

# *The potentials and opportunities of circular economy in Albania*

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***Dr. Forcim KOLA***

DEPARTMENT OF MANAGEMENT & MARKETING,  
EUROPEAN UNIVERSITY OF TIRANA, TIRANA, ALBANIA  
forcim.kola@uet.edu.al

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***Dr. Teuta ÇERPJA***

DEPARTMENT OF ECONOMICS & FINANCE,  
EUROPEAN UNIVERSITY OF TIRANA, TIRANA, ALBANIA  
teuta.cerpja@uet.edu.al

## **Abstract**

***Purpose:*** This paper explores the potential and opportunities of implementing a Circular Economy model in Albania. The Circular Economy framework aims to maximize resource efficiency, minimize waste generation, and promote sustainable production and consumption patterns.

The study examines the current opportunities of the Albanian economy and identifies potentials where Circular Economy principles can be effectively implemented. It also assesses the potential benefits that a transition to a Circular Economy model can bring, such as job creation, cost savings, and environmental protection.

The paper highlights the challenges and barriers that Albania may face in adopting Circular Economy practices and provides recommendations for policymakers, businesses, and other stakeholders to accelerate the shift towards a more sustainable economic model.

***Methodology:*** Secondary research was conducted using different databases of some international organizations and some public and private organizations in Albania.

**Findings:** Results obtained from this research methodology show that improving recycling infrastructure and implementing more efficient waste management practices can help reduce the amount of waste sent to landfills, while also creating new job opportunities and supporting the development of a green economy.

Among others, developing circular economy practices can help reduce the country's reliance on imported raw materials, promoting domestic resource production and helping to build resilience in the face of global supply chain disruptions.

**Value:** As per recommendation, based on these findings, Albania should implement specific strategies for the development of a circular economy model as it has the potential to drive sustainable economic growth, innovation, and job creation.

**Keywords:** Circular economy, Economic growth, green economy, Innovation.

## Introduction

Circular economy appears to have been coined in the 20th century (Pearce & Turner, 1990). The authors created a new “circular” that uses thermodynamic rules and sharply criticized the outdated linear economic model methodology, arguing that “everything could be an input to everything else.” The circular model, which includes the fundamental economic roles of ecosystems - resource provider, waste assimilator, and source of utility - prominently displays the shared interactions between the economy and the environment (Rizos et al., 2017).

Below is an overview of global trends in the development of the circular economy:

**Government Initiatives:** A growing number of governments are realizing how critical it is to shift to a circular economy model. To encourage resource efficiency, waste reduction, and sustainable production and consumption practices, they are putting policies and regulations into place.

**Corporate Engagement:** To cut expenses, minimize waste, and improve their reputation, companies are adopting the concepts of the circular economy. To increase the lifespan of goods and materials, several businesses are implementing strategies including recycling, remanufacturing, and product redesign.

**Innovation and Technology:** In the circular economy, innovation is being propelled by technological advancements. This covers advancements in waste-to-energy techniques, digital platforms for material tracking and resource sharing, and recycling technology.

**Collaborative Initiatives:** It's becoming increasingly typical for stakeholders, including governments, corporations, non-governmental organizations, and research institutes, to work together. Through information exchange, collaborative

projects, and resource sharing, these partnerships seek to address systemic issues and expedite the shift to a circular economy.

*Consumer Behaviour and Awareness:* Consumers are becoming more conscious of how their consumption habits affect the environment. Due to the rising demand for environmentally friendly goods and services, businesses are being forced to implement circular business models and give more accurate information on the lifetime of their goods.

*Designing products with circularity:* To make goods that are simpler to recycle, reuse, or repair, designers are taking durability, end-of-life alternatives, and material selection into consideration more and more. Professionals are being trained in the concepts and practices of the circular economy through the emergence of educational initiatives.

*Hubs and Networks for the Circular Economy:* To encourage cooperation, exchange best practices, and stimulate innovation at the local and regional levels, cities, regions, and organizations are setting up hubs and networks for the circular economy.

