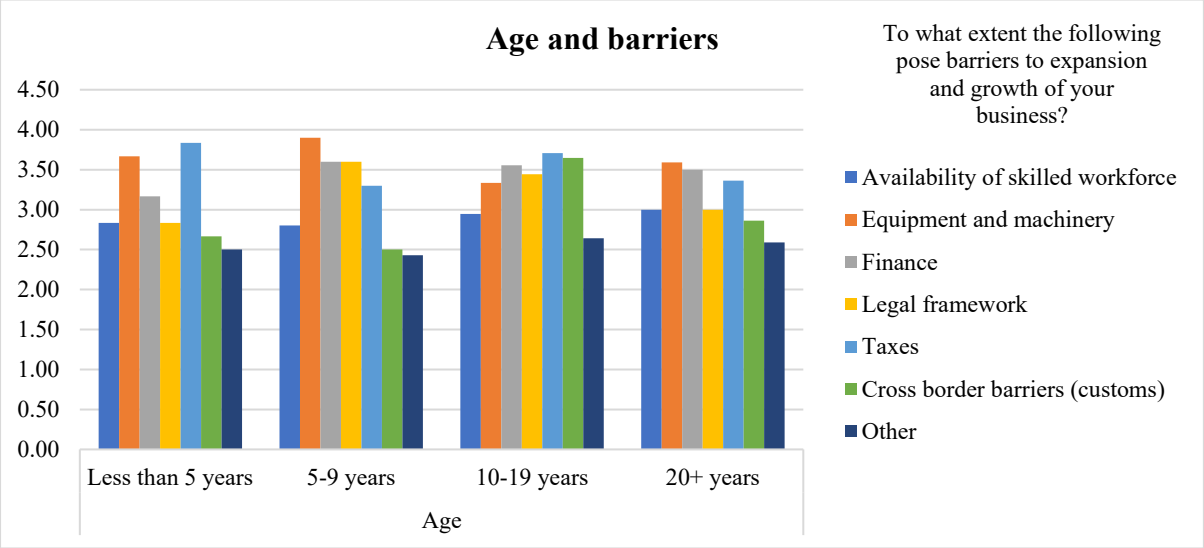
*Figure 18. Barriers according to company size*




Moreover, equipment and machinery appear as the main barriers when controlling for company age as well. Meaning, younger firms or those less than 5 years (3.67) and 5-9 years (3.90) consider equipment and machinery as their main barrier. During their initial business cycle, younger firms struggle on securing proper equipment and machinery, therefore this directly impact their operations. Whereas, for companies aged 10-19 years, taxes (3.71) show the highest score. While for firms operating 20+ years, finance (3.50) and equipment and machinery (3.59) are the main barriers they face.

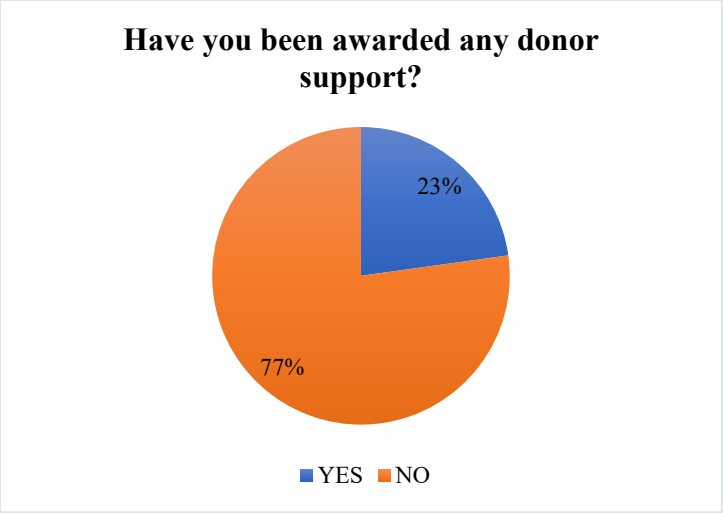
Drawing on previous arguments for size, the same reasoning might be applied in this case as well. Meaning, larger and older companies see financing or high taxes as barrier which hinder their development. Whereas, concerning the equipment and machineries, more experienced firms (20+ years) might possess outdated and amortized equipment, therefore, they are not in appropriate conditions to support full capacity utilization. This in turn might explain why the production capacity is so low among the sample of this study.

*Figure 19. Barriers according to company age*



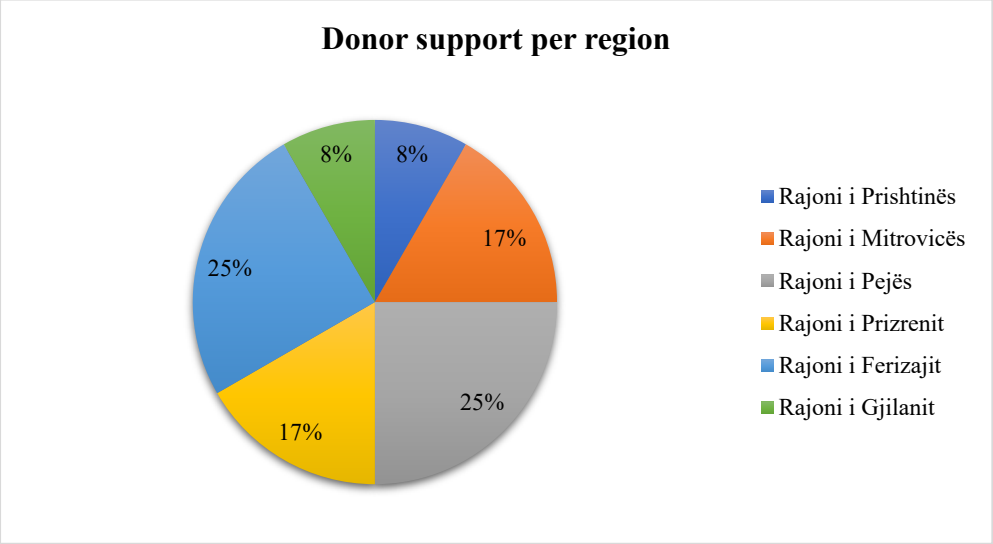

Most of the respondents or 77% have not been awarded any donor support during their activity, indicating the need for more lobbying for donor and government intervention programmes in this sector, especially having considered the potential for growth, both in terms of employment and exporting.

