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ANALYSIS OF THE EUROPEAN FRAMEWORK ON THE CIRCULAR ECONOMY

Viorica Popa*, ORCID ID: 0000-0001-6739-4399,
Nicolae Popa, ORCID ID: 0000-0001-8081-3498

National Institute for Economic Research, 45 Ion Creanga str., Chisinau, Republic of Moldova

*Corresponding author: Viorica Popa, violin_s@yahoo.com

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Abstract. In the transition to a circular economy, monitoring key trends and patterns is essential to understand how the various elements of the circular economy develop over time, identify Member States' success factors and to assess whether sufficient action has been taken. Thus, the EU Council, based on the results of the monitoring, must be based on setting new priorities for achieving the long-term goal of the circular economy in the future. The crisis caused by Covid-19 mitigates part of the impact of economic activities on the environment and climate. Thus, the transition to a more circular economy could bring benefits such as reducing pressure on the environment, improving security of supply of raw materials, increasing competitiveness, stimulating innovation, stimulating economic growth, creating jobs. The authors in this study analyze the European framework on the circular economy.

Keywords: *circular economy, strategy, sustainable development, measures, production, recycle, environment.*

Rezumat. În tranziția către economia circulară, monitorizarea tendințelor și modelelor cheie este esențială pentru a înțelege modul în care se dezvoltă diferitele elemente ale economiei circulare în timp, pentru a identifica factorii de succes ai statelor membre și pentru a evalua dacă au fost întreprinse acțiuni suficiente. Astfel, Consiliul UE, pe baza rezultatelor monitorizării, trebuie să stabilească noi priorități pentru realizarea obiectivului pe termen lung al economiei circulare. Criza provocată de Covid-19 atenuează o parte din impactul activităților economice asupra mediului și climei. Astfel, tranziția către o economie mai circulară ar putea aduce beneficii prin reducerea presiunii asupra mediului, îmbunătățirea aprovizionării cu materii prime, creșterea competitivității, stimularea inovației, stimularea creșterii economice, crearea de locuri de muncă. Autorii acestui studiu analizează cadrul european privind economia circulară.

Cuvinte cheie: *economie circulară, strategie, dezvoltare durabilă, măsuri, producție, reciclare, mediu.*

Introduction

The transition to a circular economy is an opportunity to transform and make the economy more sustainable, to contribute to the achievement of climate goals and to conserve the world's resources, to create local jobs and to generate competitive advantages for Europe in a world in profound change (COM (2017) 479), [1].

The European Commission has decided to withdraw its legislative proposal on waste and to present a new more constructive package by the end of 2015 covering the entire business

cycle, not just waste reduction targets. Thus, in December 2015, a "new era" of the European circular economy framework begins, represented by a set of well-targeted measures, approved by EU Member States. Thus, a number of initiatives have emerged at European level, such as:

- *The European Circular Economy Stakeholder Platform* - facilitates the exchange of good practices between stakeholders and provides them with a database that includes good practices at European level.
- *The European Cluster Collaboration Platform (ECCP)* supports collaboration between EU thematic clusters, as well as international initiatives.
- *The Enterprise Europe Network* includes approximately 600 organizations from over 60 countries in order to support SMEs for access to funding opportunities for eco-innovation, energy and resource efficiency etc. [2].

Regulation of the circular economy at EU level in the period 2015-2020

Regulatory policies for the circular economy have been proposed by the European Commission with the adoption of the first Circular Economy Action Plan, which includes measures to help stimulate Europe's transition to a circular economy, boost global competitiveness, boost sustainable growth and generating new jobs (First Circular Economy Action Plan). Therefore, through this EU circular foreground: Communication: *Closing the loop - an EU action plan for the Circular Economy*, - Brussels, 2.12.2015, COM (2015) 614 final. - a concrete and ambitious action program is set out, with measures covering the whole cycle: from production and consumption to waste management and the secondary raw materials market, and a revised legislative proposal on waste. This package, adopted by the Commission on 2 December 2015, includes legislative proposals on waste, with a number of long-term objectives for reducing waste disposal and increasing recycling and reuse. Thus, the circular economy package includes 54 measures to "close the circle" in the life cycle of products - from production and consumption, to waste management and the secondary raw materials market.

The COM (2.12.2015) includes for the first time a *definition of the circular economy* as an economy "in which the value of products, materials and resources is maintained in the economy for as long as possible and waste generation is minimized". According to this communication, in order to close the loop on product life cycles, it included an Action Plan to support the circular economy at every stage of the value chain: production, consumption, repair and manufacture, waste management and secondary raw materials which are reintroduced into the economy. The EU financially supports this transition through the European Structural and Investment Funds, Horizon 2020, the European Fund for Strategic Investments (EFSI) and the LIFE program. All 54 actions under the plan have been completed or are being implemented [3].