*Opportunities and Challenges:* Notwithstanding the advancements made thus far, obstacles like disjointed supply chains, inadequate facilities for recycling and garbage disposal, and regulatory constraints must be addressed. Nonetheless, these obstacles also offer chances for investment, innovation, and the development of jobs in industries associated with the circular economy.

The Economic and Investment Plan (EIP) for the Western Balkans by the European Commission supports the shift to a circular economy, which is a component of the Green Agenda for the region. With funding for investment flagships in the areas of energy, transportation, the green economy, and digital transformation up to EUR 9 billion, the EIP seeks to promote sustainable and inclusive growth as well as the long-term recovery of the region.

These documents emphasize how important it is to connect more sustainable production and consumption patterns with economic growth and new business opportunities in the Western Balkans region. This can be achieved by promoting waste prevention, reuse, and recycling, lowering waste production, raising resource productivity, and lowering pollution (such as plastic pollution).

Recognizing the importance of circular economy transition, Western Balkan economies have prepared or are in the process of developing strategic frameworks. Serbia and Montenegro have already adopted circular economy roadmaps in 2020 and 2022 respectively, Kosovo launched its circular economy roadmap in March 2023 and Bosnia and Herzegovina is currently in the process of developing it. Circular economic developments in Albania and North Macedonia are at an early stage.

The level of knowledge and awareness of the circular economy among all stakeholders is still at a low level in Albania. Around 70% of the population does not know what elements circular economy consists of, while only 7% defined it as encompassing recycling of products and waste (RCC, 2022).

Moreover, only 20% of businesses believe that their business models allow for a shift towards a circular economy, with added costs and the lack of government subsidies being the most significant impediments in this regard (RCC, 2022). According to a study conducted in 2020, 24% of the public and half of small and medium-sized enterprises (SMEs) interviewed declared to be familiar with the concept of circular economy. Nevertheless, only 15% of the public and 44% of SMEs had correct knowledge of its concept (EnvNet, 2021).

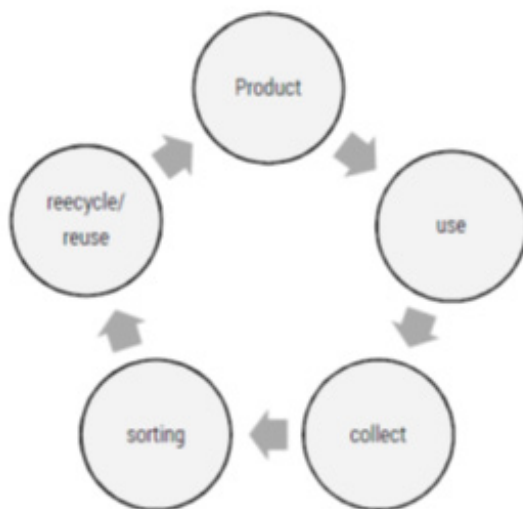
Numerous parties have participated in various initiatives and activities relating to the circular economy in Albania. They concentrate on several circular economy-related topics, but mostly waste management and awareness-raising initiatives. Nonetheless, there is still room for improvement in terms of coordination and the creation of synergies between them.

## Literature review

The circular economy is a type of economics that emphasizes the use of business models to recover, recycle, reduce, and reuse materials at various points during the production and usage of goods. For the benefit of the current and future generations, the primary objective is to achieve sustainable development, which entails establishing an atmosphere with high standards, economic prosperity, and social equality (Rashid & Hussain, 2023).

Specifically, businesses profit from low costs by exchanging large quantities of inexpensive goods. There is a different option. Figure 1 below illustrates how a “circular economy” would minimize waste and close loops in industrial ecosystems by repurposing products that have reached the end of their useful lives. It would rewrite economic logic to substitute sufficiency for production, recycling what cannot be recycled, repairing what breaks, and remanufacturing what cannot be repaired.

