THE ROLE OF BUSINESS MODELS IN THE TRANSITION FROM LINEAR TO CIRCULAR ECONOMY - CASE OF ALBANIA

Albina HYSAJ[31]

Abstract:

This paper explores the transition from a linear to a circular economic model in Albania, a country in the early stages of CE implementation. Through a comprehensive review of CE literature, the study identifies critical business model strategies for CE implementation at the firm, industrial, and national levels. These include waste-to-resource initiatives, product life extension, and industrial symbiosis. The paper also examines sector-specific opportunities in Albania, such as the integration of CE practices in waste management, agriculture, renewable energy, and tourism, emphasizing their potential to drive sustainable development and economic growth.

Despite progress, Albania faces challenges such as infrastructure deficiencies, weak regulatory frameworks, low public awareness, technological gaps, and cultural barriers. Addressing these issues requires a multilateral approach involving policymakers, businesses, academia, and international stakeholders. The study concludes that adopting creative business models, strengthening policies, and involving local communities are essential for Albania to benefit from a circular economy. By using its natural resources wisely and aligning with European Union standards, Albania can achieve sustainable growth and support global environmental goals.

Keywords: *Circular Economy, sustainability, business models.*

JEL classification*: O44, Q01, Q56.*

Introduction

The circular economy has drawn the attention of researchers and policymakers as it is oriented toward the sustainable management of resources contributing to sustainable development (Arruda et al., 2021; Moraga et al., 2019; Padilla-Rivera et al., 2020). A circular economy ensures the sustainability by extending the life of products. The aim of the circular economy model is to reduce the waste to the minimum. When a product comes to the end of life, it is aimed to keep the materials within the economy and recycle them.

Circular economy has a significant economic, environmental, and social impact. Rizos, Tuokko, & Behrens, 2017, Lewandowski, 2016 and Ekins et al., 2019 find out that the purposes of moving from a linear to a circular economy are to reduce environmental harm from the waste of nonreusable materials and to reduce the use of nonrenewable natural resources. Moreover, Mccarthy et al., (2018) suggest that the efficient use of natural resources may contribute to the achievement of environmental goals; using domestic secondary resources may reduce the risks for importing countries, and the reforms, activities, and processes of the circular economy may have a significant impact on economic growth

[31] *PhD, Faculty of Economics and Administrative Sciences, Epoka University, Tirana, Albania. E-mail: albinahysaj@gmail.com. ORCID: 0000-0001-9632-316X.*

and job creation. The main principle of circular economy is the use of output of a product as the input of another product.

There is a huge difference between a Linear Economy system and Circular Economy. In the linear economy the resources are extracted, manufactured, consumed and at the end they are discarded as waste. In the circular economy the resources are kept in a closed loop and the waste is minimized. After the products are used, they enter the cycle of Recycling, Recovering, Repairing, Retaining and Returning.

Ellen MacArthur Foundation (2015) explains the circular economy through a diagram called butterfly diagram. Based on this diagram the circulation of materials is based on two circles. The first one is the technical cycle consisting of all the activities and processes such as sharing, maintaining or prolonging, reusing, remanufacturing and recycling that will ensure the circulation of the finite sources. The second one is the biological cycle which consists of the all the activities and processes that will enable the regeneration of nature and natural renewable resources that will ensure the sustainability of their utilization.

