

MAPPING THE NEED FOR A CIRCULAR ECONOMY FOR FUTURE ECONOMIC BENEFITS: POTENTIALS AND PROJECTIONS FOR SMALL AND MEDIUM-SIZED ENTERPRISES IN NORTH MACEDONIA

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Abstract

The circular economy, a concept based on the principles of designing waste and pollution, keeping products and materials in use for a longer time, and regenerating natural systems is still in its infancy in the Western Balkans, especially in many analyses related to the development and future projections of small and medium enterprises. Over the years, there has been a steady increase in per capita waste generation in the region, with the municipal waste recycling rate among economies being very low, while resource intensity as a measure of resource efficiency has remained relatively high. In addition, enterprises in the region are rarely aware of the opportunities of a circular economy, such as reduced environmental impact, more sustainable use, and conservation of natural resources, lower production costs, increased innovation, increased competitiveness, greater resistance to external shocks through reduced dependence on resources or the creation of new markets and jobs.

Of particular importance is the identification of key economic sectors that should be directly involved in the process of circular economic transformation. In addition, it is important in the European framework, to map of the good practices that could be transferred to the economy in the Republic of North Macedonia, when it comes to the circular economy.

In the framework of this paper, through the application of a methodological framework of content analysis, comparison, synthesis, and generalization, a diagnosis of the current situation regarding a circular economy in North Macedonia will be presented, as well as the identification of priority sectors/areas as the main key for the future perspectives of the circular economy within these society frameworks.

It requires the involvement of all key stakeholders, including government institutions, the private sector, civil society, and academia, to apply a comprehensive approach in setting a future roadmap for a circular economy and encouraging a circular transition for the greater benefit of society of the Republic of North Macedonia, with special reference to improving the future of small and medium enterprises.

Keywords: circular, economy, potentials, projections, North Macedonia, small-medium enterprises

Introduction

The Republic of North Macedonia is characterized by a different industry that small and medium-sized enterprises deal with. In that direction, the following table of analysis can be presented: (1) metallurgy, textile, and automotive – put considerable pressure on resources as they are characterized by low recycling and low reuse patterns with high production-related emissions; (2) Agriculture's contribution to GDP is declining and the sector is characterized by the prevalence of subsistence farming and rather underdeveloped infrastructure; (3) High dependency on oil and coal energy generation in North Macedonia – representing 67% of its energy supply and 86% of CO₂ emissions – undermines its climate commitments and the long-run sustainability of its energy sector; (4) Renewable energy only accounts for 14% of North Macedonia's energy supply, the lowest share in the Western Balkans, despite the great potential for wind and solar generation.

North Macedonia's domestic material consumption has been on a slightly decreasing trend since 2015, and its resource productivity reached an all-time high value in 2018 at 0.55 EUR/kg, albeit much lower than the EU average (2.1 EUR/kg). North Macedonia's domestic material consumption is dominated by fossil energy materials and biomass, both shares being higher than in the EU. While the import dependency of these two materials has slightly increased over the past decade, North Macedonia remains the most import-dependent on metal ores. Waste separation at source and recycling remains almost non-existent in North Macedonia (less than 1%). Disposal to landfills is the main method of managing waste and hundreds of illegal dumpsites have emerged as a result of the lack of organized waste collection services.

To the above, the current legal and policy frameworks in North Macedonia do not provide a solid basis for the circular economy transition. Nevertheless, the concept of circular economy has been included in recently adopted waste management and industry policy frameworks. Therefore, the knowledge and awareness of circular economy among all stakeholders is still at a low level in North Macedonia.

The main research question of this paper is the following: *Have the key economic sectors in Macedonian society been identified that, in accordance with the mapping of good European economic practices, can use the concept of a circular economy?*

Literature review

Circular economy, a concept based on the principles of designing out waste and pollution, keeping products and materials in use for longer, and regenerating natural systems is still at a nascent stage in the Western Balkans, as shown in the OECD Competitiveness Outlook 2021 and the OECD SME Policy Index 2022. Over the years, a constant increase in waste generation per capita in the region has been noted, with the recycling rate of municipal waste among the economies being very low, whereas resource intensity as a measure of the efficiency of resource use has remained comparatively high (OECD, 2021). Enterprises in the region are also rarely aware of circular economy opportunities, such as reduced environmental impact, more sustainable use, and preservation of natural resources, lower production costs, boosted innovation, increased competitiveness, higher resilience to external shocks through reduced resource dependency or the creation of new markets and jobs (OECD, 2022).

The COVID-19 pandemic showed that dependency on globalized linear supply chains and cheap virgin raw materials poses high economic risks, leading to production disruptions and revenue losses, rendering the current linear economic model ('take-make-dispose') unsustainable. In that context, the pandemic has created a unique momentum to make the economic recovery more sustainable, with a circular economy representing an optimal means to contribute to this endeavour.