**FIGURE 1.** The circular economy concept illustration (Ezeudu and Ezeudu, 2019).



Also, businesses play a crucial role in the transition to a circular economy. They can implement circular economy concepts and practices to decrease their environmental effect, increase resource efficiency, and provide new economic opportunities (Carter and Rogers, 2016). However, envisioning and implementing circular economy programs at the corporate level is fraught with numerous challenges and complexities (Johnson and Roberts, 2019). Understanding how businesses perceive and understand the circular economy is essential for its successful implementation and integration (Lee and Chen, 2017).

“Circular economy is an effective approach that would transform the function of resources in the economy,” according to definitions provided by various scholars (Preston, 2012). Existing technology, for instance, makes it possible to use waste from one business as a material input for a subsequent operation at another (cradle to cradle) since items can be updated, repaired, or repurposed after their life cycle rather than being thrown away. (Rizos et al, 2017).

Reducing energy-intensive operations, raw material, and water consumption, as well as air pollution and waste, is one of CE’s goals. We can accomplish that goal by taking a proactive approach with a cleaner production philosophy. Additionally, eco-efficiency, a concept that emphasizes both the economic and environmental aspects, can be useful. Its main objectives are to decrease resource use and boost production. Green innovation plays a major role in promoting eco-efficiency (Cainelli & Mazzanti, 2013) by enabling businesses to consider all environmental harm created during a product’s or process’ life cycle (Kemp & Pearson, 2007).

The circular economy is supported more than ever before since it increases the degree of sustainable production, allows raw materials to be maintained longer in production cycles and be used again, and reduces waste generation.

To reduce resource consumption and achieve significant economic prospects, a circular economy model must be implemented. However, a lot of work is needed, especially from a range of stakeholders, with a focus on small and medium-sized enterprises (SMEs). The world economy depends heavily on small and medium-sized businesses since they not only drive economic activity but also have a big impact on society and the environment (Hoffmann et al., 2023).

By virtue of its name, it implies that resources be retained in the economy for as long as feasible, supporting the utilization of trash as a product and raw material for other sectors.

## Research methodology

This study is exploratory research, having started with a review and analysis of the literature to bolster the solution to the given issue. To better understand the topics mentioned, the research uses a desk research qualitative approach with a descriptive objective. It looks at the possibilities and potential of implementing a circular economy model in Albania as well as the significance of environmental policies in the implementation of the circular economy (CE) based on its impact.

The exploratory methodology of desk research, sometimes referred to as secondary research, is compiling already available data, literature, and material that is pertinent to a given topic or research question. This methodology does not directly involve primary data collection methods like surveys or experiments; instead, it uses sources like books, journals, papers, internet, and databases.

The main themes of the research, “Circular Economy,” “Economic growth,” “Innovation,” and “Waste Management,” were searched for using the Scopus and Scholar Google databases. The research started in October 2023, and its primary goal was to locate publications that discussed actions and practical activities involving the Circular Economy theme and their implications, identifying them in the abstracts and key words as well as in the body of the scientific article or book/e-book.

The World Bank, United Nations, Eurostat, World Economic Forum, European Environment Agency, and other sources provided the data that were used.

Desk research has several limitations because it is unpredictable. There can be no assurance as to what the desk research will turn up and what gaps will remain, at least not for the inexperienced or in cases where the subject matter is new.

## Results and discussion

The OECD Competitiveness Outlook 2021 and the OECD SME Policy Index 2022 demonstrate that the circular economy, a concept built on the ideas of designing out waste and pollution, keeping products and materials in use for longer, and regenerating natural systems, is still in its infancy in the Western Balkans.

