Anastasiya VIRKOVSKA
PhD in Economics, Associate Professor at
West Ukrainian National University

CIRCULAR ECONOMY AS A DRIVER OF SOCIAL INCLUSION AND ENVIRONMENTAL SAFETY

The accelerating ecological challenges of the 21st century demand innovative approaches that ensure both environmental safety and social equity. Traditional linear economic models based on extraction, consumption, and disposal have proven unsustainable, leading to resource depletion and ecological risks. In contrast, the circular economy offers a paradigm shift by promoting resource efficiency, waste minimization, and closed-loop systems.

Beyond its environmental benefits, the circular economy has a strong social dimension. Inclusive practices within circular models create opportunities for vulnerable groups, foster community resilience, and contribute to equitable access to green innovations. Thus, integrating circular economy principles into societal development not only enhances eco-safety but also strengthens social inclusion, aligning with global sustainability goals [3].

Building on its social dimension, the circular economy also plays a crucial role in safeguarding the environment. By embedding eco-safety into its core practices, it ensures that resource efficiency and waste minimization directly translate into reduced ecological risks and enhanced sustainability. To fully understand the transformative potential of the circular economy, it is essential to examine its impact on eco-safety as a foundational dimension.

1. Circular economy and eco-safety. Circular economy practices such as recycling, eco-design, and closed-loop production directly reduce environmental risks by minimizing waste and optimizing resource use. This contributes to eco-safety by reducing pollution, conserving biodiversity, and ensuring sustainable resource management [4].

2. Social inclusion through circular models. Inclusive circular economy initiatives create opportunities for vulnerable groups, including employment in recycling industries, community-based repair and reuse projects, and equitable access to green technologies. Such practices strengthen social cohesion and promote fairness in the distribution of environmental benefits.

3. Policy and institutional frameworks. Effective integration of circular economy principles requires supportive legislation, cross-sectoral cooperation, and international collaboration. Policies that encourage eco-innovation, green investment, and inclusive participation are crucial for achieving both environmental safety and social equity.

4. Education and awareness. Embedding circular economy concepts into education systems and public campaigns fosters behavioral change. Awareness

initiatives empower citizens to adopt sustainable consumption patterns and actively engage in eco-safe practices.

5. Global and local perspectives. While global strategies set the framework for sustainable development, local communities play a decisive role in adapting circular practices to specific socio-economic conditions. This dual perspective ensures both scalability and inclusivity in eco-safety measures.

The statistical indicators in Table 1 demonstrate the growing role of the circular economy in safeguarding the environment and promoting social inclusion. The average recycling rate of municipal waste in the EU reached 48% in 2022, up from 37% in 2009 and closer to the 55% target by 2025. At the same time, the circular material use rate stands at 11.5%, reflecting the gradual integration of closed-loop systems into production.

The social dimension is evident in the creation of approximately 4 million jobs in recycling, repair, and eco-innovation sectors, opening new opportunities for vulnerable groups. Resource productivity reached €2.23 per kilogram in 2022, indicating more efficient use of materials in production. Meanwhile, the average per capita waste generation is about 4.8 tons, underscoring the need to further develop circular practices.

Table 1

Key Circular Economy Statistics (EU, 2024)

Indicator	Value	Notes
Recycling rate of municipal waste	***48% (EU average, 2022)***	Up from 37% in 2009; the target is 55% by 2025.
Circular material use rate (CMU)	***11.5% (2022)***	Share of secondary raw materials in total material use; the EU target is higher integration.
Green jobs in circular economy sectors	***~4 million (EU, 2023)***	Employment in recycling, repair, and eco-innovation industries.
Resource productivity	***€2.23 per kg (2022)***	GDP generated per kilogram of material consumed; an indicator of efficiency.
Waste generation per capita	***~4.8 tons (2022)***	Includes municipal, industrial, and construction waste; circular practices aim to reduce this.
Secondary raw materials trade	***€80 billion (2022)***	Value of intra-EU trade in recycled materials, showing competitiveness.

Source: compiled independently by the author based on [2].

The value of intra-EU trade in secondary raw materials exceeded €80 billion, highlighting the economic competitiveness of circular solutions. Taken together, these data confirm that the circular economy simultaneously strengthens environmental safety and promotes social inclusion, aligning with global sustainable development goals [1].

The circular economy represents a fundamental shift away from linear models of production and consumption, offering a pathway that simultaneously strengthens environmental safety and promotes social inclusion. By minimizing waste, optimizing resource use, and embedding eco-design principles, circular practices reduce pollution, conserve biodiversity, and enhance resilience against ecological risks. At the same time, inclusive approaches within circular models create new opportunities for vulnerable groups, foster community engagement, and ensure equitable access to green innovations.

Effective implementation requires supportive policy frameworks, institutional cooperation, and the integration of circular economy principles into education and public awareness campaigns. This dual emphasis on environmental protection and social equity positions the circular economy as a driver of sustainable development, aligning with the United Nations Sustainable Development Goals [5]. Ultimately, the circular economy emerges not only as an environmental safeguard but also as a social equalizer, shaping a more resilient, competitive, and just future for societies worldwide.

References

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