A circular economy transition is part of the Green Agenda for the Western Balkans and is supported through the European Commission's Economic and Investment Plan for the Western Balkans. The EIP aims to spur the long-term recovery of the region and foster sustainable and inclusive growth for investment flagships in the areas of transport, energy, green, and digital transition. According to the above, there is a need to link economic growth and new business opportunities in the Western Balkans region to more sustainable production and consumption patterns, by encouraging waste prevention, reuse, and recycling, decreasing waste production, increasing resource productivity, and reducing pollution.

Recognizing the importance of circular economy transition, Western Balkan economies should be in the process of developing strategic frameworks. If North Macedonia is compared with the region, Serbia and Montenegro have already adopted circular economy roadmaps in 2020 and 2022 respectively, Kosovo, Bosnia, and Hercegovina are in the process of developing it, and the circular economy developments in Albania and North Macedonia started the early stage.

Small and medium-sized enterprises in North Macedonia need to work dedicatedly and intensively to raise the level of awareness of the circular economy of all citizens, especially the industries concerned, regardless of whether it is a public or a private sector. It is important for the public to know the basics of product and waste recycling, while the business community needs to know the models that support a circular economy.

Methodology

The paper uses a qualitative research framework, that is, a method of content analysis; a method of comparison; and a method of generalization and specification. In addition, the paper uses secondary quantitative data, which complements the framework of the display of relevant data for the analysis and interpretation of the main research question.

Discussion of results

In the framework of this paper, several recent secondary researches are presented that lead to the explanation (analysis and interpretation) of the main research question of this paper, : *Have the key economic sectors in Macedonian society been identified, which, in accordance with the mapping of good European economic practices, can use the concept of circular economic?*

North Macedonia's value added by economic activity shows that the economy is particularly reliant on wholesale and retail trade, followed by mining, quarrying and manufacturing as well as agriculture forestry and fishing.

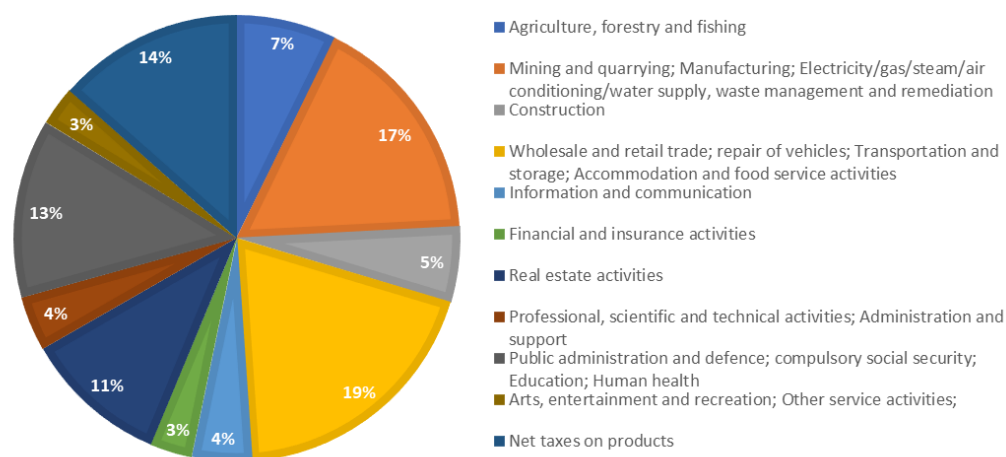


Figure 1: Value added by economic activities in North Macedonia (% of GDP), 2021

Source: MAKStat, 2022

North Macedonia's economy is dominated by services, which account for 56.9% of GDP and 58% of employment in 2021 (Figure 2). Exports of services have increased considerably in the past decade but account for 25% of total exports. This is the case despite the strong potential for the development of services linked to manufacturing and food processing global value chains (e.g. transport logistics, packaging) and the rapidly growing domestic ICT sector.

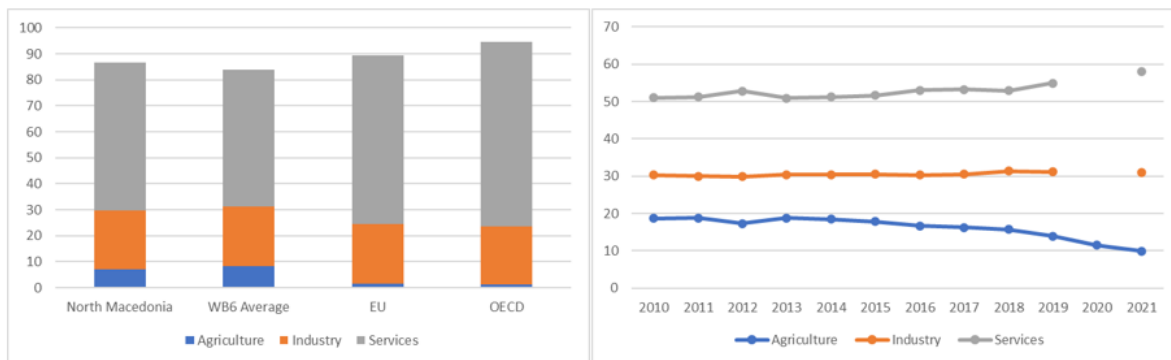


Figure 2: Value added by grouped activity in North Macedonia (% of GDP), 2021 and share of employment by economic activity in North Macedonia (in %), 2010-2022
Source: ILOSTAT, 2023