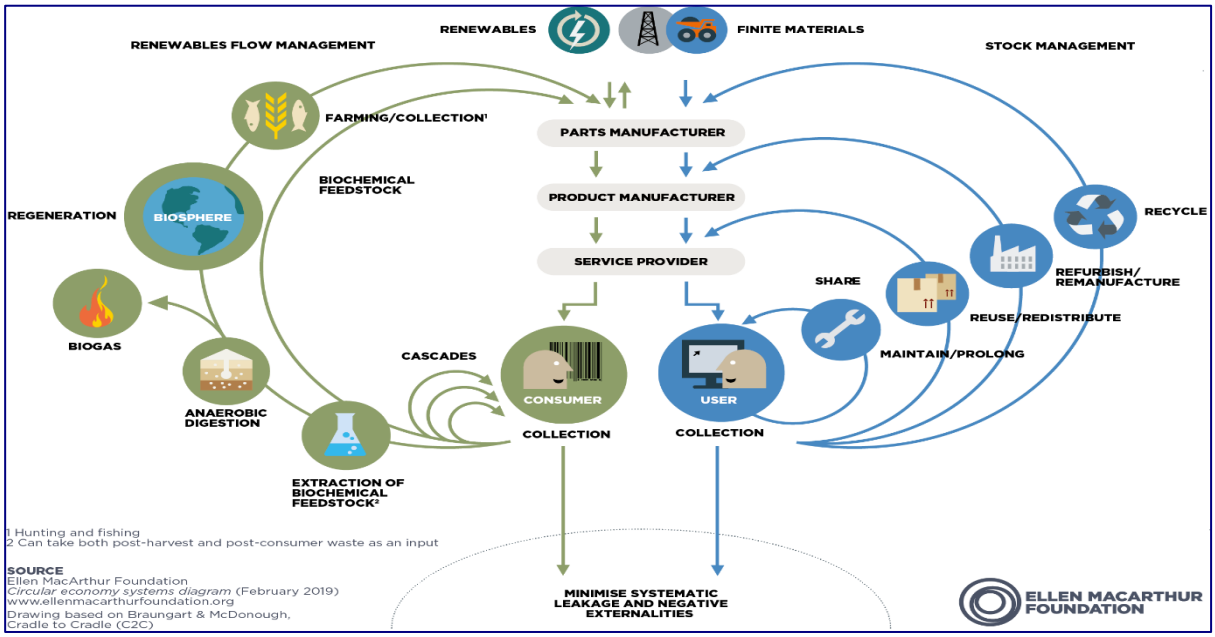

Figure 1. Circular Economy systems diagram

Source: Ellen McArthur Foundation

In Albania, the circular economy is in its early stages. The first National Strategy on Waste Management was implemented in 2011. The focus of this strategy was regional waste management in order to comply with the EU waste management standards. This strategy included plans for improving the infrastructure for waste management for the sustainable use of natural resources. The concept of circular economy is introduced in the National Integrated Waste Management Strategy (NIWMS) for the period 2020-2035. This strategy emphasizes the transition from linear to circular economy. The three main pillars of this strategy are the improvement of the regulatory framework, strengthening institutional capacities, and providing green business models.

In Albania the circular economy efforts are mainly focused on managing waste, recycling, promoting sustainable produce and consume, increasing the public awareness and education and aligning the legal framework with the EU standards. Even though circular economy is a key priority in Albania, until 2019, almost 30% of population in Albania was not covered by waste collection services (European Environment Agency, 2021).

Figure 2 displays the waste management in Albania from 2017 until 2022. The dash line shows a downtrend in the total waste generation. The dark blue bar shows that the majority of the waste is disposed in landfills. The recycling activity shown with light blue is very limited and there is not significant progress while the Incineration role in waste management is minimal.

