

CHALLENGES TO CLIMATE CHANGE FOR CIRCULAR ECONOMY

Innovative/technological potentials in
Kosovo, the region and the EU



Challenges to climate change for circular economy:

Innovative/technological potentials
in Kosovo, the region and the EU

2024

ACKNOWLEDGEMENTS

This report was written by Prof. Asoc. Dr. Visar Rrustemi

Special thanks to all the interviewees who agreed to share information and answer questions, contributing significantly to the research.

DONOR

This research was developed in the framework of the project “TokeQark” with the support of the “SMART Balkans” - Civil Society for Common Values in the Western Balkans” regional project implemented by Centar za promencije čevolni društva (CPCD) Center for Research and Policy Making (CRPM) and Institute for Democracy and Mediation (IDM) and financially supported by the Norwegian Ministry of Foreign Affairs (NMFA). The content of this research is the sole responsibility of the The Balkan Forum and does not necessarily reflect the views of the Norwegian Ministry of Foreign Affairs (NMFA).

The Balkan Forum, November 2023. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise, without full attribution. The Balkan Forum welcomes and encourages the utilisation and dissemination of the material included in this publication.



CONTENTS

Key definition.....	5
Executive summary.....	5
Literature review.....	6
Kosova	9
Methodology	12
Ferizaj.....	13
Mitrovica.....	14
Fushë Kosova	16
Graçanica.....	17
Common challenges and opportunities	18
Key findings from the four municipalities	18
Conclusions, implications, and policy recommendations	23
Recommendations to the government	23
Recommendations to the municipalities.....	24
Recommendations to the donor agencies:	24
Recommendations to investors/businesses.....	25

KEY DEFINITION

This is a research focused on existing solutions and innovative/technological potentials in Kosovo, the region and the EU for the challenges related to climate change, the environment and the circular economy. It informs about the state, potentials, and the challenges of waste management for circular economy focused on Kosovo but with greater focus in four municipalities [Ferizaj, Mitrovice, Fushë Kosovë and Graçanica].

EXECUTIVE SUMMARY

Circular economy (CE) has emerged as an alternative economic system out of consequences from intensive use of resources, production of waste, and environmental pollution causing the climate change. Although as a concept in parts can be found as a reference in research of the past century, it is in the 21st century that has gained momentum. By simple definition, the core objective of the CE is to keep the material in use in order to minimize waste and regenerate or preserve the environment. The CE aims at providing not only a cleaner and healthier but also a competitive economy that would benefit businesses, consumers, citizens, and the environment. As of 2023, a report by European Investment Bank estimated the share of global circular economic activity at around 10%.¹ The EU has been and still is above this global average where, recycled material in 2021 accounted for 11.7% which was an increase of less than 1 percentage point since 2010.²

The Western Balkans, where Kosovo is part of, is identified with potentials for investing in recycling of waste and good opportunities for a value chain. The waste management sector and circular economy in Kosovo, like in the rest of European countries is gaining a momentum, though it lags behind in terms of capacities, technology, and equipment. To understand this value chain in Kosovo, this report offers a profile on respective sector, challenges, and opportunities it offers, with a focus on four municipalities: Ferizaj, Fushë Kosovë, Mitrovica, and Graçanica. The research relies on secondary sources and primary data which are collected through a detailed questionnaire with the respective municipal representatives and stakeholders.

This study finds that the sector is promising as already noticed by others, though it is still at an initial stage and behind most European countries. Kosovo's very large trade deficit has continued for ages. In terms of small volume of export, the share of metal base and scrap has grown and tops the structure of exported goods by 23.6% as of September 2023. This undoubtedly presents an opportunity for investment, especially where there

1 European Investment Bank (2023), Circular Economy Overview 2023, Luxembourg: European Investment Bank, retrieved from https://www.eib.org/attachments/lucalli/20230157_circular_economy_overview_2023_en.pdf, on November 22, 2023.

2 European Environment Agency (2023), Circular material use rate in Europe, retrieved from <https://www.eea.europa.eu/en/analysis/indicators/circular-material-use-rate-in-europe>, on November 22, 2023.

is more waste than the rate of recycling can absorb but one of the main barriers identified is the needed technology (machines and related equipment) which does cost money.

According to official figures in 2022, Ferizaj has the smallest (0.56) and Mitrovica the largest (0.93) kg waste/day/per capita in Kosovo. These two along with other two or four selected municipalities and stakeholders included in our survey, do have some knowledge about the challenges that the climate changes are bringing and the growing importance of circular economy.

The respondents primarily get the information from the internet (27%) and environmental organizations (21%) about the climate change and its impact. Among several challenges faced by the four municipalities included in this research, is the management of regional waste landfills and the need to specialize for selective waste collections that would also benefit the supply chain value of businesses in the waste recycling sector.

LITERATURE REVIEW

Climate change has become one of the most challenging task of humanity with respect to economy and the environment in modern times. Throughout history, climate change has been an evolutionary process since the last ice age which sought civilizations move to different parallels with more appropriate climate conditions. The parallel 20-25 historically emerged with more advanced civilizations such as Sumerians, Ancient Egypt, Babylonia, Mesopotamia, then switched to Ancient Greece. In the Common Era, the Mediterranean rose to prominent civilization with the rise of Roman Empire. It then switched further north with industrial revolution in Western Europe, North America, and along same lines of longitude to East Asia in China and Japan. In broad terms, this is currently the most productive and advanced part of the world, as the time with natural climate has evolved. However, since industrial revolution, especially from the last two decades of the past century to the present day, climate change evolved dramatically as a result greenhouse gas emissions, mass urbanization, and rising average temperature. This made many historically developed areas from equator to the 50th parallel face unprecedented challenges due to accelerated climate change as a result of human activities. Cold areas to the north of Europe, America, and Asia have got a perspective of turning into favorable places for human living and activity, though the challenge ahead is that the Earth is experiencing a disequilibrium in climate change. Humanity, namely the states, the United Nations, many entities, and even individuals are becoming increasingly aware of this rising trend of climate change and global warming never seen before at a such an accelerated pace. Many initiatives at local and global scale are in operation to cope with harmful effects of the climate change.

As the climate change brings about global warming due to extensive use of resources causing air, water, and soil pollution, people have increasingly begun to rely on circular economy. By definition and understanding, a circular economy or CE is a model of transforming production and consumption by using waste for recycling to create new value

chains for as long as possible.³ As such, the CE principle requires to keep the material in use in order to minimize waste and regenerate or preserve the environment. The model is becoming very popular in response to the challenges of climate change, sustainable consumption, to improve resources and energy efficiency.⁴

Although the concept of circular economy can be traced back in some of the writings of previous century, it was only in the 21st century when it began to evolve and advance as a separate system. Aggeri quoted the paper of Kenneth Boulding “The economics of the coming of Spaceship Earth” as a condition to secure an everlasting life cycle for humanity on earth.⁵ Even earlier, in the last decade of the 20th century, the concept for circular economic system where resources could be extracted, used, turned into waste then recycled back for production and consumption was launched as a way for longer lasting of natural resources and the environment.⁶ The system of circular economy aims at maximizing the use of raw materials, first by using them, then reuse through recycling to minimize the negative effects in the area and the environment. Though not possible to eliminate in its entirety, the system in question aims as elimination most of the waste by making use of it again in the production process, then launch the products in the market and again reuse their waste through recycling which may end up in a different circular sector.⁷ Apart from being more sustainable and with longer life cycle, circular economy also generates new sectors and jobs, thus contributing to more efficient use of natural resources.

