

PROFILES OF THE CIRCULAR ECONOMY IN THE STRATEGIC FRAMEWORK OF THE EUROPEAN UNION

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Abstract. *The contribution highlights profiles of the circular economy starting from Boulding's famous 1966 article on the circular economy. Further reference concerns Ellen MacArthur, who, in 2010 created a foundation to accelerate the transition towards a circular economy. In the European context, the concept of the circular economy first appeared between the 1990s and the early 2000s, since in those years, the strategic objective of the EU was to become a more competitive knowledge-based economy capable of achieving sustainable economic growth. Among the threats to Sustainable Development are the loss of biodiversity and the increase in waste. In more recent years, the circular economy has become one of the most significant stages of the European Union. In 2015, the European Commission COM (2015) "The Missing Link" EU Action Plan for the circular economy, the first strategy for the circular economy, was identified to make circular the final part of the product life cycle. In 2019, the European Commission's COM (2019) outlined and adopted a Green Deal for the EU and its citizens, mobilising industry for a clean economy to achieve zero climate impact circular economy goals. In 2020, the European Commission presented a second strategy for the circular economy: A new circular economy action plan for a cleaner and more competitive Europe (COM) (2020). The transition to a circular economy has both economic and environmental implications. One of the potential opportunities of the circular economy is the reduction of pressures on the environment. This research focuses on the environmental profile.*

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Some profiles of circular economy. Our environment is in a constant state of decline, and fundamental transformations in the conduct of industrial activities are required to reverse the decline. Various production models have been proposed in recent years, and among these models, the circular economy has assumed an important role. The circular economy model contrasts the traditional linear economy system, where raw materials are eventually converted into waste. In the case of the circular model, goods at the end of their useful life are converted into resources for the next generation of goods (Rajat Panwar, Eva Niesten). There is still no clear consensus on what circular economy (CE) means. According to Fabio Rispadori, the

notion of circular economy is different in that it proposes itself as an alternative to the current economic system that can be summarised in the definition of linear economy (take-make-dispose). The foundation of linear economy concerns how individuals obtain the maximum benefit from using material and immaterial resources. The objective of this system is the growth of wealth in goods and services produced and measurable in monetary terms, while it considers the availability of the resources necessary for production and how they are used to be marginal. The circular economy turns This system upside down since it places resources at the centre, not products (Fabio Rispadori). Another definition of circular economy is that of Boulding. In one of his famous articles, he states that the global economy must adopt circular systems to sustain human life in the long term (Boulding, K. 1966).

Further definition comes from the Ellen MacArthur Foundation, an international charity in the United Kingdom. The foundation defines the circular economy as a framework of systemic solutions that address global challenges, such as biodiversity loss, climate change, waste and pollution. According to its definition, the circular economy is based on three design-led principles: eliminating waste and pollution, circulating products and materials, and regenerating nature (Ellen MacArthur (2010). In 2014, at the World Economic Forum in Davos, the circular economy appeared internationally with an action plan to expand the circular economy (World Economic Forum).

Origin and evolution of the circular economy in the EU legal system. For many decades, Europe has experienced growth and well-being based on an intensive use of resources, creating many difficulties due to scarcity and environmental impacts. In the mid-1970s, the Commission of the European Communities commissioned two scholars to draft a report on production costs. The scholars in question were Walter Stahel and Geneviève Reday-Mulvey. The results of the report, entitled *The Potential for Substituting Manpower for Energy*, show that the increased energy consumption required to produce a manufactured product does not depend on the production processes but on the extraction, transformation and transport of the raw materials needed to produce the manufactured product (Walter Stahel e Genevieve Reday). In the following years, the European Community moved in several acts on the environment from the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992. In particular, the Resolution of the Council and the Representatives of the Member States estimates that achieving sustainable development presupposes significant changes in development models, production, consumption and behaviour (GUCE 138/1993). Another outcome of the Rio 92 Conference was Agenda 21.