In the analysis done in this domain, an industry that includes construction, energy, mining, and manufacturing is shown. Shares for the development of agriculture, industry, and services are also presented, however, due to the indirect measurement services of financial intermediaries and net indirect taxes, they do not show the entire one hundred percent value.

All these aspects of analysis are important to have an insight into the real situation and to ensure an easier transition to a circular economy, as well as to enhance new trading opportunities for services trade, such as waste management, recycling, refurbishment and remanufacturing, reuse, and repair, as well as new business models and product service systems.

Additionally, it is important to present standards that would reduce services trade barriers for such activities that could serve as the basis of circular economy policies (e.g. eco-design, eco-labeling, green public procurement) and play a key role in facilitating the uptake of circular efforts in international trade.

Namely, according to OECD data (OECD, 2022), services represent the main economic activities for more than 68.8% of SMEs in North Macedonia (with close to half of SMEs working in the distributive trade sector), which account for 99.9% of enterprises and 73.9% of employment. The large share of SMEs working in the service sector can be a key driver in achieving circular objectives, both due to SMEs' flexibility in adopting circular business models ("green performers") and their contribution to developing new products, technologies, and approaches that address environmental challenges.

The circular economy is in direct correlation with resource management, concerning the treatment of municipal waste. This is particularly important for further positive involvement of small and medium-sized enterprises in aspects of the circular economy. According to the above, North Macedonia's level of municipal waste generation is higher than neighboring economies and has been increasing over recent years (Figure 3). Municipal waste generation in North Macedonia increased from 786,000 tonnes in 2015 (corresponding to 380 kg per capita) to 916,000 tonnes in 2019 (corresponding to 441 kg per capita). However, there are no exact statistics for waste generation, as data and reports are based on estimations, due to the lack of weighing equipment at landfills and the extensive use of illegal dumpsites. Moreover, official data on recycling are based on reports received from only eight municipalities. A significant part of the waste generated remains uncollected by the official system (Ministry of Environment Physical Planning, 2021).

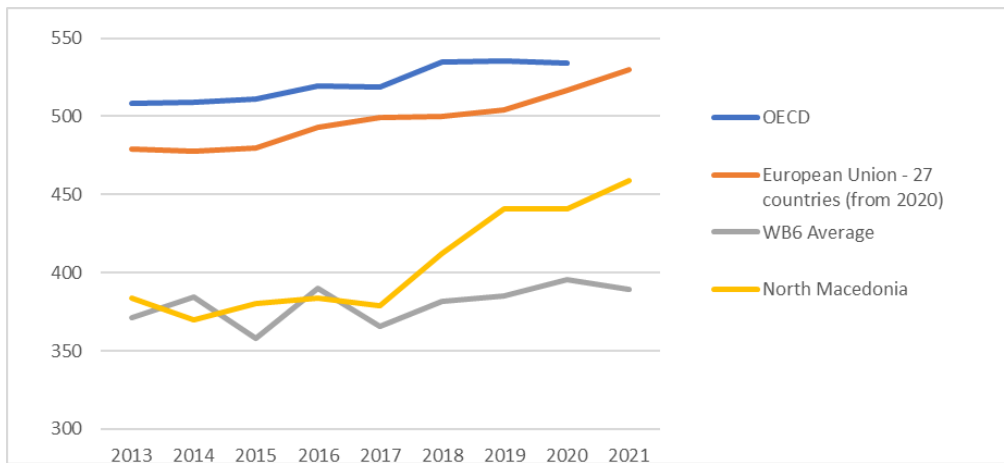


Figure 3: Municipal waste generation (kg/capita), 2013 - 2021
Source: Ministry of Environment and Spatial Planning, 2021

Regarding recycling, no separate collection of bio-waste or dry recyclables in North Macedonia is organized by the municipalities. The main system for waste collection consists of ‘bring points’ with containers for residual waste collection, where citizens take their waste for disposal. There are some small-scale recycling activities, with informal waste pickers collecting waste from dumpsites and bins and selling it to the recycling industry.

The transition to a circular economy has been incrementally gaining momentum in North Macedonia, although no specific policy framework targets a circular economy. Some activities have been undertaken to promote a circular transition in the economy, primarily by international partners, civil society, and academia but they remain rather uncoordinated and ad hoc.