Due to its importance and impact, in 2018 over 40 countries and their partners launched the Platform for Accelerating the Circular Economy (PACE) with the aim of developing models for circular economy projects, creating the framework and promoting public-private partnership to further the model, especially in developing countries which are estimated to make less use of the waste. As of 2020, it was estimated that around 8.6% of the world’s economy has become circular.⁸

The plans and framework for circular economy model have gone from country, to regional, and global efforts and promotion. The European Commission has adopted its own new model in 2020 with an action plan that would provide not only a cleaner and healthier but also a competitive economy that would benefit businesses, consumers, citizens, and the environment.⁹ The Western Balkans is considered an appropriate place for investing in recycling of waste as an opportunity for business. Given that the region consists of relatively small countries waste management infrastructure offers good opportunities for a value chain. The regional countries are increasing their efforts to lower their reliance on landfilling, build a more modern infrastructure for waste treatment and recycling in

- 3 Iacovidou, E., Hahladakis, J.N., Purnell, P. (2021), “A systems thinking approach to understanding the challenges of achieving the circular economy”, *Environmental Science and Pollution Research*, 8(19): 24785–24806.
- 4 Shpak, N., Kuzmin, O., Melnyk, O., Ruda, M., Sroka, W. (2020), “Implementation of a Circular Economy in Ukraine: The Context of European Integration”, *Resources*, 9(8), 96, pp. 1-15.
- 5 Aggeri, F. (2020), “The Circular Economy: Historical Perspective and Contemporary Issues”, in Delchet, K. ed. *Circular economy: from waste reduction to value creation*, Wiley, pp.3-12.
- 6 Pearce, D. W., Turner, J. K. (1990), *Economics of Natural Resources and the Environment*, Baltimore: The John Hopkins University Press.
- 7 Alkhateeb, T., Muñoz, M. R., Rohmah, G. A., Tang, H., & Walter, A. M. (2017), *Economic Impacts of the Dardania Waste Bank Project*. In U. Kienast-Duyar, N. Korf, & O. Larsen (Eds.), *Solid Waste Management in Kosovo: Assessment of a Waste Bank Model in Dardania*, Pristina. Berlin: Urban Management Program - Berlin University of Technology, retrieved from https://www.urbanmanagement.tuberlin.de/fileadmin/f6_urbanmanagement/News/HP_Online_Kosovo_Report_6.pdf, on November 13, 2023.
- 8 PACE (2020), *The Circularity GAP Report*, available at: <https://www.circularity-gap.world/2020#interactive>, accessed on November 12, 2023.
- 9 European Commission (2022), *Circular economy action plan: For a cleaner and more competitive Europe*. European Commission, retrieved from https://ec.europa.eu/jrc/communities/sites/default/files/new_circular_economy_action_plan.pdf, on November 12, 2023.

compliance with and to align their legal framework with the EU standards. There is also a growing awareness and interest in these countries towards the importance of recycling sector as part of the circular economy.¹⁰ The waste production has been on the rise in this part of Europe since 2003, but recycling has not progressed much, especially in Albania and Kosovo. As the waste continues to accumulate, the pace of recycling remains behind absorbing capacity and that is why it has been viewed as a perspective region for business in circular economy. One the reasons for the low levels of recycling has been related to acquirement of sufficient raw materials from waste and the needed technology that would enable the companies to operate at fuller capacities and with ongoing business.¹¹ The European Commission which offered some support in the form of donations has advised to prepare the increase of items that would be prepared for recycling, thus lowering the financial burden of waste producers such as public sector and increasing the rate of recycling.

Recycling sector in Kosovo, like in many countries, is gradually turning into a business for the upcoming and growing circular economy. As a large producer of waste but with lower rates of recycling due to the reason that we already referred to, the main waste products that are recycled, include: metals, paper, rubber, plastics, glass, batteries, and cans. The companies engaged in sector are finding the ways to also export due to small local market. Among the products generated from the waste recycling, the most known is paper to produce different packaging and toilet paper, metals for fixture and in construction, glass for mosaic tiles, and so on.¹² This value chain creates a business in circular economy which, as already mentioned, needs to be intensified due to lower rates of recycling compared to available waste produced.

10 Andreas von Schoenberg Consulting (2021), von Schoenberg projects, retrieved from von Schoenberg info: <https://von-schoenberg.info/en/projects>, November 13, 2023.

11 Balkan Forum. (2021), Circular Economy in the Western Balkans region. Balkan Forum, retrieved from https://thebalkanforum.org/file/repository/Circular_Economy_in_the_Western_Balkans_region.pdf, November 12, 2023.

12 Kabashi, F. (2021), Current state of Waste Management in Kosovo 2021. Wtert Germany GmbH. Retrieved from <https://www.wtert.net/paper/4412/Current-state-of-WasteManagement-in-Kosovo-2021.html> on November 08, 2023.

KOSOVA

The aim of this study is to first look into waste management and recycling sector in Kosovo, then focus on **four municipalities** to get an overview how of it.



The data sources are mainly from the four municipalities, after which the interviews through a questionnaire were conducted. The sector is mainly organized through the municipalities and registered companies that are responsible for waste collection and disposal. In addition, individual and joint collected points are set in urban and rural areas, often by going door-to-door. From 2015 to 2019, Kosovo is reported to have increased municipal waste treatment by 40%.¹³ Expressed in figures, this increased from 178kg in 2015 to 253kg in 2019 per capita, or far below the EU average in waste treatment which stood at 502kg.¹⁴ The post-2020 or post COVID-19 respective data by the Kosovo Agency of Statistics (KAS) on respective sector for 2022 does not offer fuller or updated figures as in its 2021 report, therefore we use and refer to more inclusive and consolidated figures as in Table 1. For 2022, the amount of recycled waste was 22 882 tons, an increase by 3% from the previous year, with the following share of total: paper and cardboards 45%, plastics 35%, metals 15%, and medicine-hospital 5%.¹⁵

Year	Crude Ruber (Incl. Synth. and Reclaimed)	Pulp and waste paper	Metalliferaous Ores and Metal Scrap	Plastics in Primary Forms	Total
2010	0	238,258	62,886,293	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

Table 1: Volume of waste and recycled products exported from Kosovo (in Euros)

Source: Kosovo Agency of Statistics – KAS (2021), *Anketa e Mbeturinave të Trajtuara 2020*, KAS, retrieved from <https://ask.rks-gov.net/media/6382/anketa-e-mbeturinave-t%C3%ABtrajtuara-2020-shqip.pdf>, on November 05, 2023.

Metal scraps overwhelmingly dominate the amount and structure of exported waste and/or recycled products. Companies dealing with this type of activity and export are also more numerous. Although Kosovo is relatively rich in metals, mainly in ferronickel, aluminum, lead, and zinc, the source does not reveal their primary origin but it can be argued that the bulk of metal scrap exported comes mainly from outdated or out of service ve-

13 European Environment Agency. (2021). Municipal waste management in Western Balkan countries - Country profile: Kosovo. European Environment Agency - European Topic Centre on Waste and Materials in a Green Economy. Retrieved from <https://www.eea.europa.eu/themes/waste/waste-management/municipal-wastemanagement-country/kosovo-municipal-waste-fact-sheet-2021/>

14 Kosovo Environmental Protection Agency - KEPA. (2020), *Kosovo Environment 2020 Report of environmental indicators*, retrieved from https://www.ammkrks.net/repository/docs/Mjedisi_i_Kosov%C3%ABs_2020_Raport_i_treguesve_mjedisor%C3%AB_-_ANG LISHT.pdf, on November 12, 2023.

15 KAS (2023), *Anketa e Mbeturinave të Trajtuara 2022*, KAS, retrieved from <https://askapi.rks-gov.net/Custom/f1e6eff3-3614-4a57-90d9-43235981e7c8.pdf> on November 22, 2023.

hicles which are imported from abroad. Almost the same can be said about plastics and partially for paper.