*Figure 20. Donor support*



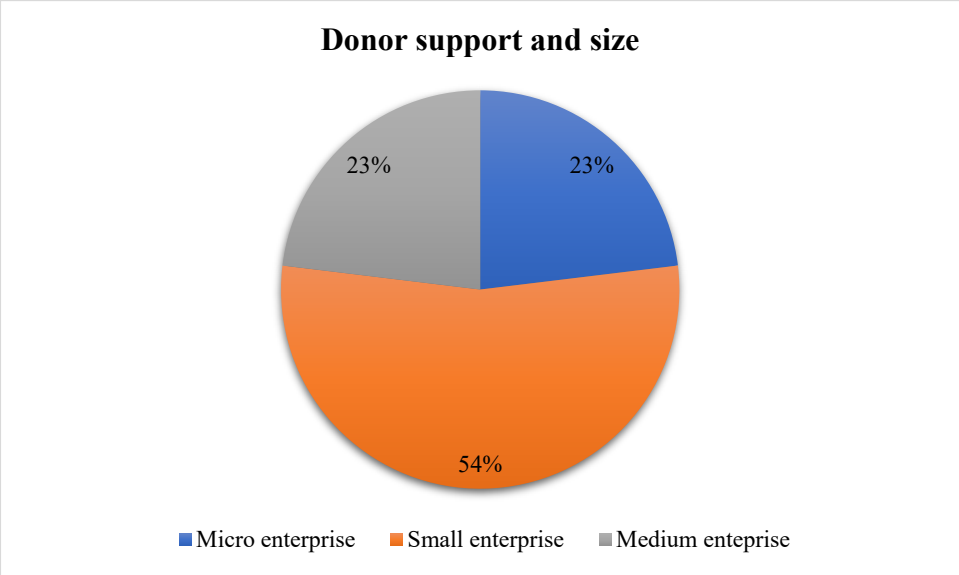

Consequently, the donor support was further elaborated based on region and size of companies. The results shed light that out of the companies who have been awarded donor support, half are in the region of Peja and Ferizaj (25% each), followed by companies from Prizren (17%), Mitrovica (17%), Prishtina (8%), and Gjilan (8%). No company from Gjakova of this sample has received any donor support.

*Figure 21. Donor support per region*




Moreover, when controlling for size, it turns out that the vast majority firms that have been awarded donor support are small (54%), followed by micro (23%) and medium enterprises (23%). This result is intuitive considering many limitations these companies face. Small enterprises have limited internal capacities and are inherently disadvantaged in terms of experience and size or "liability of smallness". This in turn explains why small companies are supported by donor comparably on a larger scale versus medium ones.

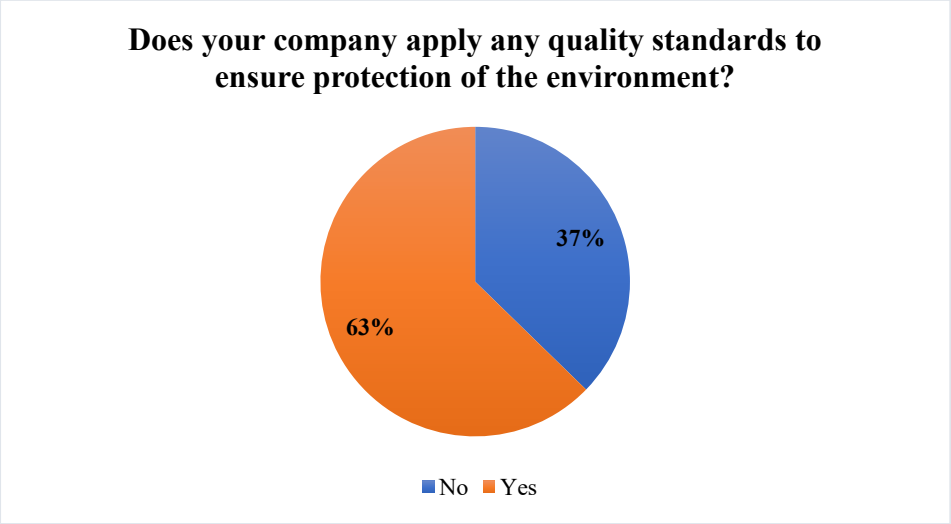
*Figure 22. Donor support and size*




## 8. Circular economy findings

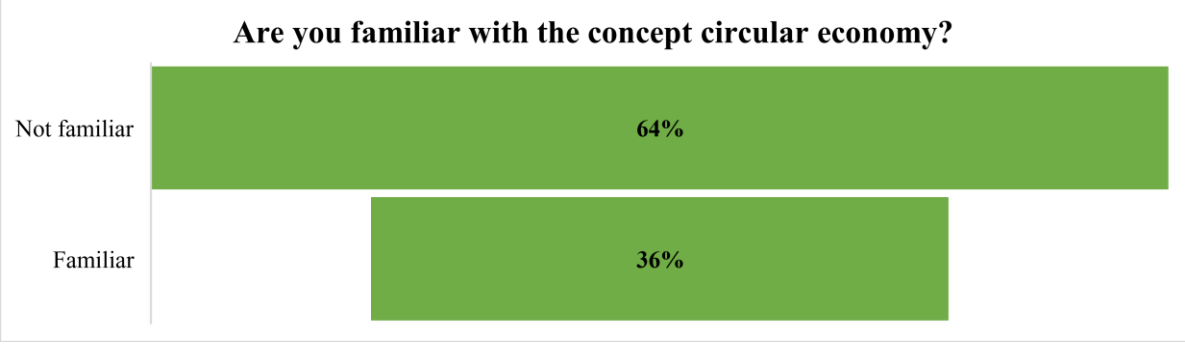
Innovation in the green business model occurs when "a business changes parts of its business model and thus captures both, economic values and reduces negative ecological footprints in the life cycle perspective (Bisgaard & Henriksen, 2012). Despite its importance many businesses are not familiar with circular economy concept or apply environmental protection quality standards. Survey data show that only less than two thirds of the companies apply quality standards to ensure protection of the environment. From those companies that are in possession of quality standards, International Organization for Standardization (ISO) types dominate (70%), followed by Conformité Européenne (CE) certification (20%), and International Sustainability and Carbon Certification (ISCC) (10%).

*Figure 23. Appliance of quality standards to protect the environment*




Most of the sample (64%) are not familiar with the concept of circular economy. Whereas only 38% are familiar with this terminology.

