

1 Introduction

This chapter outlines the objectives, structure and context of the circular economy roadmap. Moreover, it explores the concept of the circular economy, providing an overview of the increasing momentum for its implementation in North Macedonia.

Objectives and scope of the roadmap

The principal aim of this roadmap is to assist the government of North Macedonia in establishing a sound policy framework for its transition to a circular economy. This involves strengthening inter-governmental co-ordination and stakeholder engagement, thereby facilitating the necessary transformations. Drawing from a thorough diagnostic of the state-of-play of the circular economy in North Macedonia, and integrating ongoing policy initiatives, the roadmap seeks to foster synergies across the various sectors, measures and stakeholders involved in the circular economy. It provides essential policy recommendations for five priority areas: 1) circular business models for small and medium-sized enterprises (SMEs); 2) construction; 3) biomass and food; 4) textile; and 5) mining and metallurgy.

By incorporating the measures outlined in this roadmap into its regulatory and policy framework, North Macedonia can establish a comprehensive and cohesive policy structure. The effective implementation of these specific measures is pivotal for facilitating the shift towards a circular and climate-neutral economy. Additionally, the adoption of these measures is expected to yield various direct and indirect advantages, including: greater resource efficiency; improved waste management; reduced environmental pressure and the associated benefits for public health; improved material security; and increased industrial competitiveness and job creation. As these benefits materialise over time, they are projected to shape the long-term strategic trajectory and the institutional framework necessary for the transition to a circular economy. This, in turn, is poised to make a positive contribution to achieving national climate and environmental objectives.

The key elements of this roadmap that support the circular economy in North Macedonia are:

- A rationale for the transition to a circular economy in general and within North Macedonia's context.
- A diagnostic presenting a comprehensive analysis of the state-of-play of the circular economy in key economic sectors, recent environmental developments and circular trends, and the existing policy landscape concerning the circular economy, highlighting the key policy gaps in North Macedonia.
- A potential overarching vision, and the roadmap's strategic goals and targets.
- An analysis of and key recommendations for the five selected priority areas (circular business models for SMEs, construction, biomass and food, textile, and mining and metallurgy).
- A monitoring framework with a set of key indicators, based on European Union (EU) circular economy indicators, to support the implementation of the roadmap and measure progress towards achieving its objectives.

Context for the roadmap

The Republic of North Macedonia is taking proactive measures to confront the challenges arising from growing vulnerabilities to climate change, dependence on imported raw materials and increasing amounts of waste. These challenges significantly impact the country's efforts towards regional integration and alignment with the European Union. Prioritising competitiveness, fostering fair and equitable growth, decarbonising the economy, and preserving the environment stand prominently as key priorities of North Macedonia's national interests.

The national commitment to sustainable development, as outlined in North Macedonia's National Strategy for Sustainable Development (2010-2030), relies on the successful adoption of circular economy principles aligned with the United Nations Sustainable Development Goals (SDGs). The journey towards sustainable development and EU integration mandates a comprehensive strategy for waste management, which is a central focus of both the National Plan for Waste Management (2021-2031) and the National Waste

Prevention Plan (2022-2028). These plans are designed to facilitate the necessary shift from a linear waste model to a circular approach that emphasises promoting reuse and recycling.

While North Macedonia has yet to strengthen its framework for environmental protection, extending beyond climate change mitigation to align with the EU *acquis*, the Long-term Strategy on Climate Action (2021-2051) places a strong emphasis on enhancing institutional capacity to cut greenhouse gas (GHG) emissions. This strategy aligns with the EU climate framework and the objectives of the Paris Agreement. Other environmental considerations are increasingly being incorporated into industry-specific policies. A notable example of this is the Smart Specialisation Strategy, which strives to facilitate a green transition across key sectors (including, for example, the agriculture and food sector and manufacturing industries). This involves reshaping supply chains to accommodate more circular products and services while fostering eco-innovation in crucial economic domains.

Key governmental institutions have acknowledged the importance of a circular transition in attaining national and regional development goals. The Ministry of Economy is responsible for steering the progress towards a circular economy. Given the interdisciplinary nature of the circular shift, comprehensive, whole-of-government participation is essential in crafting and executing policies related to the circular economy. Consequently, other institutions such as the Ministry of Environment and Physical Planning; the Ministry of Finance; the Ministry of Agriculture, Forestry and Water Management; and the Ministry of Transport and Communication equally play a crucial role in contributing to this transformative endeavour.

Tangible progress in the realm of the circular economy in North Macedonia has been sparse thus far. The low awareness of circular economy concepts among society, with 77% of citizens not having a clear idea of what the circular economy entails (RCC, 2022^[1]), and limited financing options for businesses are some of the main challenges in this regard. The initiatives undertaken in this context have been somewhat disjointed, lacking a cohesive and co-ordinated strategy. This absence of concerted efforts has significantly hindered the shift toward a circular economy in North Macedonia, and is the primary justification for the development of this roadmap.