The Kosovo Integrated Waste Management Strategy (KIWMS) has been prepared in terms of the strategic framework and to serve as a guide to waste management, outlining strategic objectives, targets, specific objectives, nature of waste management, and recycling. The most recent KIWMS 2021-2030 was approved in 2021, with detailed action plan for a three-year period. As a strategy, it is a good one, indicating among others, the plan to modernize the waste management towards an increased reliance on circular economy. The three-year action plan appears ambitious beyond the needed resources for implementation which require capital investment that is still insufficient. At local level, the municipalities are required to harmonize their strategies with the national plan and strategic framework, and review their projects as appropriate or by time (as they may be outdated). By 2020, it is reported that 31 out of total 36 Kosovo municipalities had their municipal plans and waste management approved as required by law.¹⁶ The Government of Kosovo in its Program for Economic Reforms outlined the strategy also for the treatment of waste in several municipalities, including the four which we have chosen as case studies, as follows:

Waste water treatment plant in the Municipality of Ferizaj: This project includes design, construction and maintenance of collection systems, to be implemented by Municipality of Ferizaj. The project has been approved by the National Investment Committee (NIC) that will be financed through the Agreement between the Government of the Republic of Kosovo and the Government of Hungary for the Establishment of the Framework Program for Financial Cooperation (Law No. 05 / L-153);

Construction of Sewage Treatment Plants in Mitrovica: Company the regional water authority of Mitrovica is the implementing institution for this project. The project is in the evaluation process by the EBRD (as the main financial institution) and the EIB, which will finance the project together, while it will also be supported by a grant from the Framework Western Balkan Investor (WBIF). The agreements with these institutions are signed in 2021, which have been sent to the Assembly for ratification in 2021.

Construction of the Water Supply Scheme in the Municipality of Graçanica: The municipality is the implementing institution for this project, which is financed through a loan in the amount of 5,115 million euros. The financial agreement was signed in November 2018 with UniCredit Bank Austria AG which acts on behalf of the Government of Austria. Disbursement of 95% of loan amount for this project was made in 2019 and by September 2021.¹⁷

¹⁶ Krasniqi, B. (2022), Analysis of the recycling value chain in Kosovo, technical report, Pristina.

¹⁷ Government of Kosovo (2022), Programi për reforma në ekonomi, retrieved from <https://kryeministri.rks-gov.net/wp-content/uploads/2022/05/Programi-per-Reforma-ne-Ekonomi-2022-24.pdf>

In the third quarter of 2023, 12 businesses registered under the category of water supply, sewage, and waste management, of which 4 in Pristina, and 2 in Mitrovica. A total of 34 businesses were registered in 2019. Due to the pandemic lockdowns and restrictions, only 19 were registered the following year, then rose to 34 in 2021 and 33 in 2022. The rate of bankruptcy for businesses registered and dealing with this type of activity was smaller than in other sectors. In 2019, there were 175 active businesses in Kosovo in the recycling value chain. Added to this indicator the number of registered businesses in 2021 and 2022 minus few cases of bankruptcy or leaving the sector, rose the number of active businesses to between 230 and 240.¹⁸ If we look at the statistics of foreign trade, official figures indicate that Kosovo's main export is base metal and scrap which in September 2023 accounted for 23.6% of total, and this share is up from 21.8% during the same period of previous year.¹⁹ The volume figures of such exports have been steadily growing during 2023 until recent available figures, from 36.2 in January, through 48.5 in June, to 54.4 million Euros in September.²⁰ A small volume but increasing export is likely to be associated with the increased number of entities engaged in the value chain recycling sector.

METHODOLOGY

This study uses secondary figures as well as quantitative and qualitative data for analysis, with a focus on four selected municipalities of Kosovo. The quantitative approach is based on the answers given in the questions contained in the questionnaire, while the qualitative part deals with the interviews about the state and prospects of circular economy in their municipalities. The answers provided then are transformed into numerical terms to generate figures and findings. Analysis of the data is limited to key aspects that are more relevant to the plans and projects the municipalities in question have, and their challenges ahead towards an increasing share of circular based-economy. The detailed questionnaire contained 21 questions where, in most of them multiple answers were available. The questionnaire is attached hereto to this report. In addition to the main officials of respective departments in the four municipalities (2 for each, a total of 8), the questionnaire is used in the survey of stakeholders to have their own assessment and opinions on the awareness, importance, and benefits from the circular economy. The stakeholders as respondents included 2 businesses and 2 ordinary citizens for each municipality, i.e. a subtotal of 16, thus a total of 24 respondents.

18 KAS (2023), Repertori Statistikor i Ndërmarrjeve, Pristina: KAS, retrieved from <https://askapi.rks-gov.net/Custom/0c59bf32-5316-4834-a5f1-346ae8a91b48.pdf>.

19 KAS (2023), Kosovo International Trade in goods, Pristina: KAS, retrieved from <https://askapi.rks-gov.net/Custom/2b7c88b0-6828-444e-914c-ba4b61d64bb9.pdf>.

20 Central Bank of the Republic of Kosovo- CBRK (2023), Monthly Bulletin Statistics No. 265, Prishtina: CBRK.

FERIZAJ

Waste management and recycling by the municipality of Ferizaj is managed by two documents: i) Draft Development Plan for the Municipality of Ferizaj 2017-2025; and ii) Municipal Plan for Waste Management in Ferizaj 2023-2027. Despite that the first contains details about waste management, it is almost outdated, therefore, the second or the plan exclusively for waste management and recycling is prepared in 2023.²¹

Based on the measurements of the composition of the waste that has been based in % of the waste category in the general participation of the total waste, in the municipal level 18% is paper and cardboard waste, 6.5% waste glass, 33% organic waste, 3.8% textile and clothing waste, 20.3% plastic waste, 1.7% metal waste, etc. According to the data from the Municipal Waste Management Report 2021, coverage of the household waste collection service was 76.2%, which marks a progress by 5% from the previous year. Service for waste collection is also offered to 1,918 businesses and 69 institutions. Provision of waste collection service is divided into two areas: the urban center, and the rural area. In city the predominant mode of service is with shared containers while in the rural area the form of service is door to door. In urban areas the service of waste collection is provided 1-2 times a day, and in rural areas once a week.

Although tires, electrical and electronic products, batteries, etc., are not in the municipal competence, referring to the legal framework and external practices, the municipality will organize the scheme of organized collection of this waste within the scheme of extended producer responsibility. The forms of separation depend on various factors and can take the following forms:

- ➔ Separation into two “dry and wet” fractions with door-to-door collection;
- ➔ Division into three fractions “non-biodegradable recycling”, “biodegradable and residual” with door-to-door collection;
- ➔ Separation into two fractions “dry and wet” by collection with containers common;
- ➔ Division into three fractions “non-biodegradable recycling, “biodegradable and residual” with collection with common containers;
- ➔ Division into more than three fractions “paper - glass - plastic - metal, “biodegradable and residual” for collection with common containers.²²

21 Komuna Ferizaj (2023), Plani i komunës për menaxhimin e mbeturinave 2023-2027, retrieved from <https://kk.rks-gov.net/ferizaj/wp-content/uploads/sites/31/2023/05/PKMM-Komuna-e-Ferizajit-mbeturinave-ne-gjuhen.pdf>

22 Komuna Ferizaj (2023), *ibid.*

MITROVICA

Due to its historical development centered on heavy industry producing a lot of waste, contaminating the soil, water, and polluting the air, the municipality of Mitrovica has devoted a special attention to circular economy in its municipal strategic plan for waste management 2022 - 2027. At the country level, the general environmental situation in Kosovo is not good as a result of constructions often without an urban plan, traffic pollution, inappropriate waste management and sewage or as a result of economic and industrial activities that create pollution in the environment. Serious environmental problems are related to the irrational use of natural resources which then they cause air, water and land pollution, spoil the landscape, and threaten biodiversity and natural resources.