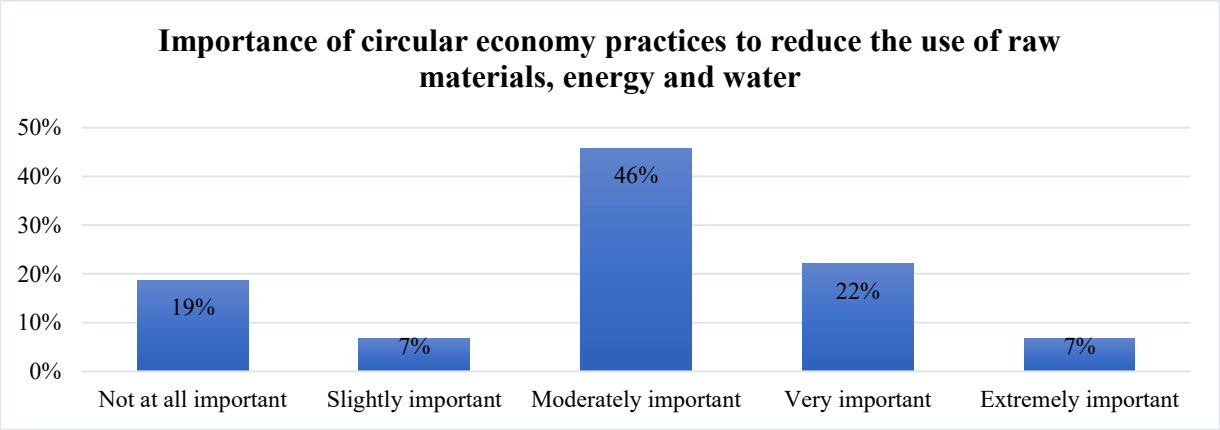
*Figure 24. Extent of familiarity with the concept of circular economy*




Worryingly, almost most respondents (46%) considerate as moderately important the implementation of circular economy practices in reducing the use raw materials, energy, and

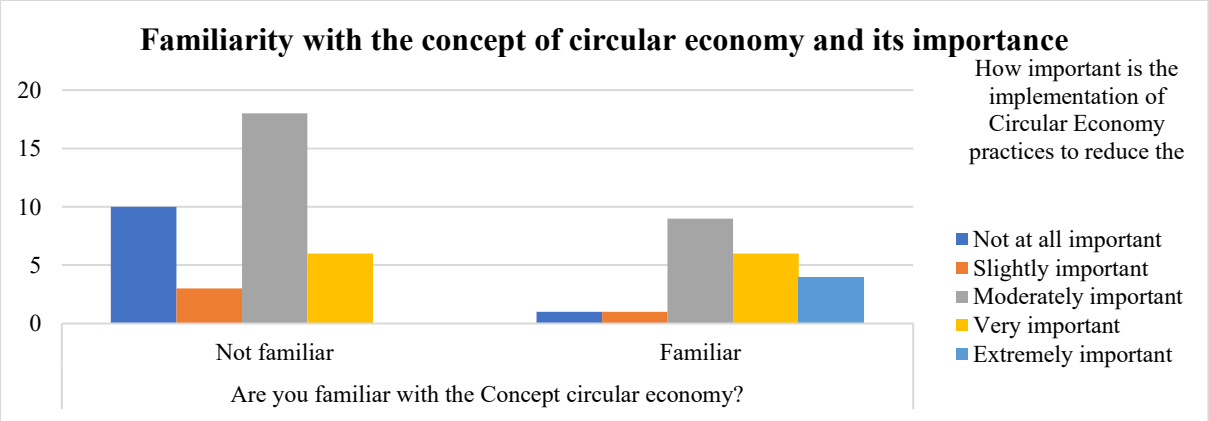
water. The remaining consider it as slightly important (7%) or not at all important (19%). Whereas, only 22% and 7% consider the implementation of crucial economy practices as very important and extremely important, respectively. These findings point out the need for key stakeholders such as government agencies, donors and business association to undertake measures that will contribute in raising awareness on the importance of transitioning towards a circular economy, what that entails and what do companies need to do to readapt their business models in order to ensure sustainable development and increase the circularity of materials..

*Figure 25. Importance of circular economy practices in protecting the environment*




Most of the companies that are not familiar with the circular economy concept, evaluate implementation of circular economy practices in reduction of raw materials, energy, and water as not at all important (10) or moderately important (18). Whereas, from the companies that are familiar with the circular economy concept, 9 consider the role of circular economy implementation as moderately important, 6 very important, and 4 as extremely important.

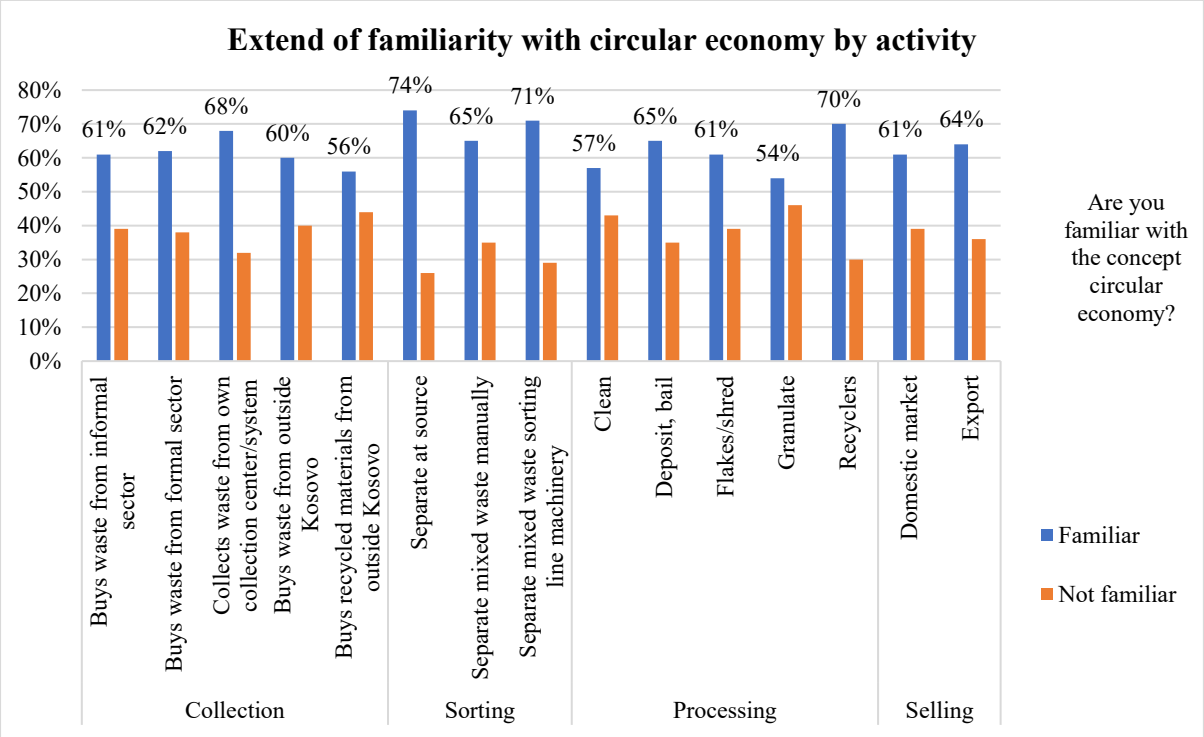
*Figure 26. The extent of familiarity circular economy and its importance*



The results indicate that familiarity with circular economy is associated with how much respondents evaluate the importance of the implementation of circular economy in protecting the environment. Meaning, those who are not familiar with the circular economy concept, evaluate implementation of circular economy practices as not at all important or moderately important. In other words, the lack of awareness about the circular economy itself is translated as a low consideration towards circular economy practices. Therefore, this raises the need for non-formal education and training programs dedicated to the community of waste and recycling businesses in Kosovo. We complement these findings with previous studies that have reported a general lack of awareness with the circular economy terminology. Significant efforts and measures are needed to increase training and learning opportunities for private and public companies in order to understand the circular economy and the benefits deriving from its adoption. Business associations that operate in the sector and target companies of different industries might consider delivering training modules on circular economy to its members.