In connection with the circular economy, in North Macedonia, the following institutions have competence in the creation of concepts as well as the implementation of relevant policies. These are: The Ministry of Economy, the Ministry of Environment and Physical Planning, the Ministry of Finance, and the Ministry of Agriculture, Forestry, and Water Management are the institutions most relevant to the conception and implementation of circular economy policies. Certain documents, in this domain, which can be considered when it comes to the implementation of policies and practices in the domain of the circular economy, are the following: (1) Strategy on Climate Action was adopted in 2021, which includes a specific focus on promoting the circular economy; (2) Green Agenda for the Western Balkans 2020-2030; (3) National Plan for Waste Management 2021-2031; (4) Waste Prevention Plan 2022-2028; Long-term Strategy on Climate Action 2021-2050; (5) National Strategy for Sustainable Development of North Macedonia 2010-2030; National Energy and Climate Plan 2021-2030.

What is important about supporting small and medium-sized enterprises to enable progress in the domain of the circular economy is the strengthening of the legal and political framework related to the private sector and industrial development.

What needs to be paid attention to in the next framework for the development of the concept of circular economy among small and medium-sized enterprises in North Macedonia is the following:

- Increase the share of renewable energy by phasing out coal-fired power plants (to increase the installed capacity of solar PV and hydropower, followed by wind).
- Enhancing energy efficiency, in particular in building, industry and transportation. This includes promoting energy-efficient technologies and encouraging energy consumption reduction.
- Strengthening North Macedonia’s adaptation to the impacts of climate change, such as increasing the resilience to extreme weather events, improving water management and promoting sustainable land-use practices.

- Promote a circular economy, by reducing waste and promoting the reuse and recycling of materials. This aim will be to help reduce greenhouse gas emissions, increase resource efficiency and create new economic opportunities.
- Undertake green regulatory reform – market interventions to stimulate the development of the green manufacturing industry. Legal requirements are meant to improve energy efficiency and accelerate the use of the best available techniques in the industry.
- Introduce Green Public Procurement for high-impact goods and services.
- Support industry-led green manufacturing initiatives (greening value chains), through the promotion of environmental improvements.

In line with the above, North Macedonia's SME Strategy (2018-2023) has a special focus on environmental policies and is aligned with the Small Business Act for Europe and translates Principle 9, which is to enable SMEs to turn environmental challenges into opportunities.

In addition, regular advice, guidance, encouraging the use of recyclable resources, as well as the introduction of financial incentives for greening, are needed to bring the concept of the circular economy closer to the way small and medium-sized enterprises operate.

Conclusions

In the Republic of North Macedonia, there are business enterprises that implement a circular economy model, although they are in a particularly small percentage. They are all promoting different ways of producing and consuming goods and services. While their contribution is required to transition to a more resource-efficient and circular economy, they have rarely been supported financially and technically by government measures. Moreover, as the vast majority of businesses are still not familiar with circular concepts, it remains difficult to map all actors concerned.

The paper uses data related to: (1) Value added by economic activities in North Macedonia; (2) Share of employment by economic activity in North Macedonia; and (3) Municipal waste generation (kg/capita), to enable the explanation of the research question from several aspects, that is, the current economic situation, the current situation in the industry and the handling of municipal waste.

The academy, academic research centers and institutes, as well as stakeholders, international foundations, and civil society through innovative support projects have their role in the promotion of the concept of circular economy within the framework of small and medium-sized enterprises. In addition, it is important to enable a joint, integrative approach between the existing state strategic documents and the educational framework for higher education on a long-term basis, to create competent educational curricula, with a focus on the green and circular economy.

The paper provides a complete answer to the research question, from the aspect that it is necessary to redefine the framework of sectors that can be part of the circular economy, concerning opportunities and positive projections for the involvement of each business framework (with appropriate institutional support).

Recommendation

As future initiatives, it is necessary to improve the institutional and legislative elements in the following frameworks:

- Regular donor projects, relevant to the circular economy in North Macedonia;
- Fiscal and technical support of the government in various areas of small and medium-sized enterprises, concerning a green circular economy;

- Involving a greater number of stakeholders and activists to raise awareness of waste management;
- Encouraging innovation and technology development by providing additional resources for financing innovative activities;
- Additional state subsidies for small and medium enterprises;
- Certification of environmental and energy management systems for the purpose of availability of efficient tools;
- More efficient use of natural resources in the production of construction materials, especially through their extraction and the development of innovative technologies enabling the production of construction materials from industrial waste

Limitations of the study

The need for future improvement of the research process on this issue, through the implementation of an empirical research framework, qualitative and quantitative on a target group of small and medium-sized enterprises, to supplement the set of relevant data for introducing the concept of circular economy into everyday practice.

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