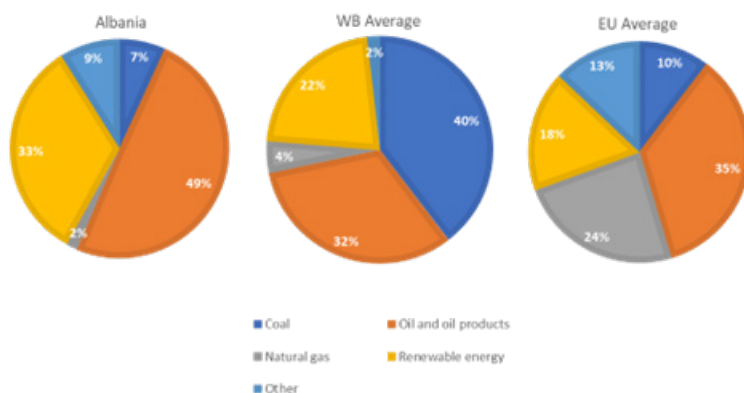
### *Recent developments relevant to the circular economy*

Albania has the greatest percentage of oil and oil products in the Western Balkans, accounting for about half of the country's energy supply. Albania is one of the few economies in the region that produces crude oil. Nevertheless, most of the crude oil produced is shipped to be refined overseas, rendering it a low-value product (Altax, 2019).

About 35% of Albania's energy comes from renewable sources, which is a larger percentage than that of its regional counterparts. Almost all this energy comes from hydropower (Eurostat, 2022). Albania's electricity supply is likewise largely derived from hydropower.

Although this gives it an advantage in decarbonizing its electricity sector, it also makes it extremely vulnerable to climate change. The economy must import electricity most years due to significant annual fluctuations caused by hydrological changes (Albania imported approximately 9% of its energy in 2020) (World Bank, 2022).

**FIGURE 2.** Energy mix in Albania, the WB6 and the EU (% of total energy), 2020. (Eurostat 2022)



Albania's energy industry will only be sustainable in the long run if water resources are better managed to support the country's ongoing reliance on hydropower, if the energy mix is diversified to include other renewable sources, and if demand growth is restrained by energy-saving measures.

Hydropower plants and dams can create greater value, such as helping to clean rivers with equipped trash racks and cleaning machines or improving water management services with water tracking devices for better climate forecasting. By incorporating circular economy strategies into hydropower generation, this could ensure its sustainability.

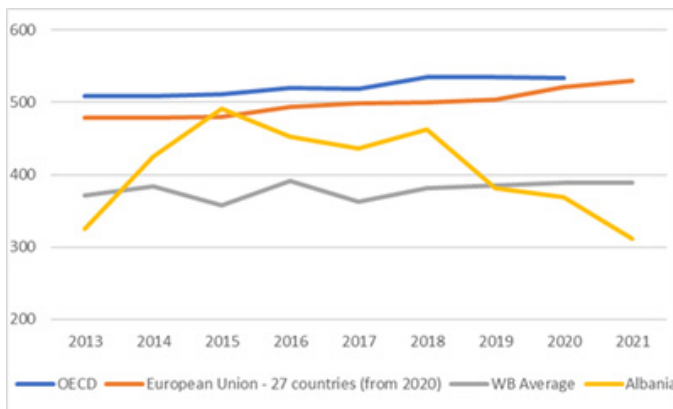
Long-term low-carbon electricity can be significantly impacted by the design of robust, easily disassembled, and recyclable hydropower plants (whose lifespan can exceed 100 years), provided that environmental protection is guaranteed for hydro production investments.

The acquisition of resources needed for investments in alternative renewable sources (wind and solar power), specifically rare earths, cobalt, and lithium, through mining alone, poses problems to energy security and sustainability (World Economic Forum, 2022). Thus, recycling renewable resources and utilizing secondary low-carbon commodities will be essential to facilitating the shift to clean energy.

### *Waste management*

When compared to neighbouring economies, Albania's level of municipal garbage creation is in the middle, with a little downward trend in recent years (Figure 3). From 1.4 million tons in 2015, or 491 kilograms per capita, to 0.9 million tons in 2021, or 311 kg per capita, was the decrease in the amount of municipal garbage generated (Eurostat, 2021).