Finally, the extend of familiarity with the circular economy is analysed in relation to the activity or the phase of the recycling value chain. The results indicate that companies in the phase of sorting, namely those dealing with separate at source (74%) and separate mixed waste sorting line machinery (71%) are the most familiar with the circular economy concept.

*Figure 27. Extend of familiarity with circular economy by activity*

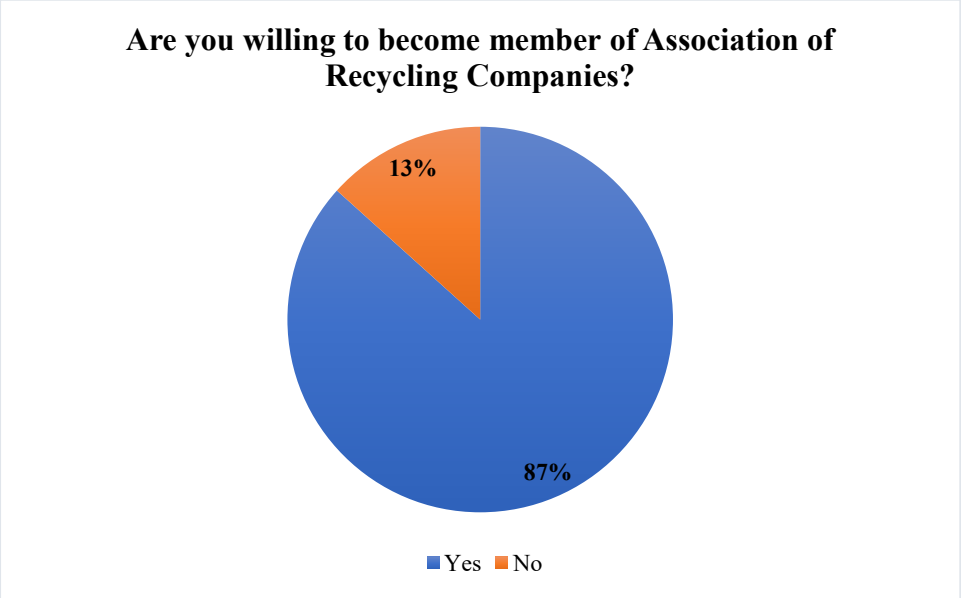


## 9. Recycling association findings results

The results of the research phase and focus group discussions with private sector companies indicated positively the need for companies operating in the recycling value chain to organise and create a platform that will identify barriers, voice the concerns and support the development of the recycling sector. Within the KCC, there is a recycling association established in 2007 however due to different reasons, the association has not been active in the last four years. This aspect was addressed during the survey phase.

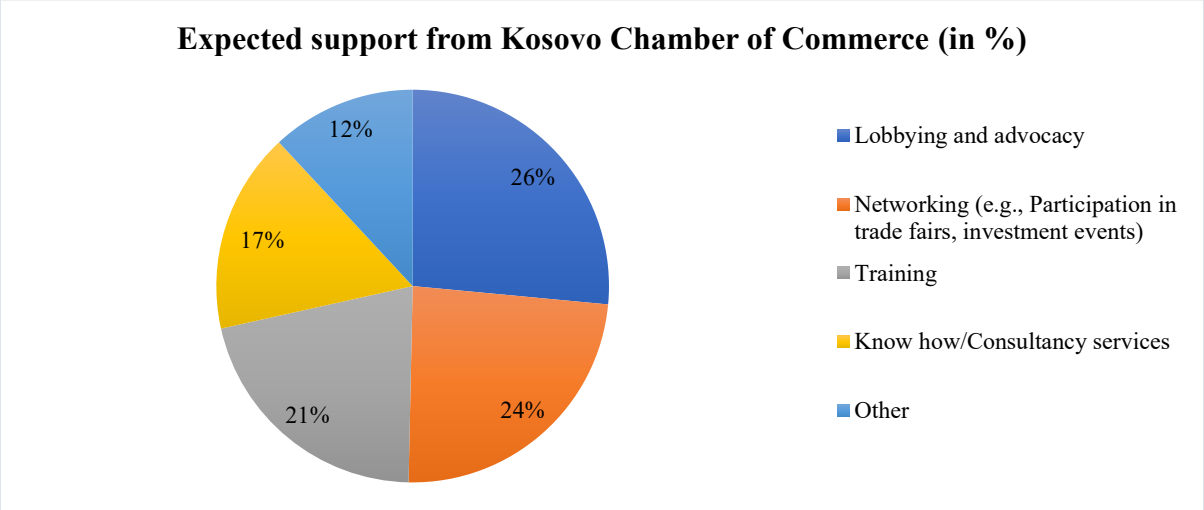
Most of the respondents (87%) express their willingness to o become member of Association of Recycling Companies under the umbrella of KCC.

*Figure 28. Willingness to become a member of Association of Recycling Companies*




According to the results, the firms expect KCC to support them mainly with lobbying and advocacy, followed by networking event, training, know-how/consultancy services, and other.

*Figure 29. Kind of support expected from Kosovo Chamber of Commerce (in percentage)*




As can be inferred, this business community considers that their needs have been long neglected. Therefore, the Association of Recycling Companies which is expected to operate under the umbrella of KCC, should actively listen to their problems, advocate their issues, and promptly address their needs. Additionally, the organization of networking events and training would be useful to increase their capacity of doing business, exchange the best practices, and promote export.

Another important aspect is the support from KCC in terms know-how. This is complemented with another finding concerning investments, which showed that companies didn't invest in know-how in the past three years, however, they are looking forward to invest in this direction in the three coming years. In this context, the KCC might consider providing know-how consulting services to these companies which is directly interconnected with their long-term commitments.