Agenda 21 calls for new strategies to invest in the future to achieve overall sustainable development in the 21st century. The strategies concern new ways to preserve natural resources and new ways to have a sustainable economy (United Nations, Agenda 21). Later, the European Commission focused on waste, intending to reduce its production and negative environmental impacts. With the Commission Communication “Towards a thematic strategy on the prevention and recycling of

waste,” waste is transformed into a new life cycle of resources for production processes. It becomes the primary reference of the emerging European circular economy concept (COM (2003) 301).

Furthermore, waste begins to occupy a privileged place here, and the European Commission confirms this with the 2014 Communication “Towards a circular economy: a zero-waste programme for Europe.” For the first time, the Commission illustrates a general framework that indicates the sectors in which to intervene to encourage the circular economy. It also states that adopting models based on the circular economy gives a glimpse of a certain optimism for the European economy to overcome current and future challenges. However, with this act, the Commission has expressed some aspects of the theme without establishing precise commitments, postponing the possibility of planning strategies for future acts (COM (2014) 398).

The first strategy of the circular economy. The Circular Economy Action Plan entitled “The missing link - EU Circular Economy Action Plan” (COM (2015) 614 final). Sets out the transition to a circular economy in Europe. The European Union aims to develop a sustainable, low-carbon economy with resource efficiency to create new sustainable competitive advantages. Developing a sustainable economy will strengthen the Union’s competitiveness, protect businesses from resource scarcity and price volatility, and create new business opportunities and jobs. Developing a sustainable economy will bring numerous benefits, including energy savings, environmental protection, and new forms of sustainable development. Economic actors, local and regional authorities, and the EU are essential to guide this process. The EU has a fundamental role in ensuring an adequate regulatory framework for developing the circular economy, giving clear signals to economic operators and society on the way forward, and preparing concrete and ambitious actions. With this Communication, the Commission complies with the commitments made under Goal 12 of the United Nations 2030 Agenda for Sustainable Development, particularly on production and consumption patterns (United Nations Agenda 2030). The Circular Economy Action Plan focuses on waste management. On the same day as the Action Plan, the Commission publishes four legislative proposals related to waste (EU legislation).

The circular economy starts from the first phases of the product life cycle; the design and production phases affect the supply of resources and the generation of waste. However, the central point of the Plan is the value chain, which considers production, consumption, repair, regeneration, waste management and reintroducing secondary raw materials into the economy. The saving of precious resources depends on the product’s design, even if the current market signals are insufficient to improve this aspect. Limited to production processes, the importance of better management of primary raw materials is highlighted, which, once placed on the market, must be managed and recovered, given that Europe has only a minimal amount of them. Regarding consumption, consumer orientations and business impulses are considered (2015) 614 final). On waste management, the Commission confirms the waste hierarchy principle, which must be treated according to an order of priority, i.e.,

prevention, reuse, recycling, recovery and disposal. In order to push and optimise waste, the Commission focuses on the market of secondary raw materials and the reuse of water for agricultural and industrial purposes. Still in the field of waste management, the Action Plan deals with priority sectors such as plastic, food waste, essential raw materials, demolition waste and others.

These sectors must be monitored carefully since their management impacts the environment, the value chain and the circular economy. The transition to the circular economy is a structural change, which, in addition to all the actions to achieve it, we need to create the conditions for it to thrive, particularly public and private funding. Innovation, investment, and monitoring are essential for a successful European circular economy strategy. In 2019, the Commission took stock of the progress of the work with the publication of the report on the implementation of the 2015 Action Plan for the Circular Economy (COM (2019) 190 final). The report highlights that some initiatives have been launched while others are delayed. The Commission itself believes that the work has helped integrate the principles of circularity into production, plastic consumption, water management, food systems and management of specific waste streams. All this has been possible thanks to the involvement of Member States, the European Parliament and the business community. The European Parliament, in its 2018 Resolution, welcomes the Commission and considers that the main objective of the Commission should be to prevent hazardous chemicals from entering the material cycle, to ensure complete coherence between laws implementing waste and chemicals policies, and to ensure better enforcement of existing legislation, while addressing regulatory gaps that could hinder a sustainable EU circular economy, with particular reference to imported articles. It also stresses that in an actual circular economy, products must be designed with the ability to be improved, durable, repairable, reusable and recyclable in mind, with minimal use of substances of concern (RSP2018/2589).