As summarized in the municipal plan for waste management 2022-2027, in the Municipality of Mitrovica, numerous studies, namely by World Health Organization (WHO), showed that there is a considerable contamination of the environment with lead and heavy metals in the sleds of deposits of unusable minerals from the past and layering of dust on the surface of earth. This pollution arrives in the form of dust polluting the soil, air and water. There is a great risk for the health of the population, especially for children under the age of six and pregnant women. Among 25% of children aged 2 - 3 years old has resulted in a high concentration of lead in the blood than the allowed values of 10 ug/dl. WHO research, the geochemical research of the University of Siena, the research of the Ministry of Environmental Protection and Spatial Planning and the Environment Directorate in the municipality of Mitrovica have shown that entire areas in the region of Mitrovica, including the valleys of the rivers Ibër and Sitnica, which from Leposaviqi to Vushtrri, present an environment polluted by lead and heavy metals. This pollution infects plants and then humans and animals. Soil pollution reaches a depth of up to 35 cm in three locations analyzed in the south and four in the north, the concentration of heavy metals is several times higher than the allowed values for soil pollution. The main sources of pollution come from: industrial waste from the past in the form of landfills without treatment criteria, stratification of lead and zinc dust on the soil, air, water, food and agricultural products.²³

Currently, the service of collection and transportation of waste in the municipality of Mitrovica is offered in almost the entire territory of the municipality, among which 92.75% of areas are covered by collection service of waste and 7.25% are not served by the regular waste collection service. KRM "Unity" provides service to 66,777 residents based on data provided by the municipality. This company performs invoicing and collection of revenues from cleaning fees from businesses and public institutions while the collection for the family economy is carried out by the Municipality of Mitrovica. Municipality of Mitrovica has a regular contract according to the relevant legislation that allows and realizes the regular payment for service at KRM "Unity" according to the annual value of 707,548.00 Euro per year. From the data provided by the public company and the municipality, in 2020, the service is provided to 9484 households in the urban area and 5009 households in the rural area, or a total of 14,493 households.

23 Summarized and quoted in Municipality of Mitrovica (2022), Plani komunal për menaxhimin e mbeturinave 2022-2027, Mitrovica.

Also, the waste collection service is carried out in all active businesses and institutions in territorial unit where the billing charge is applied by KRM “Unity”. The municipal regulation for waste management envisages a change in the method of waste by:²⁴

- ➔ Providing the service to almost or 100% of the population;
- ➔ Improving the frequency of urban waste collection is every day for the urban area of city center, and 1 time per week for rural areas where all other units are included;
- ➔ With the territorial reorganization of the service, referring to effectiveness and efficiency, the strategic objective is the completion of infrastructure collection for 2% of remaining households in terms of previous policies of the municipality for equipment and unification of the means of performing the service;
- ➔ With the extension of the service to the entire territory and current aging of motor vehicles, the municipality will address the issue of improving operating capacities for collection and waste transportation;
- ➔ Until now, the municipality has fulfilled its strategic objective for extending the service to the territorial unit of the municipal territory.

24 Municipality of Mitrovica (2022), Plani komunal për menaxhimin e mbeturinave 2022-2027, Mitrovica.

FUSHË KOSOVA

Close to the capital city Pristina and thermo power plants in Obilic, Fushë-Kosovë is noted for its exposure to environmental pollution, especially of the air and soil. By the end of 2019, the Directorate for Public Services and Environment and the municipal company “Pastrimi” which operates for Pristina district, in cooperation with the German governmental organization GIZ and the non-governmental organization in Kosovo, Green Art Center-Prishtina (GAC) within the framework of project for Sustainable Municipal Services, started the reform for sorting and recycling of waste. Officials of the responsible directorate from the municipality stated that they are working towards the development of reforms aimed at the separation and treatment of waste in order to fulfill the objectives according to the Municipal Plan for waste management, aiming to create the prerequisites for a cleaner environment in this municipality. According to them, this project is expected to be extended to the entire territory of the municipality during 2020, in a second phase, and all institutional preparations were made. The objective of the project was the separation of recyclable waste at the source to significantly reduce the amount of waste that goes to landfills. These reforms in the waste management sector are necessary as they aim to reduce the amount of waste that goes to landfills and at the same time directly affect the development of the circular economy in the municipality.²⁵

As of 2023, despite the initial result as a pilot project, the citizens of Fushë-Kosovë raised the concern of too much waste being accumulated in the containers across the streets. Disputes emerged over who should be in charge of removing them; the public company of municipality is not in charge of removing all the waste but inert ones.²⁶

The municipality has not yet approved an exclusive plan for waste management and recycling like many other counterparts in Kosovo. Some elements for such a plan can rely on what was prepared as the “Draft Zoning Map for the Municipality of Fushë Kosovo 2018-2026”, which was approved by the municipality in September 2018.²⁷ However, this is mainly a development plan which has largely neglected waste management and recycling, and focuses more on improving technical infrastructure such as water supply, sewage, and drainage system. As it is prepared to be implemented until 2026, it should adopt significant changes to include a separate chapter about waste management and circular economy.

25 Ekonomia Online (26.12.2019), Komuna e Fushë Kosovës nis zbatimin e projektit për Riciklim të mbeturinave!, retrieved from <https://www.ekonomia.info/sq/bujqesi/komuna-e-fushe-kosoves-nis-zbatimin-e-projektit-per-riciklim-te-mbeturinave>

26 Kodroli, L. (22.07.2023), Qytetarët e Fushë-Kosovës të shqetësuar për gjendjen e kontejnerëve të stërbushur, retrived from <https://teve1.info/qytetaret-e-fushe-kosoves-te-shqetesuar-per-gjendjen-e-kontejnereve-te-stermbushur/>.

27 Komuna e Fushë Kosovës (2018), Draft Harta Zonale e Fushë Kosovës 2018, Fushë Kosovë: Asambleja Komunale, retrived from <https://kk.rks-gov.net/fushekosove/wp-content/uploads/sites/16/2019/01/Draft-HZK-FUSHE-KOSOVE-Finale-2018-2026.pdf>

GRAÇANICA

In Graçanica, the Pristina regional waste collection company “Pastrimi” is responsible for the collection of waste. Waste is collected from two containers times a week and transported to the landfill with a truck. One of the trucks used for waste transport has been accepted as a donation. The other two used trucks are the property of “Pastrimi” company and are in a slightly better condition. According to municipal data, in 2016 about 203 tons of waste per month were collected in Graçanica. Waste is collected throughout the territory of Graçanica and 100 percent of the population is covered by the service. The price per service is close to 5.00 Euro per family. Total accumulated payment in the municipality was about 2,700 Euros, which shows that a very small percentage of consumers pay for the service.²⁸ As per available data of 2019 published in 2021, the reported figure of accumulated mixed waste was 3,272 tons or 311 kg/capita, while the revenues from waste collection had risen to around 90,000 Euros (see Table 2).

The municipality has appointed the employees who are responsible for waste management and monitoring the work of the waste collection unit Graçanica. The municipality had a waste management plan for 2011 and 2012. Since by mid-2015, officials have started working in drafting a waste management plan with the help of donor organizations. Graçanica has no representative on the board of the “Pastrimi” company and as a result, the municipal official interviewees was not aware of the procedures required for the appointment of board members. Waste is deposited in the regional public landfill in Mirash, Obiliq. Municipal officials are not aware if anything else happens to the waste after they are deposited after the dump is outside their territory. Graçanica, had 21 illegal landfills in 2016 and this number risen to 39 in 2019 (see Table 2). Official municipal authorities have stated that they are trying to return one of the illegal landfills at the transfer station. The municipality does not own the funds and human resources needed for waste recycling.