Furthermore, collaboration with other associations should be strengthened to ensure alignment of synergies and support the development of the recycling sector.

## 10. Focus group findings

In this section we report the findings from focus group owners/managers of private firms operating in the recycling value chain. Focus groups are usually conducted with homogenous groups of participants to facilitate discussion and have in depth insights about the phenomenon (Salgado, 2011). To address the large pool of regional distribution of companies in the recycling sector, as well as the types of waste fractions they deal with, we have invited in focus

groups discussions companies that operate with different materials such as plastic, metals, paper etc.

To discuss issues on potential for development and barriers to growth of the recycling sector as well as current awareness and level of information related to the circular economy, KCC together with IESB Institute has organised focus group discussion with a sample of 11 preselected owners' managers. The participants in this focus group were diverse business owners that adequately represent panel of categories of the recycling value chain who operate in or more activities such as collection, processing, sales, and exporting. The IESB team has made efforts to have also wider regional coverage Kosovo in order to ensure a better understanding of the situation on the ground. This is important because not all companies in the recycling value chain conduct all activities from collection to final products, which pointed out the importance of purposive sampling methodology in focus group.

We used *purposive sampling technique* to identify firms that are either part of the whole value chain process or at least ensure the distribution of sufficient firms in each chain of the recycling value chain. In line with this approach, we developed focus group guidelines, identified several issues/topics for discussion to establish the level of development of the sector, barriers and needs of recycling companies, potential for export and employment as well as awareness about the circular economy. Lead expert Besnik Krasniqi was the moderator of the focus group, while other support staff from the IESB Institute were assisting in taking notes and producing main conclusions. The focus group started the discussion of participants in five areas of public utilities and customer satisfaction with related services. Table 6 reports main results from the focus group.

*Table 6. Summary of results from the focus group and policy implications*

| | *Selected main quotes* | *Key findings* | *Implications for government, donor organisations, business associations* |
|---|---|---|---|
| **Current state of the recycling sector and growth potential** | • *"Our company deals with plastic recycling. The final product is the production of plastic-based foil which is used in the agricultural sector, construction, and packaging. Companies that export in more than 18 countries in the World".* | • High potential for growth and exports<br>• Some companies are part of the whole value chain in recycling and the complete recycling cycle from waste collection to final product | • The improvement of ecosystem to support recycling companies to grasp market opportunities leading to job creation and export growth,<br>• Grant schemes specifically for this sector are necessary to boost investment, |

| | | | |
|---|---|---|---|
| | • *" ... our company makes the production of plastic bags / garbage bags (re-granulation)*<br>• *Euro Steel Mushi collects recyclable materials, sorts them, and then exports them*<br>• *"My company collects, sorts and exports metals - copper, aluminium, and zinc, so metals in general, the process continues until the stage of delivery to the smelter"*<br>• *"... we recycle metals (shredded steal) and tires, it is the only one of its kind in Kosovo. The focus is on recycling secondary materials into scrap"*<br>• *"We have growth potential, but we need more investment in machinery and equipment which is costly"* | • Potential for further diversification of the products based on waste recycling.<br>• Companies that do not produce final products for end users are willing to move to the stage of development, but they need capital investment and financial support | employment and export and hence increase the waste collection and recycling |
| **Barriers to development** | • *The government authorities and municipalities should do more to do waste collection and sorting. We mostly relay in informal waste pickers which limits our capacity.*<br>• "*One of the worrying problems for the company is the excise that Albania has with Kosovo and makes it impossible for us to be competitive in the Albanian market* "<br>• *.... The biggest problem that the company has is the supply of raw materials. Now we recycle 900kg / h per hour but soon we are expected to renew the capacities exceeding 1600 kg / h which will result in 8 million kg of recycling per year. Macedonia, Montenegro, and Greece are the countries from which we are supplied with raw materials. Now as a company, they import about 30-40% from abroad" "Plastika*"<br>• "*Although the state does not support us or stimulate us with subsidies, we are competitive in the market*" | • The overall awareness and culture of recycling poses an obstacle to sorting and collection<br>• The lack of waste sorting by public utilities and other responsible authorities<br>• The excise with Albania and other countries poses an obstacle to development<br>• Access to the city landfill is not permitted for security reasons, but should be investigated further how it can be<br>• Lack of government support for the waste management and recycling sector<br>• Basel Convention limits the export of waste and scrap | The promotion of the culture of recycling should start from smaller / rural areas as rural settlements have residential houses and it will be easier to set up a system to detect people who do not share waste to be punished for non-compliance rules.<br>Need to reconsider fiscal incentives for waste management and recycling sector<br>Government should make efforts for Kosovo's membership in Basel Convention<br>Solutions to facilitate exports and avoid these barriers can be via use of bilateral agreements. The Ministry of Foreign Affairs should lobby in this regard<br>KCC and other business associations can facilitate and advocate for change in the sector |

| | | | |
|---|---|---|---|
| | • *"Taxon waste is quite problematic for us, the EU does not have such a practice"*<br>• *Kosovo requires special permits for the transit of goods. For each company with which we have cooperation, special permits must be obtained and the procedures in the ministry are prolonged, this directly affects the cooperation with international companies.*<br>• *The procedures for Export and import permits are lengthy*<br>• *Kosovo is not part of the Basel Convention and makes it impossible to export "scrap" directly to the EU, but the principles of the Basel Convention apply in Kosovo. Companies from Kosovo export "scrap" indirectly from countries in the region.* | | |

One and foremost issue underlined almost all participants' discussion is inadequate or lack of support to companies operating in the recycling value chain. Their concerns range from inadequate fiscal incentives, lack of sorting of waste and lengthy bureaucratic procedures to lack of donor support or grants for this sector. As noted by focus group participants "VAT refund policies are complex and discourage companies from seeking a refund which causes us losses". Based on the findings from the focus group, Tax Administration so far has set a value of 3% in waste collection, this marked a decrease to 1% this year, but this tax should not exist at all according to participants. Focus group participants confirmed that they as buyers of the waste materials hold 1 % tax for all physical persons who supply them with waste. However, based on the existing tax law, limited liability companies pay only 1% while individual businesses pay 3% in gross payment. This is because the Tax Law on Corporation has been enacted while the draft Law on Personal Income Tax with its amendments still has not been approved by Parliament. Both laws set the value of 1% tax for all physical non businessperson, however, the individual businesses need to pay 3% until the Law on Person Income Tax is approved by Parliament.[1]This has put in disadvantaged position the individual businesses compared to corporations in terms of buying waste from individual informal waste collectors

[1] See **Law No. 05/L -028 On Personal Income Tax** and **Administrative Instruction No.01/2016 Implementing The Law No.05/L-028 On Personal Income Tax**

and need to be harmonized. To put it in another way, for the tax authorities it is easier to collect taxes from businesses who do purchases from the physical persons rather than from the physical persons who sell to those businesses.