Overview of the circular economy

The circular economy concept

Mounting concern about environmental issues such as climate change, acidification, eutrophication and intensive land use have captured global attention to the ever-rising rates of material extraction and consumption. This recognition highlights the merit of the circular economy concept, which represents a significant shift away from the traditional linear economic model of “take-make-dispose” and offers a promising approach to address environmental pollution more effectively.

Within a circular economy, goods and services are purposefully designed, produced and consumed to minimise the use of finite material resources. This practice upholds essential principles such as minimising waste throughout the entire product life cycle, recovering materials from waste streams for recycling or reuse, prolonging product life cycles, prioritising durability, and exploring opportunities within the sharing and services economy. Its core tenets include advocating for the repair, reuse and recycling of materials and products, all with the overarching goal of establishing a regenerative closed-loop system.

More specifically, a circular economy transforms the flows of products and materials through three key mechanisms (McCarthy, Dellink and Bibas, 2018^[2]):

1. **Closing resource loops** through the substitution of secondary materials and second-hand, repaired or remanufactured products in place of their virgin equivalents.
2. **Slowing resource loops** through the emergence of products which remain in the economy for longer, usually due to more durable product design.

3. **Narrowing resource flows** through more efficient use of natural resources, materials and products, including the development and dissemination of new production technologies, increased utilisation of existing assets, and shifts in consumption behaviour.

Shifting to a circular economy offers various potential benefits. It notably improves resource efficiency and promotes the sustainable handling of materials, effectively mitigating resource depletion, reducing ecosystem degradation and lowering the carbon footprint of economic activities. The benefits of this transition encompass a significant reduction in GHG emissions, new employment opportunities and less dependence on scarce resources. Beyond prioritising environmental sustainability, the circular economy also reinforces economic resilience and stimulates innovation toward more sustainable production and consumption practices.

The circular economy concept has gained broad acceptance, permeating national and international policy making, civil society, and the business sector. Nevertheless, it is essential to note that there is no universally agreed-upon definition or approach to it. Instead, policies and initiatives are tailored to align with the distinct objectives of governments seeking a transition toward a resource-efficient circular economy.

Enhancing resource efficiency and facilitating the shift towards a circular economy are essential in promoting green growth, recognised widely in comprehensive environmental and economic policies. Numerous international organisations actively endorse the circular economy. For example, the OECD has established a Circular Economy Policy Framework, providing guidance to its member countries as they transition towards circular practices. The United Nations promotes sustainable consumption and production through the SDGs, with a specific focus on SDG 12. Additionally, the Plastic Waste Partnership, led by the United Nations Environment Programme, addresses global plastic pollution through circular solutions. The World Economic Forum's Circular Economy Initiative advocates for circular business practices while the G7 Alliance on Resource Efficiency promotes circular economic policies and practices in some of the world's largest economies. Beyond policy-making bodies, influential international and non-governmental organisations collaborate with stakeholders from the private sector, academia and civil society to propel the adoption of circular economy practices.

The European Union's policy framework and legislation promoting a circular economy

The European Union prioritises the journey toward a circular and net zero economy as a key policy objective. To realise its ambitious vision of becoming the first climate-neutral continent by 2050, embedded in its European Green Deal (European Commission, 2019^[31]), the European Union actively promotes the transition to circularity.

Building upon the initial Circular Economy Package, which introduced the EU Circular Economy Action Plan in 2015, the European Union reiterated its commitment in 2020 with a renewed plan. The plan serves as a fundamental component of the EU Green Agenda, which aims to achieve climate neutrality by decoupling economic growth from resource consumption, enhancing EU competitiveness, and facilitating a fair and inclusive transition. It establishes ambitious targets, including commitments to recycle 65% of municipal waste and 75% of packaging waste by 2035, employing measures such as reducing single-use plastics and strengthening ecodesign principles for extended product life cycles.

The European Union's legal framework for the circular economy is intricately linked to the "Fit-for-55" package, a comprehensive set of legislations designed to align EU policies with the climate goals outlined in the EU Climate Law.

Numerous established regulations already support the circular economy, and ongoing revisions, as proposed in the Circular Economy Action Plan, continue to enhance this legal framework. Together, these legal instruments establish a robust foundation for the transition to a circular economy in the European Union, making substantial contributions to resource efficiency and environmental sustainability.