As for cooperation, Graçanica municipality is very interested in building a transfer the station that can also be used by municipalities others. Officials have stated that they have talked with the Ministry of Environment and Planning Spatial in relation to the construction of the transfer station and if the ministry would approve it any more easily one station for two municipalities than for one, then the joint construction this would be one good opportunity to cooperate.

28 Riinvest Institute (2016), Menaxhimi i mbeturinave në 16 komuna: mundësitë për bashkpunim ndërkomunal,

COMMON CHALLENGES AND OPPORTUNITIES

This part gives an overview about qualitative assessment by the respondents (municipal officials and stakeholders) with respect to the challenges of climate change and circular economy in their municipalities. The first challenge the municipalities face is the low level of awareness of citizens regarding waste disposal, waste reduction, reuse and waste recycling. Almost every interviewee complained that most citizens are not careful when throwing the waste, especially those who live in urban areas. Moreover, the citizens that produce large quantity of waste are not aware that they can reduce the amount by reusing and recycling it. The second challenge the municipalities face is old landfills which are in deteriorating conditions. Most of these landfills lack drainage systems and therefore pollute underground water. The third challenge, related to landfills is their management. Most landfills are managed by public companies responsible for the management of regional landfills. This is seen as a challenge for the municipalities and it would be better if the municipality or the companies responsible for the waste management to create special licensed landfills. The quantity of waste deposited in the licensed landfills by Kosovo districts in 2022 was as follows: Ferizaj 5.8%, Mitrovica 10.6%, Pristina (including Fushë Kosova, and Graçanica) 33.9%, Prizren 25.9%, Peja 11.6%, Gjilan 8.7%, and Podujeva 3.5%.²⁹

Usually, more waste is produced than that are collected and this happens because of limited capacities. The waste is deposited on the ground without being classified, and lack the tools for waste recycling. Outdated equipment used to transport waste, and the lack of resources to sort waste is another concern. The municipalities face the lack of transfer stations where the waste can be classified so it can be reused and recycled. Businesses as stakeholders held a similar view by suggesting that their activity would be eased if they were to have ongoing or uninterrupted selective supply in sufficient quantity, e.g. only plastic bottles, certain metals and other selective waste, rather than wasting time in going through longer negotiations for their demand to suppliers.

Key findings from the four municipalities

This part of the study first uses the secondary figures for four selected municipalities, then it goes on to report the findings from the survey. Since recycling still remains a difficult challenge, in some municipalities there are initiatives to offer access to source separation of recyclable waste, mainly plastic, paper, cardboard and aluminum, but also organic waste. A deep analysis is necessary to find the potential for recycling such as technical capacities of the municipalities, respectively the operators who perform the collection service and waste. Table below provides the key indicators of waste in four selected municipalities.

29 KAS (2023), Anketa e Mbeturinave të Trajtuara 2022, KAS, retrieved from <https://askapi.rks-gov.net/Custom/f1e6eff3-3614-4a57-90d9-43235981e7c8.pdf> on November 22, 2023.

	Ferizaj	Mitrovica	Fushë-Kosovë	Graçanica
Population (as of 2011 census)	108,610	71,909	34,827	10,675
Accumulated mixed waste (ton/year)	22,751.00	21,943	15,528.71	3,272.25
Per capita generated waste (kg/year)	315.66	309.04	271.03	311.16
Per capita generated waste (kg/day)	0.86	0.85	0.74	0.85
Revenues from waste collection	€ 906,950.92	€ 1,092,750.68	€ 620,843.58	€ 89,232.99
Illegal landfills	32	27	15	39

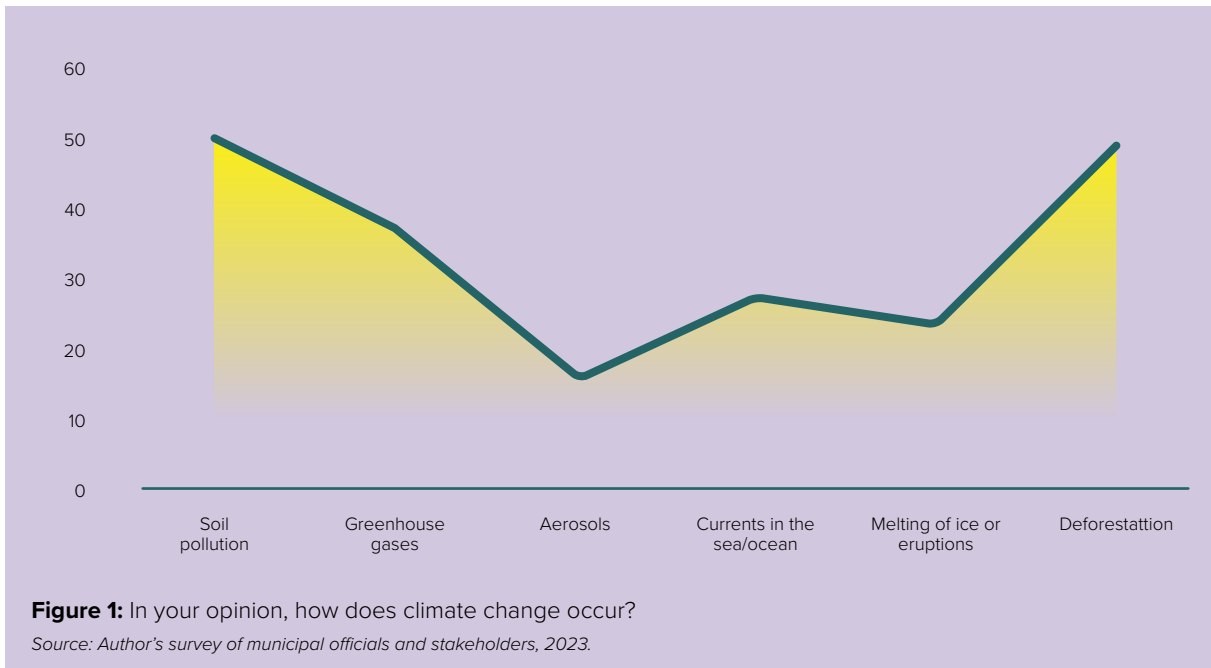
Table 2: Summary of waste by categories as of 2019

Source: Government of Kosovo (2021), *Raport i menaxhimit të mbeturinave komunale në Kosovë: Viti Raportues 2019, Pristina: Agency for Environmental Protection of Kosovo, data from Annex 1, Annex 3, Annex 4.*

Progress in the field of waste management is not balanced in all regions and municipalities because some have greater technical capacities and other resources. The volume of waste is largest in Ferizaj which obviously is caused by the largest number of population, but still was is largest also in terms of per capita generated waste within a year and day. The next largest producer of waste per capita is the Graçanica with the smallest number of population or more than ten times smaller than Ferizaj. Fushë-Kosova at the time (in 2019) reported the lowest volume of waste, which is in contradiction to the complaints by the citizens in 2023 as being overcrowded by the waste outside containers. Mitrovica generated more revenues from waste collection than Ferizaj with larger amount of waste. Of all four municipalities, Graçanica appeared to be in a worse shape also by its largest number of illegal landfills.