Companies also must pay € 25 per truck when exporting for radioactivity and some companies are 100% export. These findings from the focus group are supported also from survey findings showing that fiscal incentives matter for the development of this sector. Reconsidering these fiscal incentives for waste collection should government priority.

The cross-border trade of waste or waste-based products poses another barrier to the development of the sector. As noted in the focus group:

> *"Albania does not allow us the transit of raw materials; this causes problems for companies. The state needs to find some form of export subsidy to enable us to be more competitive in the market. Serbia applies export support, and this empowers companies from Serbia to be more competitive in international markets"*

The government should reconsider some tax aspects to encourage separate waste collection and recycling activities. Other nonphysical incentives may include grants for technology upgrade, workforce development schemes, training and vouchers schemes for circular economy and other forms of subsided export.

## 11. Conclusions, implications, and policy recommendation

The study offers several policy implications and recommendations for government, municipalities, donor organisations, KCC, business associations and recycling companies forming the basis for policy set-up to further develop the recycling sector in Kosovo. Drawing on both qualitative (focus group discussion) and quantitative (survey with recycling companies) evidence the study offers the following conclusions and related recommendations to boost the investment and growth of the recycling sector:

- The performance of companies in the recycling value chain is promising and their ambitions to make additional investments and grow in the market are confirmed by both, qualitative and quantitative findings. In the past three years, the sector grew on average almost 10 percent and it plans to double in the following three years. However,

the recycling sector faces several barriers related to taxes, institutional set-up, financing, and access to skilled labour.

- The barriers that companies face to expansion and growth are analysed with respect to the **phase of the value chain** they are involved or their activity. Generally speaking, cross-border barriers and taxes are the most common faced barriers by companies. According to the phase of the value chain they are involved, the main barriers for collection and selling companies are cross border barriers (customs) whereas for sorting and processing companies are taxes.

- Barriers are analysed with respect to the **type of scrap waste** that companies purchase. The main barriers for companies that purchase paper and glass waste are cross border barriers, for companies purchasing plastic and organic waste are taxes, for companies purchasing metal waste is finance, and for companies purchasing other scrap waste the main barrier are equipment and machinery.

- The research findings suggest that in companies where **sales** within the last year either decreased or remained the same, the two most common barriers are taxes and equipment and machinery. Findings from the focus group also emphasize that taxes and excise is a barrier to export.

- In conducting more thorough analysis of barriers by **size** and **age** of the company, in both cases, the total of the average barriers shows a similar pattern: Equipment and machinery, finance, and taxes show the highest scores. A crucial aspect is the need of the sector to invest in equipment/machinery. Based on the findings, firms of different size and experience in the field, express the need and intention to invest in equipment and machinery in the near future.

    - **Size:** Main barrier for medium-sized companies are lack of financing and high taxes as it hinders their development. Whereas, micro and small firms consider equipment and machinery as the main barrier as they are heavily dependent in these resources.

    - **Age:** Younger firms or those less than 5 years and 5-9 years consider equipment and machinery as their main barrier. During their initial business cycle, younger firms struggle on securing proper equipment and machinery, therefore this

directly impacts their operations. Whereas, for companies aged 10-19 years, taxes show the highest score, while for firms operating 20+ years, financial support and equipment and machinery are the main barriers they face. Drawing on previous arguments for size, the same reasoning might be applied in this case as well. Meaning, larger and older companies see financing or high taxes as barrier which hinder their development. Whereas, concerning the equipment and machineries, more experienced firms (20+ years) might possess outdated and amortized equipment, therefore, they are not in appropriate conditions to support full capacity utilisation. This in turn might explain why the production capacity is so low among the sample of this study.

- The key barriers identified by recycling companies are fiscal issues and other bureaucratic procedures.
    - First, the waste collection management system in Kosovo by public authorities is not well functioning, infrastructure for separate waste collection is lacking, and the sorting of waste at landfill is restricted. Hence, companies rely mostly on informal waste pickers which limits the capacity of waste collection and hence has negative consequences for whole value chain process, also limiting growth and export potential. The overall infrastructure, awareness and culture of recycling poses an additional obstacle to sorting and collection. Institutions should invest in providing the necessary infrastructure for separation of waste at source, proper collection and treatment, increase of awareness and enforcement of legislation.
    - Excise tax with Albania and other countries poses an obstacle to development and export of the sector. Albania does not allow the transit of raw materials from Kosovo and this causes problems for companies. The Kosovo government including the active role of the KCC and other associations need to find some form of export subsidy to enable companies to be more competitive in the market.
    - VAT on waste collection is an obstacle for growth, and in addition this is not in line with EU practices and should be reconsidered by Kosovo government. Also, the study suggest that VAT refund policies are complex and discourage

companies from seeking a refund which causes companies losses and discourages investments in the sector.

- The decrease of 3% to 1% of the tax on in waste collection turnover has influenced positively the collection of recyclables but it is urgent that Kosovo parliament approves the Law on Personal Income Tax to harmonize with Corporate Tax Law to enable individual businesses pay 1% instead of 3% on gross payments from informal waste collectors. In addition, the government should consider other physical and non-fiscal incentives (e.g., grants for technology upgrade for waste recycling companies) to promote waste collection. Showing those fiscal incentives matter for the development of this sector. Reconsidering these fiscal incentives for collection of recyclables should be a governmental priority.

- The access to skilled workforce especially for large scale companies that need to operate machinery and equipment acts as a barrier. An immediate recommendation for the Ministry of Education, Science, Technology and Innovation is lobbing and making KCC as a partner in development of country education strategy which in turn would tackle the gap in the labour market. Whereas in the long-term, a particular attention should pe paid to develop specific programmes for needs of the waste management and recycling sector in the form of support programmes such as training and workforce development.

- The government and other business associations such as KCC should take a leading role in lobbying to solve cross-border issues and consider introducing export incentives for this sector. In addition, this raises an important issue for recycling companies suggesting the need for revitalising the association of recycling companies under the KCC. This association should have and active role in lobbying and advocacy for friendly policies in the recycling sector. Collaboration with other associations operating in the sector should be strengthened.

- Because Kosovo is not part of the Basel Convention[2], it is impossible for recycling companies to export scrap directly to the EU, although the principles of the Basel Convention apply in Kosovo. Moreover, the survey results revealed that there is a lack of specialisation among firms which can be partly attributed to the small domestic market size. Therefore, exporting can be seen as an attractive opportunity to enter in larger markets which allows for specialization. In consequence, companies from Kosovo export scrap indirectly from countries in the region, making Kosovo's companies unrepetitive due to higher collection and selling cost. Kosovo's companies must use transport service contractors from region, as vehicles registered in Kosovo cannot export to the EU. For this reason, the Government of Kosovo should make substantial efforts for Kosovo's membership in Basel Convention to boost the waste management and recycling sector.