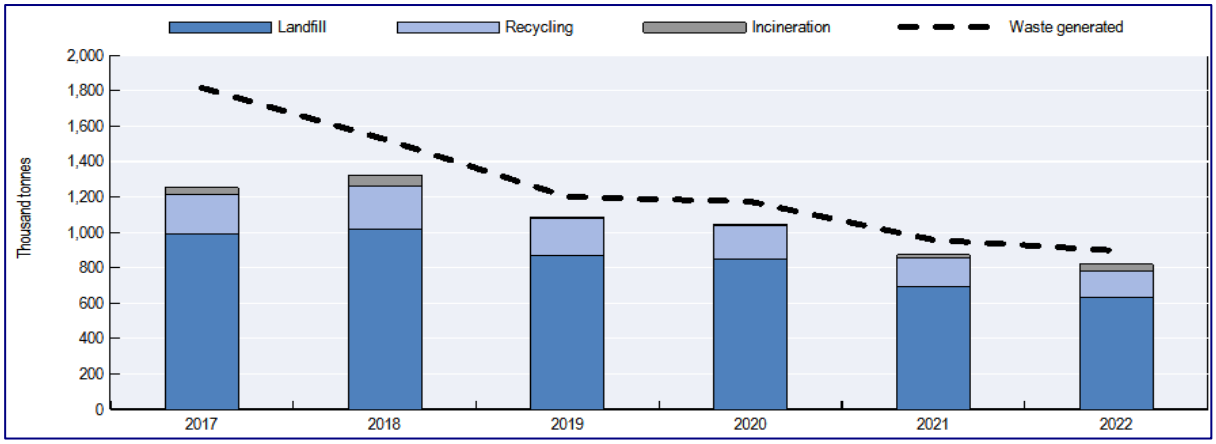

Figure 2. Municipal waste generation and treatment in Albania (in 1000 tones), 2017-2022

Source: Institute of Statistics

Literature Review

Business models play a significant role in the implementation of the circular economy by recovering, recycling, reducing, and reusing materials at various points during the production and usage of goods.

According to Yuan et al. (2006) circular economy may be implemented in three levels: at micro level or firm level through cleaner production, at meso level through eco industrial applications, and at macro level through the development of eco cities. Considering the significant impact of circular economy on sustainable development, many studies focus on identification of business policies, strategies and models that would facilitate the implementation of circular economy. Planing (2015) identifies materials and product designation, new business models, global reverse networks, and enabling conditions as the fundamental blocks of transaction from linear to circular economy. Another study by Urbinati et al., (2017) associates the implementation of circular economy with four main principles such as product life extension, redistribution and reuse, remanufacturing, and recycling.

Manninen et al. (2018), Geissdoerfer et al. (2020) and Ferasso et al., (2020) determine that adaption of business models and the creation of new business models are essential in the transition from linear to circular economy. Stumpf et al. (2021) analyses the implementation of circular economy on businesses. By using the case study analysis and interviews the authors find that that the implementation of circular economy happens through three channels eco-designation, re manufacturing and recycling of the products. The findings of the study suggest that there is a sector difference regarding circular economy principles execution.

Bocken et al. (2016) state that circular business models adopt sustainable methods to reuse products and materials, using renewable resources where possible. By following the work of Stahel (2001), McDonough and Braungart (2002), and Braungart et al.(2008), the authors propose three fundamental strategies regarding the resource cycling strategies used in

business models.1) Slowing resource loops which consists of the extension of products life by remanufacturing and recycling 2) Closing resource loops through recycling and 3) Narrowing resource flows through the increased efficiency of resources usage.

Richardson (2005) develops a business model framework based on three key elements: 1) the value preposition; 2) the value creation, and 3) the value capture. The value proposition is a theoretical approach to the offering of the firm, the targeted customers and the firms' strategy on how to be competitive. Value creation is the appliance of theoretical value preposition into activities that consist of creating and delivering the offering to the firms' customers. Value capture is the economic model capturing all the revenue, the cash sources, the costs, the margins and all the financial matters of the company.

Based on a report of (OECD, 2019) there can be identified 5 main groups of circular business models; Circular supply models in which the business aims to replace the traditional raw materials with bio-based and renewable ones. Resource recovery models which consist of using the waste of one process to produce secondary raw materials. Product life extension models which consist of extending the useful life of products by using different methods. Sharing models consist of sharing products that are underutlitized to avoid the need of the new ones. Product service system models consist of sharing services instead of products.

Bocken et al. (2016) suggest six circular business model strategies. The first, access and performance model which consists of offering service products which enable the users to fulfill their needs without owning the product. The second, extending product value, consists of remanufacturing the products after the customers use them. The third, classic long-life model, consists of offering products that can be used for a long time and can be repaired as well. The fourth, encourage sufficiency, consists of principles that aim to avoid the end user consumption of products. The fifth, extending resource value consists of giving value to the wasted resources. The sixth, industrial symbiosis, consists of reusing the residuals of a process as an input of another process. The first four strategies are strategies for slowing loops, while the remaining two are strategies for closing loops.