**FIGURE 3.** Municipal garbage generation (kg/capita), 2013–2021 (Eurostat, 2021)





Nevertheless, this decline is explained by the years-long improvement in waste reporting, therefore it is not possible to identify a decline in general. Though reports and data are based on estimates made by recycling companies and municipalities, except for the few that send their waste to sanitary landfills or incinerators with weighing equipment, the data are still not thought to be of high quality because there are no precise statistics for waste generation (European Environment Agency, 2021).

Organic garbage accounted for 58.6% of Albania's municipal waste production in 2021, with plastic waste coming in second at 8.7% and paper waste at 8.5% (European Environment Agency, 2022). Regarding plastic garbage, Albania has one of the highest rates of untreated plastic waste in the Mediterranean amounting to 73% (WWF, 2019), and the situation is further compounded by litter from shipping and fishing in the Adriatic Sea (European Commission, 2020).

### *Albania's policy environment for the circular economy*

The Ministry of Finance and Economy, the Ministry of Infrastructure and Energy, the Ministry of Tourism and Environment (especially the recently formed Circular Economy Directorate), and the National Agency of Environment are the Albanian institutions most pertinent to the development and execution of circular economy policies.

The national legislation, strategic papers, action plans, and other legal and policy frameworks that are in place do not offer a strong foundation for the shift to a circular economy. Nonetheless, approaches from a variety of subject areas are thought to be pertinent in the context of the circular economy.

As required by the Energy Community, Albania is one of the two Western Balkan economies (together with North Macedonia) that has enacted a National Energy and Climate Plan by 2021. However, significant adjustments are required to guarantee that the strategy is effectively guiding the economy toward meeting the 2030 climate targets. The plan is deficient in ambition when it comes to decreasing greenhouse gas emissions, and many of the proposed policies lack an operationalization strategy with specific financing sources and timetables (Climate Action Network Europe, 2022).

## **General findings from the study analysis**

Albania's energy sector is not as sustainable as it may be due to its strong reliance on oil for transportation and its hydropower, which is susceptible to climate change.

Since 2016, Albania's domestic material consumption has been declining, and in 2021, its resource productivity hit a record high of 0.75 EUR/kg, although being significantly less than the EU average of 2.1 EUR/kg.

Albania is heavily dependent on imports, and as a result, the amount of metal ores and fossil energy carriers and materials consumed domestically has increased recently.

Municipal trash management is difficult since much of it is landfilled (80% of waste in Albania, compared to 23% in the EU). The amount of trash generated, both industrial and municipal (mostly organic, plastic, and mining), that is recovered and recycled is quite low.

Albania's current legislative and policy structures don't offer a strong foundation for the country's transformation to a circular economy. However, industry policy frameworks and waste management policies lately established also incorporate the circular economy notion.

In Albania, all stakeholders' understanding, and awareness of the circular economy are still lacking.

## Conclusions

The development of the circular economy in Albania holds significant potential for various sectors of the economy. By transitioning towards a circular economy model, Albania can reduce waste production, promote resource efficiency, and create opportunities for sustainable growth.

One key area of potential lies in the recycling and waste management sector. Improving recycling infrastructure and implementing more efficient waste management practices can help reduce the amount of waste sent to landfills, while also creating new job opportunities and supporting the development of a green economy.

The circular economy also offers opportunities for innovation and the development of new business models. By promoting the reuse and recycling of materials, Albania can encourage the growth of a circular economy sector that focuses on producing goods and services more sustainably.

Furthermore, developing circular economy practices can help reduce the country's reliance on imported raw materials, promoting domestic resource production and helping to build resilience in the face of global supply chain disruptions.

Overall, the development of a circular economy in Albania has the potential to drive sustainable economic growth, reduce waste production, and bring new opportunities regarding innovation and job creation.

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