- Additionally, the use of bilateral agreements of Kosovo with other countries can be a solution to facilitate exports and particularly avoid administrative barriers. The Ministry of Foreign Affairs should lobby in this regard, KCC, and other business association can facilitate and advocate for change in the sector.

- On financing of the companies, the findings suggest that there is a lack of government support for the development of the recycling value chain and there is a need to design the financing schemes for supporting the capital investment in this sector. The capital investments required for modern technology of machinery and equipment are very high. The Government and donors should work together to introduce a separate grant or financing scheme to support companies operating in the recycling value chain in Kosovo. Alternatively, in existing other grant schemes for private sector they should introduce a sub-component that supports waste management and recycling sector.

- Private companies expect support from the KCC in terms of lobbying and advocacy, networking events, training, and know-how/consultancy services. Therefore, the revitalisation of the Association of Recycling Companies would support them in identifying problems, advocate on their behalf to promptly address their needs.

[2] The Basel Convention On The Control Of Transboundary Movements Of Hazardous Wastes And Their Disposal Https://Www.Basel.Int/Portals/4/Basel%20convention/Docs/Text/Baselconventiontext-E.Pdf

Additionally, the organization of networking events and training would be useful to increase their capacity of doing business, exchange on know-how and best practices, and promote export.

- Another important aspect is the support from KCC in terms know-how. The findings show that companies are looking forward to investing in this direction in the three coming years. In this context, KCC might consider providing know-how consulting services to these companies which is directly interconnected with their long-term commitments. A similar approach can also be deployed by other associations that support the development of the sector and collaborate directly with companies.

- The results indicate that those who are not familiar with the circular economy concept, evaluate implementation of circular economy practices as not at all important or moderately important. Indeed, two thirds of business are not familiar of the circular economy concept. In other words, the lack of awareness about the circular economy can be an indication as low consideration towards the environment and sustainable development. Therefore, this raises the need for non-formal education and training programs dedicated to the community of waste and recycling businesses in Kosovo. KCC might consider delivering training modules on circular economy to its future members. To address this issue the government, donors, associations and other stakeholders should work together on the following:

    - Establish a Circular Economy Hub/Cluster within KCC to support member companies in adapting and implementing circular economy business models in their production cycle and day to day operations, through training programmes, technical support, networking events etc. This support should be extended to all companies operating in different industries.

    - Propose a green entrepreneurship and circular economy training programmes and workshops for businesses to raise awareness on the benefits of using green technologies to reduce costs and ensure sustainability long term and circular economy in general. Training workshops and information sessions with local groups and private businesses, that build on EU practices can be one of the ways to increase awareness on this matter.

- Develop educational and outreach campaigns to educate the public on the benefits of waste separation, recycling practices, local recycling facilities and how they contribute to the system. Similarly, advocate with municipalities and other institutions to provide the primary infrastructure for waste separation in order to increase the quality and quantity of recyclables.
- Collaborate with local schools to develop educational materials that incentivise students to pursue green careers which could potentially contribute to building local technical expertise for the future of the recycling.
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# 13. Annexes

## 13.1 Annex 1: Recycling survey

Start of Block: ABOUT SURVEYOR AND COMPANY

Q1 Name of the company

- Name of the company (4) _____
- Business representative (5) _____
- Email (6) _____

Q2 Name of the surveyor
Choose your name (4)

▼

End of Block: ABOUT SURVEYOR AND COMPANY

Start of Block: INFORMATION ABOUT THE RESPONDENT

Q3 What is your position in the organization?

- 1. Entrepreneur/owner (1)
- 2. Manager (CEO) (2)
- 3. Human resource manager (3)
- 4. Other (specify) (4) _____

Q4 What is your educational level?

- 1. Less than primary (1)
- 2. Primary school (2)
- 3. Secondary general (3)
- 4. Secondary vocational (VET) (4)
- 5. University diploma or higher (5)

End of Block: INFORMATION ABOUT THE RESPONDENT

Start of Block: ABOUT THE COMPANY

Q5 In what year was your company established? (e.g. 1995).
Year (1)

▼

Q6 In which municipality is your company based?
Municipality (1)

▼

Q7 How many companies operate in the sector to the best of your knowledge? (Write number)

_____

Q8 Total number of employees (now) – including number of part-time/ full-time / permanent/ temporary workers?

| | 2019 | 2022 | Expected number of employees in 3 years from now (in total) |
|---|---|---|---|
| | No of employees (1) | No of employees (1) | No of employees (1) |
| Full time employees (1) | | | |
| Part time employees/seasonal (2) | | | |

Q9 Within the last year, the sales of your company have?

- Increased (1)
- Remained the same (2)
- Decreased (3)

Q10 If your company sales have increased or decrease, what is the change in percentage? Write number

_____

Q11 Did you make investment in 2021?

- Yes (1)
- No (2)

*Display This Question:*
*If Did you make investment in 2021? = Yes*

Q12 If yes, what is approximate value of total investment in Euros?
_____

*Display This Question:*
*If Did you make investment in 2021? = Yes*

Q13 In the past 3 years in which of the following areas has your company invested in? (more than one option can apply)

- ☐ Buildings (5)
- ☐ Upgrade current production line (6)
- ☐ New production line (7)
- ☐ Other (specify?) (8) _____

Q14 In the 3 coming years in which of the following areas you are planning to invest?

- ☐ No investment (7)
- ☐ Buildings (8)
- ☐ Know-how (1)
- ☐ Equipment/machinery (4)
- ☐ New production line (5)
- ☐ Other (please specify?) (6) _____

Q15 In 5 years from now, do you expect your company sales to?

- ○ Increase (1)
- ○ Remain the same (2)
- ○ Decrease (3)

Q16 In 5 years from now, do you expect that the sector in which your company operates will?

- ○ Increase (1)
- ○ Remain the same (2)
- ○ Decrease (3)

Q17 In which market did your enterprise sell the largest share of goods and/or services during the past two years?

- ☐ Local or national (1)
- ☐ Neighboring countries (2)
- ☐ EU countries (3)
- ☐ Other countries (Write the country pleases?) (4) _____

Q18 If your company exports, what is the percentage of total sales from exports? (Only for exporting companies)?

- ○ Please write the percentage (1) _____

Q19 As of 30 December 2021, in how many locations has your company been operating?