Additionally, Husain et al. (2021) propose five additional business models for a sound implementation if circular economy in business. The first, sharing platforms consists of creation of platforms that enable the shared use of product. The second, assets management that consists of efficient utilization of the assets. The third, dematerialized services consist of the utilization of services with products function instead of products with a physical existence. The fourth, hire and leasing the products instead of owning it and the last, collaborative consumption of products among people.

Albino and Fraccascia (2015) analyze the industrial symbiosis models and how those models can be implemented to provide profits for the economic entity. The authors conclude that utilizing the residuals as an input of another process not only reduces the costs, but it also contributes to expanding the firm through higher revenues or even penetrating new markets by promoting innovative products or services.

Jørgensen & Remmen (2018), investigate the options of developing circular economy in businesses by considering different businesses in Danmark. The study suggests that circular economy in businesses can be implemented through; the re designation of the services; the re designation of value chain creation by including all the participants; re designation of the organization of the business. Another important finding of the study consists of the fact that circular economy can be adopted by all kind of businesses, existing or start-ups, service or product companies, and all industries no matter the position in the value chain creation. While, Henry et al. (2020) investigate the role of start-ups in the transaction from linear economy to circular economy. The authors conclude that start-ups are more likely to adopt strategies toward circular economy compared with existing companies.

Following the incentives of European Union, Katz & López (2019) investigate the implementation of circular economy by analyzing 11,000 companies in 28 European Union countries. The findings of the study suggest that there is interdependence among the activities of circular economy, and they are implemented following a hierarchal order from the easiest one which is waste minimization to the most difficult one, the usage of renewable energy. Small companies in terms of employees and low turnovers show less engagement in circular economy activities, while bigger companies show higher engagement. Another important finding is that there is a sector difference in the intensity of engagement as well. Service companies engage less in circular economy activities, while manufacturing industry and natural resource industry engage more. Regarding the country engagement, the earliest EU members are the ones that are on the way or already engaged in circular economy activities, while the others are not engaged yet even though they have positive attitude.

Barreiro & Lozano (2020) use surveys to study the implementation of CE by different organizations in 40 countries, mostly European countries. Based on the results of the surveys the internal implementation happens through four channels, recycling, remanufacturing, reduction, and repairing even though the two most important channels are recycling and reducing. The authors suggest that closer collaboration with stakeholders would make the implementation of a circular economy easier.

Table 1. Literature Review Summary

Dimension	Firm Level	Industrial Networks	Regional/National	General Observations
Key CE Activities	Recycling, reusing, remanufacturing (Urbinati et al., 2017; Barreiro & Lozano, 2020)	Industrial symbiosis, shared resources (Albino & Fraccascia, 2015; OECD, 2019)	Regional waste recovery, eco-cities (Yuan et al., 2006)	Collaboration with stakeholders (Barreiro & Lozano, 2020)
Business Models	Product life extension, repair (Bocken et al., 2016; OECD, 2019)	Circular supply, resource recovery (OECD, 2019; Albino & Fraccascia, 2015)	Renewable energy, eco-policies (Katz & López, 2019)	Start-ups adopt CE faster than large firms (Henry et al., 2020)
Strategies	Eco-design, long-life products (Bocken et al., 2016; Stumpf et al., 2021)	Residual resource reuse, shared systems (Bocken et al., 2016; Albino & Fraccascia, 2015)	National incentives, CE frameworks (Jørgensen & Remmen, 2018; EU policies)	Service industries less engaged than manufacturing (Katz & López, 2019)
Execution	Recycling, redesigning, repairing (Barreiro & Lozano, 2020)	Shared platforms, secondary materials (Husain et al., 2021; OECD, 2019)	Regional CE zones, public policies (Katz & López, 2019)	Collaboration helps CE implementation (Barreiro & Lozano, 2020)
Challenges	Sector-specific adoption differences (Stumpf et al., 2021)	Industry-wide collaboration needed (Jørgensen & Remmen, 2018)	Early adopters are more successful (Katz & López, 2019)	Smaller firms show lower CE engagement (Katz & López, 2019)

Source: Authors' summary

Business Models in Albania

Circular economy business models prioritize resource optimization, waste reduction, and value preservation. These models include waste-to-resource approaches, product life extension, and restorative practices. Ellen MacArthur Foundation (2015) demonstrates that such models enhance ecological sustainability while generating financial benefits. Although the implementation of CE in Albania remains limited, several sectors have begun incorporating these principles, reflecting the global transition toward sustainability.