Second Circular Economy Strategy. In the Communication “A New Circular Economy Action Plan - For a Cleaner and More Competitive Europe” (COM (2020) 98 final), the Commission presents a new action plan for the circular economy. The introductory part of the document sets out the serious situation due to the increased consumption of materials and waste expected in the next forty years. It then shows that the extraction and transformation of resources, loss of biodiversity and water stress are at the origin of the increase. The New Plan is part of the Green Deal strategy, which, in paragraph 2, Transforming the EU Economy for a Sustainable Future, develops a series of transformative policies to achieve climate neutrality by 2050 (COM (2019) 640 definitive). However, the EU needs a regenerative growth model to achieve climate neutrality. This model will promote the maintenance of resource consumption within the planet’s limits and will work to reduce the consumption footprint, increasing the percentage of use of circulating materials in the next decade (COM (2020) 98 final). The new Action Plan is confirmed to be more consistent than the previous Communication, The Missing Link. The introduction states two principles as inspirations to place actions and policies towards a

regenerative growth model. The principles in question are the principle of dissociation and the principle of the product as a service.

The first requires that economic growth not occur from using new resources. The second involves the legal ownership of a good that should be the prerogative of the producer and intermediary to whom they ensure the use and reuse of a product until recovery or recycling. Concerning sustainable product design, EU initiatives and legislation already partly address the sustainability aspects of products, both on a mandatory and voluntary basis, such as the Ecodesign Directive for Energy-Related Products (Reg. (EU) 2024/1781 13 /6/2024) repeals Directive(2009/125/CE), the ECOLABEL brand (Reg. (CE) n. 66/2010), the criteria for green public procurement (green public procurement). In order to make products fit for a climate-neutral and resource-efficient economy, the Commission is proposing a legislative initiative on sustainable products. The legislative initiative should contain principles and modalities that should inspire the measure. The measure includes improving the durability, reusability, and repairability of products, increasing recycled content in products, reducing carbon and environmental footprints, limiting single-use products, combating premature obsolescence, prohibiting the destruction of unsold durable goods, promoting the “product as a service” model and digitalisation of products. This new regulation on sustainable products is a real circular transaction (Reg. (EU) 2024/1781). Regarding consumers, the Commission has updated (Directive (EU) 2019/771), with Directive (EU) 2024/1799). The amendments to Directive (EU) 2019/771 are in Article 16 of the new Directive 2024/1799) laying down common rules promoting goods repair. This Directive pursues the objectives of the Green Deal to promote more sustainable consumption for a circular economy and green transition. The Commission will assess proposals to empower and protect consumers against façade greening. (Dirt. (EU) 2024/825) and premature obsolescence. The new Action Plan includes a section dedicated to product value chains (COM (2020) 98 final), which focuses on products that have a greater impact on sustainability. This criterion will answer the different challenges ranging from climate emergency to biodiversity.

The Commission will work in the main value chains to identify the obstacles that prevent the expansion of markets for circular products and how to overcome them. Following the scheme presented in paragraph, electrical, electronic and ICT equipment are considered: batteries and vehicles; packaging; plastics; textiles; construction and building; food, water and nutrients. For each item mentioned, new legislative initiatives are reported. The legislative initiative for circular electronics includes introducing measures and rules to ensure durability, repairability and recycling (COM (2021) 547 definitive). Also, the Commission will propose a new regulatory framework for batteries. The legislative proposal will be based on evaluating the Batteries Directive (Direct.2006/66 CE). On 18 August 2023, the new EU Regulation 2023/1542 on industrial batteries and battery waste came into force, replacing the previous Directive 2006/66/EC. The new regulation introduces new rules to ensure greater transparency and sustainability throughout the life cycle of batteries Reg. (EU) 2023/1542). For packaging, the Commission will review