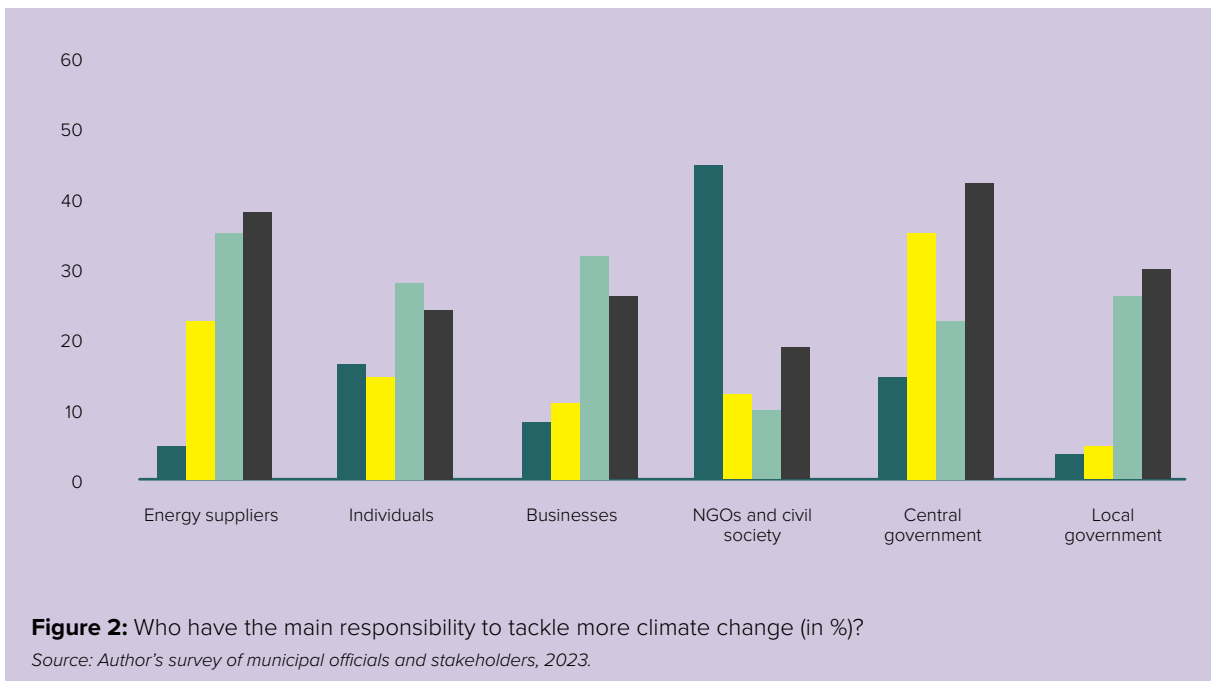
Updates for the 2019 figures in Table 2 which were published in 2021, do not follow a consistency in reporting by waste categories, because of different sources. The most recent available report by the KAS about waste management and recycling was published in 2023 for the figures of 2022. As of 2022, the main reported figures stood as follows: Ferizaj 37 tons/year, 0.56 kg of waste/day; Mitrovica 75 tons/year, 0.93 kg of waste/day; and Pristina (including Fushë Kosova, and Graçanica) 146 tons/year, 0.81 kg of waste/day.³⁰ Other important data such as revenues from waste collection are not available. In any case, it is important to note how two selected municipalities in this research the situation has changed (as per 2022 figures) with respect to per capita waste generated and accumulated – Ferizaj has lowest and Mitrovica climbed to the top at Kosovo level. How do this situation further reflect to the assessment from our survey? First, the respondents' opinion about the climate change and how does it occur is given in the figure below.

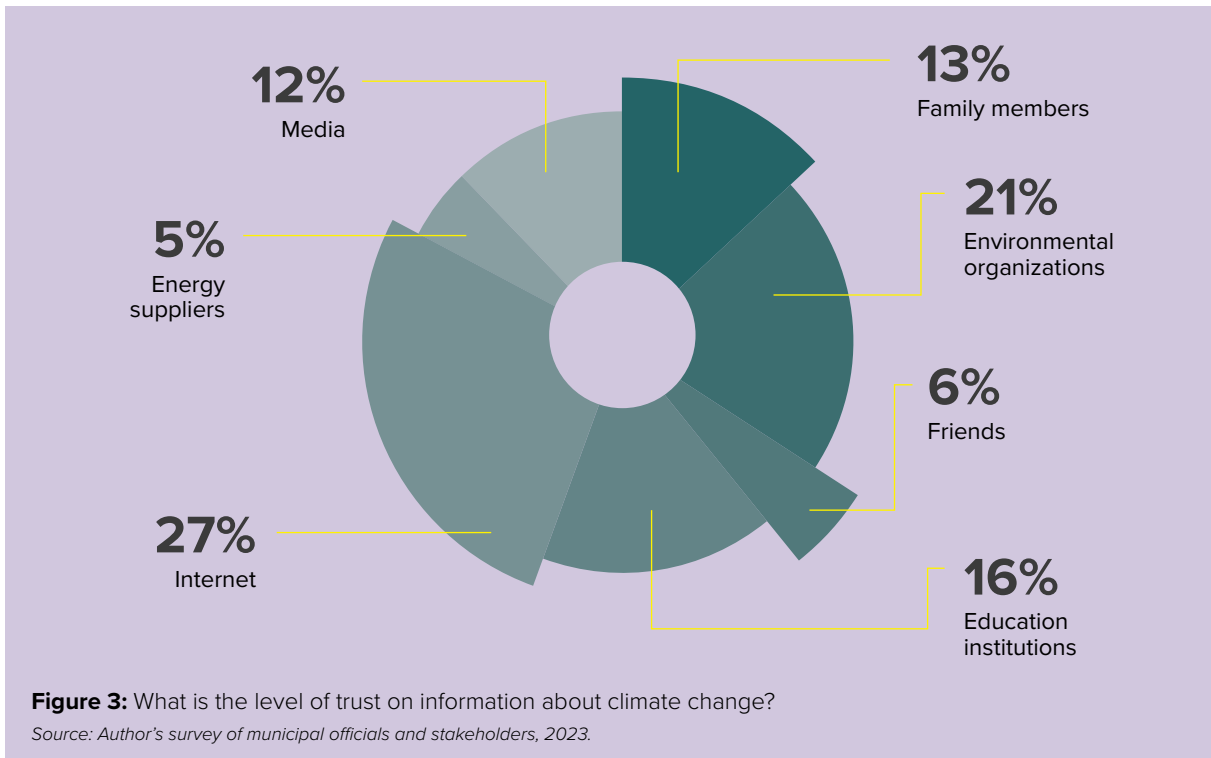
30 KAS (2023), *ibid*, p.14.



In the view of respondents, greenhouse gases have got a very broad and quite broad impact on climate change. Currents in the sea/ocean are considered as having slightly broad impact, while deforestation not broad or with lesser concern.

This figure more or less shows who the respondents believe should in charge to tackle more climate change. NGOs and civil society are not regarded with much role, and even less individuals. For such a perception, the answer from another question is important.





The information in the largest part about the climate change is obtained by the respondents from the internet (27%) and environmental organizations (21%) which these two might be overlapping because the internet is also the main source of information by other categories. Friends do talk between each other but they do not rely much on their own opinions without having the information from one of other sources presented in the figure. Energy suppliers are regarded by the respondents as the least or with the smallest share of trusted source on climate change.



Increasing the share of circular economy is undoubtedly a trend but the motives to be committed to it differ in the view of respondents. The primary motive is reported as “to generate new sources of revenues” which fits in the mission of transition to increased share of circular economy. Reducing the negative impact of the environment and contributing to government environmental targets regarding greenhouse gas emissions, the energy transition, or waste management, further is in line with the respondents’ perception towards the economy. However, these findings should not be generalized in Kosovo’s level.

	Ferizaj	Mitrovica	Fushë-Kosovë	Graçanica
Understand the laws and regulations	5	8	7	10
Identify opportunities	16	6	9	19
Translate CE opportunities into concrete projects	25	29	30	33
Access to experts to help carry out CE projects	9	7	15	8
Access to funding to help us carry out CE projects	34	37	32	25
Access to tools to help us carry out CE projects	11	13	7	5
Total	100	100	100	100

Table 3 What external support would you like to obtain for transition to a CE business model (%)?