Waste management represents a critical sector for implementing the circular economy (CE) in Albania, as highlighted by GIZ (2023). The country generates substantial volumes of municipal waste, a significant portion of which is disposed of in an unsustainable manner. Recently, efforts have been directed toward the sorting and recycling of key materials such as plastics, paper, and construction waste. Urban pilot initiatives, such as those in Tirana, exemplify progress in advancing waste separation and recycling practices. However, challenges persist, notably in the form of insufficient infrastructure and low levels of public awareness, as noted by the OECD (2024).

Agriculture emerges as a sector with considerable potential for adopting circular practices. According to Kola & Cerpja (2024), the integration of crops and livestock, coupled with the composting of organic waste, can enhance soil fertility while reducing reliance on synthetic fertilizers. In smaller towns, localized composting initiatives have begun transforming agricultural byproducts into valuable production inputs. Such practices align with CE principles by fostering closed-loop systems that minimize waste and maximize productivity.

The renewable energy sector represents a promising opportunity for the application of CE business models in Albania. The country's abundant solar, wind, and hydropower resources provide significant opportunities to integrate CE principles. For instance, bioenergy projects utilizing agricultural waste, such as biogas plants in rural areas, exemplify such efforts (European Commission, 2021). Additionally, the refurbishment and recycling of renewable energy infrastructure contribute to resource efficiency, further advancing CE objectives.

Tourism, a vital component of Albania’s economy, has also begun to align with CE principles. Eco-tourism initiatives in the Albanian Alps and along the Adriatic coastline emphasize the conservation of natural resources and the reduction of environmental impact (Partners Albania, 2023). Moreover, sustainability measures such as the use of recycled materials and energy-efficient technologies in hotel construction demonstrate the sector's commitment to integrating CE practices.

Despite progress, Albania faces significant challenges in fully adopting circular economy models. These challenges include:

Infrastructure Deficiencies: Waste management, recycling, and resource recovery infrastructure do not match the demand and supply levels in respective jurisdictions. OECD (2024) reveals that most municipalities lack sorting and processing systems for recyclable waste and are, hence, characteristic of high landfill rates.

Weak Regulatory Frameworks: The regulatory policies meant to promote CE are either underdeveloped or poorly enforced. GIZ (2023) asserts that unclear guidelines and lack of incentives lead to hindering of sustainable practices uptake by businesses.

Low Public Awareness: Publicly, understanding of CE principles is very limited. According to the European Commission (2023), it requires widespread public awareness campaigns and educational initiatives to encourage consumers and businesses to engage actively in this issue.

Technology Gaps: CE technologies for recycling and resource efficiency are relatively advanced. The current technological potential of Albania does not seem sufficient for such large-scale implementation, especially regarding manufacturing and construction (Kola & Cerpja, 2024).

Culture Barriers: Waste and consumption discourses are closely correlated in culture-meaning that too little attention is given to waste reduction, reuse, or recycling as a society; thus, circular practices uptake is inhibited (Partners Albania, 2023).

Overcoming these challenges demands collaborative actions from governments, businesses, and global institutions to establish a supportive framework for implementing circular economy (CE) practices.

Conclusions

This study emphasizes the extent to which business models can replace Albania's linear economic structure into circularity. The evidence reveals that while Albania is still at the early forms of circular economy application for its context, the role of innovative business models is critical to solving complex systemic challenges and mobilizing untapped opportunities.

Integrating circular business models in waste management, agriculture, renewable energy, tourism, and the textile shows Albania is committed to sustainable development. These models have also guided steps in waste-to-resource strategies, maximization of product lifetimes, and promotion of restorative practices. However, the study identifies difficult conditions such as poor infrastructure, low public awareness, and lack of strong regulatory frameworks that prevent general adoption of circular principles. Increasing collaboration among policymakers, business, academia, and international stakeholders will overcome these barriers.