- The Waste Framework Directive defines the core principles of waste management, including waste prevention and recycling targets. The latest proposal for a targeted revision of the directive was published in July 2023 (European Commission, 2023^[4]). It aims to introduce a mandatory and harmonised extended producer responsibility scheme for textiles, in line with the EU Strategy for Sustainable and Circular Textiles (European Commission, 2022^[5]).
- The Packaging and Packaging Waste Directive sets specific targets for packaging recycling and recovery. It is undergoing revisions to strengthen packaging requirements, with a focus on enhancing packaging reusability and recyclability, promoting the use of recycled materials, and ensuring effective enforcement (European Parliament, 2023^[6]). A complementary policy framework for bio-based, biodegradable and compostable plastics was also developed (European Commission, 2022^[7]).
- The Ecolabel Regulation, adopted in 2010, helps manufacturers and businesses optimise production and save costs while enhancing their green brand and image. Special discounts on EU Ecolabel fees exist for SMEs to reduce application costs. Through its proposal for a directive on empowering consumers for the green transition, as part of the Circular Economy Package, the European Union is seeking to tighten the rules on greenwashing and ecolabels (European Commission, 2023^[8]).
- In 2022, proposals for a new Ecodesign for Sustainable Products Regulation (European Commission, 2022^[9]), a revised Construction Products Regulation (European Commission, 2022^[10]) and the Empowering Consumers for the Green Transition Regulation (European Commission, 2022^[11]) were adopted.
- The EU Taxonomy Regulation, which entered into force in 2020, establishes an EU-wide classification system for sustainable activities by setting out four overarching conditions that an economic activity must meet to qualify as environmentally sustainable. The transition to a circular economy is a key objective of the regulation.

In addition to regulatory and policy mechanisms, the European Union promotes and facilitates stakeholder involvement in the transition to a circular economy. Two platforms that contribute to this engagement are the EU Circular Economy Stakeholder Platform, established in 2017, and the Global Alliance on Circular Economy and Resource Efficiency, initiated in 2021. They serve as forums for collaboration, knowledge sharing and policy development, fostering advancements in the circular economy at both regional and global levels.

Momentum for a circular economy in the Western Balkans and North Macedonia

Over the years, there has been a constant rise in per capita waste generation in the Western Balkans, coupled with a notably low recycling rate for municipal waste and a comparatively high resource intensity, indicating low efficiency in resource use (OECD, 2021^[12]). This places a substantial burden on the environment, resulting in degradation; biodiversity loss; and water, air and soil pollution, thereby contributing to climate change. Furthermore, the COVID-19 pandemic underscored the economic risks associated with dependence on globalised linear supply chains and cheap virgin raw materials, leading to production disruptions and financial losses, revealing the unsustainability of the current linear economic model. In response to these challenges, the circular economy has gained prominence as a solution to addressing critical environmental issues while simultaneously fostering sustainable and resilient economic development.

The Western Balkan region is of strategic importance to Europe's overarching objective of achieving carbon neutrality by 2050. On 10 November 2020, regional leaders affirmed their commitment to aligning with European climate targets through the signing of the Sofia Declaration on the Green Agenda for Western Balkans. As a crucial element of the Green Agenda for Western Balkans, the European

Commission's Regional Economic and Investment Plan endorses the transition to a circular economy. The Green Agenda for the Western Balkans underscores the necessity of connecting regional economic growth and new business opportunities to more sustainable production and consumption practices. This involves promoting waste prevention, reuse and recycling as well as minimising waste generation, enhancing resource productivity and addressing pollution, particularly plastic pollution.

Driven by a combination of environmental considerations, economic factors, and efforts towards regional and EU integration, the adoption of circular economy principles and practices is gaining momentum in the Western Balkans. Serbia and Montenegro adopted circular economy roadmaps in 2020 and 2022, respectively, accompanied by related programmes/strategies and action plans. Kosovo* adopted its circular economy roadmap in March 2023, while Bosnia and Herzegovina is currently in the process of developing a similar document. With the support of the OECD, work on circular economy roadmaps in Albania and North Macedonia commenced at the end of 2022, with the goal of completing them by early 2024. This document reflects the outcomes of the efforts undertaken in North Macedonia.

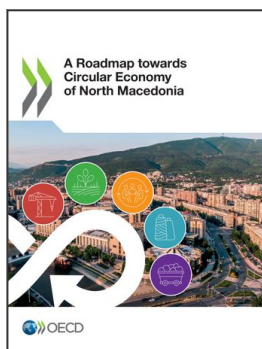
With the active development of its circular economy framework, North Macedonia can tackle critical aspects of its circular economy. A primary concern is the inadequate management of waste, which is a common issue shared with neighbouring economies. Additionally, the limited awareness of circular concepts and opportunities within both the broader society and the business community poses a risk of overlooking crucial prospects for essential and environmentally friendly developmental investments.

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* This designation is without prejudice to positions on status and is in line with United Nations Security Council Resolution 1244/1999 and the Advisory Opinion of the International Court of Justice on Kosovo's declaration of independence.

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