**Note: Multiple answers were allowed, thus the cumulative for one of the choices could receive as high as 24 answers or the total number of respondents, but not more than three answers.
Source: Author’s survey of municipal officials and stakeholders, 2023.*

The general assessment based on the answers by the respondents is that the type of external support they would like to have, mainly focuses on two: i) to translate CE opportunities into concrete projects for our organization/municipality/business; and ii) to identify and obtain access to funding to help them carry out CE projects. These answers might have been affected, or were in response to, by the state of CE in Kosovo and their municipalities. Although the survey has generated a lot of data for many questions contained in the questionnaire, further reporting about them would be beyond the size and scope of this research. As per question number 14 in the questionnaire about the “Status of circular economy in your municipality”, the respondents claimed is not considered by so far plans but remains a task for revised plans and concrete efforts from now on.

CONCLUSIONS, IMPLICATIONS, AND POLICY RECOMMENDATIONS

As economic activities around the world continued to rapidly degrade the environment, humanity has become aware of consequences. CE has therefore emerged more as a necessity for extending human life and nature rather than an adventure for traditional economic reforms. It is a model of transformation imposed to the world economy, no matter developed or developing part. Climate change is a natural phenomenon that evolved for a long time but in the 21st century the pace of acceleration from human activities causing environmental pollution and degradation has become alarming. CE is gaining momentum precisely because of that, with opportunities for new model and significant challenges.

This study focused on a small developing country in the Western Balkans, Kosovo respectively, to explore the challenges and potentials it has with respect to climate change for circular economy, with a specific reference to four municipalities: Ferizaj, Mitrovice, Fushë Kosovë and Graçanicë. The study first made an overview of waste management and recycling sector in Kosovo which reported to have increased municipal waste treatment by 40% from 1915 to 2019. Kosovo does produce far less waste or just half of the EU average but the underlying challenges is that the volume of waste remains far greater than the recycling waste. Among the main challenges or constrains to increase the recycling rate at a faster pace is insufficient funding and technology for recycling. Potentials have already been identified in the availability of waste such as metals, paper, rubber, plastics, glass, among others. Kosovo companies engaged in recycling business are also more likely to export, and this increases the value chains and the prospect for regional cooperation.

At municipal level, 31 out of total 36 Kosovo municipalities had their municipal plans and waste management approved as required by law. The findings from the four selected municipalities showed misbalances between different categories of waste generated, illegal landfills, and revenues generated from the waste. Due to lower rate of recycling and waste accumulated, donor support of waste management has not been missing and continues. But the Kosovo government can also do more through policies to further the recycling sector. The existing companies in this business are reported with more chances to export than others. Therefore, the policy implications and recommendations of this study extent to government, municipalities, donor agencies, and investors.

Recommendations to the government

Publication of statistics: As this research identified, there is a gap, especially since the COVID-19 onwards, with the needed statistics about waste management and recycling. Most data become available with a delay, e.g. in 2021 reports contain the data for up to 2019. It is recommended that the data be updated and consolidated, among others, to find the share of CE.

Cooperation with donor agencies and EU foundations: As Kosovo is at a nascent phase of CE, the government should take a leading role by presenting to the donors the current state and potentials for business opportunities in the recycling sector.

Attracting foreign investors: Apart from asking for support from donors for municipal projects, the government should promote the business recycling value chain of Kosovo to foreign investors who can bring in the needed technology and equipment to boost the sector. Aged technology and insufficient modern equipment for waste recycling is identified as one of the main challenges that Kosovo businesses in respective sector face.

Lobby to the EU and regional countries to removed barriers to trade: some barriers to trade in general are in place for a long time. Given that Kosovo's main export is metal base and scrap, it can come to its benefits and the countries in the region in terms of CE as a common benefit.

Educate the public and promote CE: there is a need for knowledge and how the CE works in practice. The government may do its jobs through the national strategy for CE but this may fall short during implementation if the public is not actively advised through the rules, regulations, and guidelines how to act even as individuals. This would contribute to the integral part of the CE system.

Recommendations to the municipalities

Identify divergences and challenges: the findings from the four municipalities suggest that some divergences in the challenges for the recycling sector should be dealt with or lowered first. They include a disproportionate larger number of illegal landfills, differences in waste production, and revenues. The municipalities should harmonize their plans with the national strategy for waste management and recycling.

Setting up collection and selection waste points: having an address where the waste would go shortly after it is deposited, would enable better and faster supply chain management for businesses engaged in recycling, thus increasing the rate of recycling and lowering the volume or accumulation rate of waste, that is so far identified as a gap.

Prepare separate strategy and plan for waste management and recycling: Much of what can be considered as CE is in broad terms within the municipal plans for waste management, which is not directly linked to recycling sector or what should happen afterwards. It is therefore recommended that the municipalities maintain a detailed database on waste collection and report how much of it goes or ends up for recycling, or is reused.

Recommendations to the donor agencies:

A sector with potentials: as some donors have supported waste management in different municipalities of Kosovo, they may do so in recycling sector by supporting the initiatives and start-ups of private businesses.

Whom and what to support: to improve and increase the value chain of recycling sector, and to shorten the time between waste collectors as suppliers and businesses as recyclers, the donors may fund specific collection points for selective waste as appropriate, e.g. plastic bottles, aluminum, copper, rubber, etc.

Funding of research projects: before preparing a strategy and action plan for CE, it is important to have the needed diagnose where to intervene and what to implement. This research has identified some gaps in the strategies of municipalities which focus only on waste management and not so much on recycling sector as a profitable business. Funding of research projects would further clarify the situation and help the donors what to fund in terms of CE.

Recommendations to investors/businesses

New opportunity: the challenges of the climate change in many business areas has also brought new opportunities such as the rise of recycling sector. Recycling is now a business. The amount of waste in Kosovo is increasing, the recycling rate at lower rate, the number of businesses in this sector and with more chances to export is increasing. This presents an opportunity for new entries and increased competition.

Access to capital and technology: Kosovo businesses already in business but facing with insufficient funding and needed technology, can establish partnerships with regional and foreign companies. One of the partnership types is to first see the opportunity of acting as their subsidiary in Kosovo, to prepare the ground for more investment, technology, and know-how transfer.

CLIMATE CHANGE AND CIRCULAR ECONOMY QUESTIONNAIRE

1) Profile of the interviewee

Age:

Gender: Male Female

Which country or municipality you live in? _____

Education:

- a) Primary
- b) Secondary
- c) Undergraduate
- d) Postgraduate

Place of work

- Jobless
- Education institution
- Information technology
- Manufacturing
- Services
- Public service and institution
- Energy generation
- Mining
- Energy
- Other _____

2) Are you aware of climate changes and how does it affect your health?

- a) A lot b) Significantly c) Little d) Very little e) Not at all

3) In your opinion, how does climate change occur?

	Very broad	Quite broad	Moderately broad	Slightly broad	Not broad	Don't know
Soil pollution						
Greenhouse gases						
Aerosols						
Currents in the sea/ocean						
Melting of ice or volcanic eruptions						
Deforestation						
Other						

4) Who do you think should have the main responsibility to tackle climate change?

- Individuals
 Local government
 Central government
 NGOs and civil society initiatives
 UN Agencies
 Regional cooperation entities

5) How much do you think the following has contributed to global climate change?

	Very Important	Fairly Important	Important	Slightly Important	Not at all Important
Air pollution					
Pollution of rivers and seas					
Flooding					
Litter					
Poor waste management (e.g. overuse of landfills)					
Traffic/ congestion					
Temperature rise or drop					
The hole in the ozone layer					
Using up the earth's resources					
Extinction of species					

6) On which of the following platforms, have you heard about Climate change?

Television	Yes	No
Radio	Yes	No
Internet	Yes	No
Academic journals	Yes	No
Friends	Yes	No
Energy suppliers	Yes	No
Government	Yes	No
Education institutions	Yes	No
Others _____		

7) On a scale of 1 to 10, how much do you think climate change threatens your personal health and safety?