Albania's opportunities lie in its rich natural resources, favorable positioning to the EU, and great promise of economic diversification and job creation through circular economy practices. Also, transitioning will be sped up by accessing EU funding, technology transfer, and increasing public enthusiasm for sustainability. Promising cross-cutting areas for such integration are eco-tourism and renewable energy.

Last but not the least, the path of Albania towards circular economy is possible through a multilateral approach encompassing innovative business models, strong policy frameworks and community engagement. Given the leverage that will derive from it in its own opportunities while addressing the existing challenges, it can lead Albania towards its desired sustainable future, contributing to the regional as well as global environmental and economic goals.

Bibliography

Albino, V., & Fraccascia, L. (2015). The industrial symbiosis approach: A classification of business models. Procedia Environmental Science, Engineering and Management, 2(3), 217-223.

Arruda, E. H., Melatto, R. A. P. B., Levy, W., & Conti, D. de M. (2021). Circular economy: A brief literature review (2015–2020). Sustainable Operations and Computers, 2, 79–86. https://doi.org/10.1016/j.susoc.2021.05.001

Barreiro-Gen, M., & Lozano, R. (2020). How circular is the circular economy? Analysing the implementation of circular economy in organisations. Business Strategy and the Environment, 29(8), 3484–3494. https://doi.org/10.1002/bse.2590

Bocken, N. M. P., de Pauw, I., Bakker, C., & van der Grinten, B. (2016). Product design and business model strategies for a circular economy. Journal of Industrial and Production Engineering, 33(5), 308–320. https://doi.org/10.1080/21681015.2016.1172124

Ekins, P., Domenech, T., Drummond, P., Bleischwitz, R., Hughes, N., & Lotti, L. (2019). Managing environmental and energy transitions for regions and cities How and Where Background information Managing environmental and energy transitions for regions and cities The OECD Centre for Entrepreneurship, SMEs, Regions and Cities on Twitter: @OECD_local Citation.

Ellen MacArthur Foundation. (2015). Circular Economy: An Economic Imperative. Retrieved from Ellen MacArthur Foundation: ellenmacarthurfoundation.org

European Commission. (2021). Action Document for "EU for Circular Economy and Green Growth. Retrieved from https://neighbourhood-enlargement.ec.europa.eu/document/download/7d8e1f37-e937-46ea-9b23-60e9fec169e4_en

Ferasso, M., Beliaeva, T., Kraus, S., Clauss, T., & Ribeiro-Soriano, D. (2020). Circular economy business models: The state of research and avenues ahead. Business Strategy and the Environment, 29(8), 3006–3024. https://doi.org/10.1002/bse.2554

Geissdoerfer, M., Pieroni, M. P. P., Pigosso, D. C. A., & Soufani, K. (2020). Circular business models: A review. Journal of Cleaner Production, 277, 123741. https://doi.org/10.1016/J.JCLEPRO.2020.123741

GIZ. (2023). Leading the Transition Towards a Circular Economy in Albania. Retrieved from giz.de

Henry, M., Bauwens, T., Hekkert, M., & Kirchherr, J. (2020). A typology of circular start-ups: An Analysis of 128 circular business models. Journal of Cleaner Production, 245, 118528. https://doi.org/https://doi.org/10.1016/j.jclepro.2019.118528

Husain, Z., Maqbool, A., Haleem, A., Pathak, R. D., & Samson, D. (2021). Analyzing the business models for circular economy implementation: a fuzzy TOPSIS approach. Operations Management Research, 14(3–4), 256–271. https://doi.org/10.1007/s12063-021-00197-w

Jørgensen, M. S., & Remmen, A. (2018). A Methodological Approach to Development of Circular Economy Options in Businesses. Procedia CIRP, 69, 816–821. https://doi.org/10.1016/j.procir.2017.12.002