- ○ 1 location (1)
- ○ 2 locations (2)
- ○ 3-5 locations (3)
- ○ More than 5 locations (4)

End of Block: ABOUT THE COMPANY

Start of Block: SECTION 3: ABOUT RECYCLING ACTIVITIES

Q20 Does your enterprise do any of following activities (please select all that apply?)

| | Yes (1) | No (2) |
|---|---|---|
| Buys waste from informal sector (1) | ○ | ○ |
| Buys waste from formal sector (2) | ○ | ○ |
| Collects waste from own collection center/system (3) | ○ | ○ |
| Buys waste from outside Kosovo (4) | ○ | ○ |
| Buys recycled materials from outside Kosovo (5) | ○ | ○ |
| Separate at source (6) | ○ | ○ |
| Separate mixed waste manually (7) | ○ | ○ |
| Separate mixed waste sorting line machinery (8) | ○ | ○ |
| Clean (9) | ○ | ○ |
| Deposit, bail (10) | ○ | ○ |
| Flakes/shred (11) | ○ | ○ |
| Granulate (12) | ○ | ○ |
| Other specify (13) | ○ | ○ |
| Recyclers (14) | ○ | ○ |
| Domestic market (15) | ○ | ○ |
| Export (16) | ○ | ○ |

Q21 How do you source your waste?

| | Which sources of waste you use? | Percentage of waste for each source? |
|---|---|---|
| | Tick one that you use (1) | % (1) |

| | | |
|---|---|---|
| From waste pickers (1) | ☐ | |
| From municipal collectors (2) | ☐ | |
| From industrial generators directly (3) | ☐ | |
| From other scrap dealers (4) | ☐ | |
| Own collection infrastructure (5) | ☐ | |
| Import (6) | ☐ | |
| Other (specify?) (7) | ☐ | |

Q22 Estimated percentage share of waste sources in three years from now?
From waste pickers : _____ (1)
From municipal collectors : _____ (2)
From industrial generators directly : _____ (3)
From other scrap dealers : _____ (4)
Own collection infrastructure : _____ (5)
Import : _____ (6)
Other (specify?) : _____ (7)
Total : _____

Q23 What kind of scrap waste do you purchase? WRITE ALL THAT APPLY IN TONS?

| | Quantity in tons in 2019 (1) | Quantity in tons in 2021 (2) | Plans to purchase waste in 2022 (3) |
|---|---|---|---|
| Organic (1) | | | |
| Polyethylene terephthalate [PIC 1] (2) | | | |
| High density polyethylene [PIC 2] (3) | | | |
| Low density polyethylene [PIC 4] (4) | | | |
| Polypropylene [PIC 5] (5) | | | |
| Polystyrene [PIC 6] (6) | | | |
| Mixed &/or Other plastics [PIC 7] (7) | | | |
| Steel (8) | | | |
| Non-ferrous metals (9) | | | |
| Aluminium (10) | | | |

| | | | |
|---|---|---|---|
| Cardboard & paper (11) | | | |
| Glass (12) | | | |
| Electronic Waste (13) | | | |
| Masonry (14) | | | |
| Other (please specify?) (15) | | | |

Q24 Who do you sell the recyclables (your final products based on recycling ) to? Please provide percentage share for each of your customer?
Wholesale markets : _____ (1)
Other large single material type of dealers or intermediary : _____ (2)
Directly to manufacturers in Kosovo : _____ (3)
Directly to manufacturers outside to Kosovo : _____ (4)
Other (please specify?) : _____ (5)
Total : _____

Q25 What is your production capacity in terms and tones per month?
_____

Q26 Percentage of capacity utilization from 0 to 100%?

| | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| % of capacities used () | | | | | | | | | | | |

End of Block: SECTION 3: ABOUT RECYCLING ACTIVITIES

Start of Block: Barriers to expansion and growth

Q27 Do you have a business plans or strategy for expansion?

- YES (15)
- NO (16)

Q28 Do you have sufficient and skilled human resources to operate in the recycling market?

- Strongly disagree (13)
- Somewhat disagree (14)
- Neither agree nor disagree (15)
- Somewhat agree (16)
- Strongly agree (17)

Q29 To what extent the following pose barriers to expansion and growth of your business?

| | Strongly disagree (1) | Somewhat disagree (2) | Neither agree nor disagree (3) | Somewhat agree (4) | Strongly agree (5) |
|---|---|---|---|---|---|
| Availability of skilled workforce (1) | ○ | ○ | ○ | ○ | ○ |
| Equipment and machinery (2) | ○ | ○ | ○ | ○ | ○ |
| Finance (3) | ○ | ○ | ○ | ○ | ○ |
| Legal framework (4) | ○ | ○ | ○ | ○ | ○ |
| Taxes (5) | ○ | ○ | ○ | ○ | ○ |
| Cross border barriers (customs) (6) | ○ | ○ | ○ | ○ | ○ |
| Other please specify? (7) | ○ | ○ | ○ | ○ | ○ |

Q30 Have they been awarded any donor support?

- YES (1)
- NO (2)

End of Block: Barriers to expansion and growth

Start of Block: MEMBERSHIP IN BUSINESS ASSOCIATION

Q31 Are you a member of any business association?

- ○ YES (1)
- ○ NO (2)

Q32 Are you willing to become member of Association of Recycling Companies under the umbrella of Kosovo Chamber of Commerce?

- ○ YES (8)
- ○ NO (9)

Q34 What kind of support do you expect from association of recycling companies within the Chamber of commerce? (You can select more than one option?)

| | Tick all that apply (1) |
|---|---|
| Lobbying and advocacy (1) | ☐ |
| Training (2) | ☐ |
| Networking (e.g., Participation in trade fairs, investment events) (3) | ☐ |
| Know how/Consultancy services (4) | ☐ |
| Other, please specify? (5) | ☐ |

End of Block: MEMBERSHIP IN BUSINESS ASSOCIATION

Start of Block: ENVIRONMENT PROTECTION AND SOCIAL RESPONSIBILITY

Q35 Does your company apply any quality standards to ensure protection of the environment

- ○ No (1)
- ○ Yes (2)

*Display This Question:*
*If Does your company apply any quality standards to ensure protection of the environment = Yes*

Q36 If yes, which quality standards (write the name please?)

_____

Q37 Are you familiar with the Concept circular economy?

- ○ Not familiar (1)
- ○ Familiar (2)
- ○ Very familiar (3)

Q38 How important is the implementation of Circular Economy practices to reduce the use of raw materials, energy and water?

- ○ Not at all important (1)
- ○ Slightly important (2)
- ○ Moderately important (3)
- ○ Very important (4)
- ○ Extremely important (5)

End of Block: ENVIRONMENT PROTECTION AND SOCIAL RESPONSIBILITY