1 2 3 4 5 6 7 8 9 10

8) What is the level of trust on information about climate change, if you were to receive it from the following?

	Most	A lot	Little	Not much	Not at all
Family members					
Environmental organizations					
Friends					
Education institutions					
Internet					
Energy suppliers					
Media					
Others					

9) Please rank as per who do you think should have the main responsibility to tackle climate change?

	Most	A lot	Little	Not much	Not at all
Local government					
Central government					
NGOs and civil society					
Businesses					
Individuals					
Energy suppliers					
Others					

10) Please state your level of agreement or disagreement for the following statements about climate change?

	Fully agree	Agree	Somewhat agree	Disagree	Neutral
Individuals can reduce the impact of climate change					
It should be mandatory to energy suppliers					
We can't do anything about it					
Government should support those who reduce the impact of climate change					
Climate change causes natural disasters more frequently					
As an individual, I will promote and participate in reducing climate change negative effects					
Climate change is an exaggerated topic					
We have more important and urgent things than climate change concerns					
Deforestation was and is one of the main causes of climate change					
Too much urbanization contributes a lot to climate change					

11) What is the reason because of which you would do the following activities?

	To create a positive image	To save money	To protect the environment
Use public transport			
Drive personal car			
Ride bicycle			
Recycle waste			
Buy and consume organic food			
Plant more trees and create more green spaces			
Buy energy efficient devices			
Participate in environment protection initiatives			
Use alternative or renewable energy			

12) Do you think the following entities are taking initiatives to reduce climate change?

	A lot	Enough	Not enough	To some extent	Not at all
Central government					
Local government					
NGOs and civil society					
Businesses and corporations					
Individuals					
Environmental groups					
UN Agencies					
International organizations					
Others					

13) Status of circular economy in your municipality?

CE practice	Practice status			
	Adopted	Considered	Not considered	Don't know or not applicable
We are reducing our resource use (materials, water and energy):				
By favoring responsible procurement				
By optimizing our processes				
By adopting energy-efficient practices				
By optimizing the packaging and transportation of our products and services				
By increasing the life of our products and services as well as their reparability				
By designing products with components made of materials that can be reclaimed				
Renting, pooling and the sharing economy are part of our practices, because:				
Our underutilized products, spaces or equipment are made available to other organizations				
We share products, spaces or equipment with other organizations				
The products, spaces or equipment that we occasionally use for our work are rented or leased over short periods rather than purchased				
Our products and services are rented or leased to our clients (short- or long-term lease)				
In our processes, we favor:				
Products and services originating from the economy of functionality				
Repairing rather than purchasing new products				
Donating or reselling unused products or procuring second-hand products				
Product maintenance				
The reconditioning or repair of returned merchandise and end-of-use products				
The collection of materials and products at end of life in view of recycling, composting or energy recovery				

14) Is there any waste (residual materials) that could potentially be reclaimed by your organization or another?

If so, name the main waste (residual materials) generated.

- b)
- c)
- d)
- e)

15) Do you see any reclamation potential for this waste (residual materials)? If so, what kind?

16) Which projects from the following list do you expect to implement in your organization in the next few years?

- Construction, renovation, relocation or expansion.
- Energy transition.
- Development of new markets or products and services.
- Modernization of equipment and acquisition of clean technology.
- Process automation and robotization.
- Obtaining sustainable development certification (e.g., LEED, Lean, ISO, BCorp).
- None.
- Don't know.
- Other Specify.

17) Why have you added CE strategies in your organization or why are you interested in adding them? Select the three most important reasons.

- To generate new sources of revenue.
- To reduce expenses.
- To reduce environmental impact.
- In response to a request from customers.
- To increase our market share.
- To attract and retain employees.
- To comply with current or future laws and regulations.
- To contribute to government environmental targets regarding greenhouse gas (GHG) emissions, the energy transition, or waste management.
- Don't know.
- Other Specify.

Comments Enter your comments here.

18) What type of external support would you like to obtain to help your organization transition to a circular business model? Select all choices applicable to your organization.

- Understand the laws and regulations (municipal, provincial, federal or international) that apply to us in terms of the circular economy.
- Identify opportunities for our organization to transition to CE practices.
- Translate CE opportunities into concrete projects for our organization.
- Identify and have access to experts to help us carry out CE projects.
- Identify and obtain access to funding to help us carry out CE projects.
- Identify and have access to tools to help us carry out CE projects.
- None of the above.
- Other Specify.

19) Would you be willing to contribute to the advancement of the circular economy regionally? Check all choices applicable to your organization.

- We are prepared to share our expertise and best practices with other organizations.
- We are prepared to use our network to help other organizations carry out CE projects.
- We are ready to invest in another organization's CE project.
- Don't know or not applicable.
- I don't wish to contribute. (Specify why in the comments. Is it because of a lack of knowledge, resources, etc.?)
- Other Specify.

20) Why is it important to increase the number of organizations adopting circular economy (CE) strategies in their business models in your region? Select the three most important reasons.

- To attract and retain employees.
- To reduce the environmental impact.
- To generate new sources of revenue.
- To reduce expenses.
- In response to a request from customers.
- Increase market share.
- To comply with current or future laws and regulations.
- Contribute to government environmental targets regarding greenhouse gas emissions, the energy transition, or waste management.
- Don't know.
- Other Specify.

ANNEX: RESIDUAL MATERIALS MANAGEMENT SYSTEM BASED ON MANAGEMENT METHOD

Please complete the following table by indicating the annual quantities generated in each box applicable to your organization. Indicate the unit of measure next to the quantity (e.g., kg, ton).

MATERIAL	MAN-AGE-MENT METHOD	Waste (municipal or private collection)	Municipal curbside collection of recyclable materials	Private specialized collection of recyclable materials	Municipal organic waste collection	Private organic waste collection	Given away	Sold	Waste-to-energy	Don't know
Office waste										
Paper and cardboard										
Plastic, glass and metal										
Plastic film										
Organic materials										
Other (specify)										
Commercial, industrial and institutional waste (from your warehouses, distribution centres and/or production lines)				Wood (e.g., pallets)						

MATERIAL	MAN-AGE-MENT METHOD	Waste (municipal or private collection)	Municipal curbside collection of recyclable materials	Private specialized collection of recyclable materials	Municipal organic waste collection	Private organic waste collection	Given away	Sold	Waste-to-energy	Don't know
Cardboard										
Paper										
Flexible and rigid plastic										
Glass										
Ferrous metals										
Non-ferrous metals										
Textile and carpeting										
Composite materials (e.g., epoxy-based)										
Minerals										
Solvents, acids and bases										
Oil and grease										
Paint, stains										
Other hazardous waste										
Electronic waste										

MATERIAL	MAN-AGE-MENT METHOD	Waste (municipal or private collection)	Municipal curbside collection of recyclable materials	Private specialized collection of recyclable materials	Municipal organic waste collection	Private organic waste collection	Given away	Sold	Waste-to-energy	Don't know
Tires, rubber and elastomers										
Food processing waste										
Crop residues										
Other objects or parts made up of several of the materials listed above										
Primary sludge from wastewater treatment										
Organic sludge from wastewater treatment										
Machining or cutting sludge										
Other industrial sludge made up of several of the materials listed above										
Construction, demolition or renovation waste										
Wood										
Brick										

Katalogimi në botim – (CIP)
Biblioteka Kombëtare e Kosovës “Pjetër Bogdani”

330:502.17(496.51)(047)

Challenges to Climate Change for Circular Economy : innovative / technological potentials in Kosovo, the region and the EU / The Balkan Forum - Botim elektronik. - Prishtinë: The Balkan Forum, 2024. - 1 burim elektronik (38 f.) : ilustr. ; 28 cm.

ISBN 978-9951-9085-5-9