Katz-Gerro, T., & López Sintas, J. (2019). Mapping circular economy activities in the European Union: Patterns of implementation and their correlates in small and medium-sized enterprises. Business Strategy and the Environment, 28(4), 485–496. https://doi.org/10.1002/bse.2259

Kola, F., & Cerpja, T. (2024). The potentials and opportunities of circular economy in Albania. Economicus, 23(1), 7-18. Retrieved from https://uet.edu.al/economicus/wp-content/uploads/2024/06/E-23.1.pdf

Lewandowski, M. (2016). Designing the business models for circular economy-towards the conceptual framework. In Sustainability (Switzerland) (Vol. 8, Issue 1). MDPI. https://doi.org/10.3390/su8010043

Manninen, K., Koskela, S., Antikainen, R., Bocken, N., Dahlbo, H., & Aminoff, A. (2018). Do circular economy business models capture intended environmental value propositions? Journal of Cleaner Production, 171, 413–422. https://doi.org/https://doi.org/10.1016/j.jclepro.2017.10.003

Mccarthy, A., Dellink, R., & Bibas, R. (2018). Unclassified ENV/WKP(2018)4 Organisation de Coopération et de Développement Économiques Organisation for Economic Co-operation and Development THE MACROECONOMICS OF THE CIRCULAR ECONOMY TRANSITION: A CRITICAL REVIEW OF MODELLING APPROACHES-ENVIRONMENT WORKING PAPER No. 130. www.oecd.org/environment/workingpapers.htm

Moraga, G., Huysveld, S., Mathieux, F., Blengini, G. A., Alaerts, L., Van Acker, K., de Meester, S., & Dewulf, J. (2019). Circular economy indicators: What do they measure? Resources, Conservation and Recycling, 146, 452–461. https://doi.org/10.1016/j.resconrec.2019.03.045

OECD. (2019). Business Models for the Circular Economy: Opportunities and Challenges for Policy. Paris: OECD Publishing Paris. doi:https://doi.org/10.1787/g2g9dd62-en

OECD (2024), A Roadmap towards Circular Economy of Albania, OECD Publishing, Paris, https://doi.org/10.1787/8c970fdc-en.

Padilla-Rivera, A., Russo-Garrido, S., & Merveille, N. (2020). Addressing the social aspects of a circular economy: A systematic literature review. In Sustainability (Switzerland) (Vol. 12, Issue 19). MDPI. https://doi.org/10.3390/SU12197912

Partners Albania. (2023). Empowering Municipalities to Transition to Circular Economy. Retrieved from partnersalbania.org

Planing, P. (2015). Business Model Innovation in a Circular Economy Reasons for Non-Acceptance of Circular Business Models.

Richardson, J. (2005). The Business Model: An Integrative Framework for Strategy Execution The Business Model: An Integrative Framework for Strategy Execution The Business Model: An Integrative Framework for Strategy Execution. http://ssrn.com/abstract=932998Electroniccopyavailableat:https://ssrn.com/abstract=932998Electroniccopyavailableat:http://ssrn.com/abstract=932998https://ssrn.com/abstract=932998

Rizos, V., Tuokko, K., & Behrens, A. (2017). The Circular Economy: A review of definitions, processes and impacts. Centre for European Policy Studies. Retrieved from https://ideas.repec.org/p/eps/cepswp/12440.html

Stumpf, L., Schöggl, J. P., & Baumgartner, R. J. (2021). Climbing up the circularity ladder? – A mixed-methods analysis of circular economy in business practice. Journal of Cleaner Production, 316. https://doi.org/10.1016/j.jclepro.2021.128158

Urbinati, A., Chiaroni, D., & Chiesa, V. (2017). Towards a new taxonomy of circular economy business models. Journal of Cleaner Production, 168, 487–498. https://doi.org/10.1016/j.jclepro.2017.09.047

Yuan, Z., Bi, J., & Moriguichi, Y. (2006). The circular economy: A new development strategy in China. In Journal of Industrial Ecology (Vol. 10, Issues 1–2, pp. 4–8). https://doi.org/10.1162/108819806775545321