Directive 94/62 EC to strengthen the mandatory essential requirements that packaging must meet to be placed on the EU market. Directive 94/62 EC is repealed by the European Parliament Legislative Resolution of 24 April 2024(RSP9TA (2024)0318). The EU Strategy for Plastics in a Circular Economy has provided a set of initiatives to address this issue. In order to increase the use of recycled plastics Reg. (EU) (2022/1616), the regulation provides for decontaminating plastic material through recycling technology. The Commission will adopt binding provisions on recycled content and measures to reduce waste such as packaging, construction materials and vehicles. For construction and building, the plan links to the Renovation Wave initiative for Europe (COM (2020) 662 final) to make Europe more beautiful, sustainable and welcoming. Paragraph 4 concerns waste (COM (2020) 98 final), where a framework is outlined that refers to the waste hierarchy announced in the missing link. This framework divides waste into four sub-themes: a strengthened waste policy to support circularity, interventions on toxic substances, secondary raw materials market, and management of waste exports. The objective inherent in the paragraph is the progressive reduction of waste through the valorisation of secondary raw materials, which means making waste and its use safe. This objective can be achieved thanks to interventions that reduce their toxicity. Paragraph 5 deals with circularity serving people, regions, and cities. One of the problems of the circular transition is highlighted, namely its social effects, particularly those inherent in work and social inclusion. The Commission underlines the importance of adequate skills to address the transition from a linear to a circular economic system. The Commission document sees the resources to avoid or reduce negative externalities during the system's transformation from linear to circular in the structural funds and other financial instruments. In paragraph 6 it deals with some cross-cutting actions.

These actions concern the links of the circular economy to climate neutrality, research, innovation and digitalisation. Paragraph 7 “Leading global efforts.” In this sense, it believes that the EU's efforts on the circular economy can only be successful if there is a just, climate-neutral and resource-efficient global transition. To support this global transition to a circular economy, the Commission intends to lead international efforts to reach a global agreement on plastics, propose a global alliance for the circular economy to identify gaps, launch an international debate on managing natural resources, and build a partnership. In paragraph 8, another highlighted aspect is the strengthening and updating of the monitoring framework for the circular economy. The Annex to the new Action Plan contains actions and initiatives the Commission will implement to implement the circular economy strategy (COM (2020) 98 final).

European Parliament Resolution of 10 February 2021. European Parliament Resolution on the New Circular Economy Action Plan (RSP 2020/2077) (INI) Welcomes the Commission's New Action Plan for the Circular Economy. Parliament calls on the Commission to present all the initiatives foreseen in the Action Plan. It stresses that the circular economy is a critical factor in reducing the environmental footprint of European production and consumption and for its vital

contribution to achieving the objectives of the Paris Agreement and the United Nations Sustainable Development Goals. In point 6, Parliament stresses that it is necessary to decouple growth from the use of resources fully and calls on the Commission to propose binding, science-based, short- and long-term targets for reducing the use of primary raw materials and environmental objectives. Parliament, in point 21, stresses the need to transform the linear economy based on the formula take-make-dispose into a genuinely circular economy based on the following principles: reducing energy and resource use; maintaining value in the economy, preventing waste; designing waste-free, free from harmful substances and non-polluting; keeping products and materials in use and closed loops; protecting human health; promoting consumer benefits; regenerating natural systems; Parliament stresses that these objectives should guide the new strategic framework on sustainable products.

Conclusions. We can illustrate some general considerations of the European Union's commitment to the circular economy through careful research. It appears confirmed that the EU, particularly the European Parliament and the Commission, is responding with great attention and political commitment to the transition of the circular economy. The reasons may be different, and the particular sensitivity for environmental issues has increasingly developed within the EU, such as the Green Deal strategic plan.

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