According to the evaluation of the European Commission presented in the impact study of the circular economy package (*Report on the implementation of the Circular Economy Action Plan*, COM (26.1.2017)), the following important actions are assigned:

- I. The first action taken by the Commission concerned legal guarantees for consumer goods. On 9 December 2015, the Commission adopted a legislative proposal on online sales of goods. The proposal aims to strengthen the guarantees offered to consumers in order to provide them with better protection against defective products and contributes to the durability and repair potential of products. This prevents the disposal of products and contributes significantly to the circular economy.
- II. On 17 March 2016, the Commission proposed a regulation that will create a genuine single market for fertilizers made from secondary raw materials (especially recycled nutrients), thus turning waste management issues into economic opportunities. The draft regulation provides for rules for the free movement of all CE marked fertilizing products throughout the EU, including for organic fertilizers.

- III. The Commission has published a call for expressions of interest for "Innovation Agreements for a Circular Economy", which was launched from 26 May to 15 September 2016. The call is a pilot approach to help innovators facing obstacles in matters of regulation;
- IV. Ecological design for a more circular economy. On 30 November 2016, according to the Ecodesign Work Plan for 2016-2019, (as part of the Clean Energy Package for All Europeans), the New Work Plan to contribute to the EU's energy and climate goals under the Agreement will be implemented. from Paris, with the aim of achieving energy savings comparable to Sweden's annual primary energy consumption by 2030, by creating jobs and stimulating innovation.
- V. On 1 August 2016, the Commission set up the EU platform on food loss and waste. It launched a stakeholder platform on food waste prevention, made progress in developing an EU methodology for measuring food waste and prepared EU-wide guidelines for facilitating food donations and the use of former foods as food. for animals. Therefore, the necessary steps have been taken to meet the commitment to the Sustainable Development Goals by halving food waste per capita by 2030 [4].

From the above, a number of key measures have been taken in areas such as food waste, eco-design, organic fertilizers, consumer goods guarantee, innovation and investment. These initiatives are important to support the circular economy covering the entire value chain, from production to consumption, waste management and the use of secondary raw materials.

Commission adopts *Communication on waste-to-energy processes and their role in the circular economy - Brussels, 26.1.2017, COM (2017) 34 final*. The main objective of the communication is to harness the energy of waste used for waste treatment by (ensuring the recovery of energy from waste in the EU) supporting the objectives of the circular economy action plan and strictly following the EU waste hierarchy. This document highlights the main objectives:

1. The position of the various waste energy recovery processes and the implications of this position for public financial support shall be clarified in the waste hierarchy. The waste hierarchy and the protection of the health of the population and the environment are obligations and not options. Failure to do so will result in severe fines. Waste managers at the level of producers or waste holders must take concrete steps to respect the waste hierarchy and protect the health of the population and the environment when designing, applying, verifying and analyzing the effectiveness of the waste management system within the community or organizations.
2. provide Member States with guidance on how they can make better use of economic instruments and capacity to avoid or address potential problems of waste incineration overcapacity;
3. identify the technologies and processes that currently have the greatest potential for optimizing the production of energy and materials, taking into account the projected change in the materials that enter into the processes of energy recovery of waste [5].

Regarding the regulation of waste management at EU level, a number of legislative acts have been adopted. Therefore, the main waste directives are:

- ✓ Directive (EU) 2018/849 of 30 May 2018 amending Directive 2000/53 / EC on end-of life vehicles;
- ✓ Directive 2006/66 / EC on batteries and accumulators and waste batteries and accumulators;
- ✓ Directive 2012/19 / EU on waste electrical and electronic equipment;
- ✓ Directive (EU) 2018/850 of 30 May 2018 amending Directive 1999/31 / EC on landfills;

- ✓ Directive (EU) 2018/851 of 30 May 2018 amending Directive 2008/98 / EC on waste;
- ✓ Directive (EU) 2018/852 of 30 May 2018 amending Directive 94/62 / EC on packaging and packaging waste [6].

The revised legislative framework on waste entered into force in July 2018. Thus, after amending Directive 2008/98 / EC, the main objective of the new Directive 2018/851, according to Article 1, is to establish "*measures to protect the environment and public health through preventing or reducing the generation of waste, the adverse effects of waste generation and management and reducing the overall effects of resource use and increasing the efficiency of their use, which are essential for the transition to a circular economy and to guarantee the Union's long-term competitiveness*".

In this Directive, art. 5 specifies the correct management of waste by "using economic instruments and other measures in order to provide incentives for the application of the waste hierarchy, or other appropriate instruments and measures."

Following the above, the revised legislative framework on waste under Directive 2018/851, in order to move to a European circular economy with a high degree of resource efficiency, Member States shall take the necessary measures to achieve the *following objectives*:

Directive 2018/851, according to art.11 par. 2

- ✓ separate collection of hazardous household waste (until the end of 2022), biological waste (until the end of 2023), textiles (until the end of 2025).
- ✓ the preparation for reuse and recycling of municipal waste increases to a minimum level of 55% by weight by 2025, respectively 60% by weight by 2030 and 65% of waste by 2035.
- ✓ From 1 January 2027, Member States may consider municipal bio-waste entering aerobic or anaerobic treatment as recycled only if they have been collected separately or have been separated at source, according to art. 22.
- ✓ waste storage meant to reduce the waste landfill to a maximum of 10% of municipal waste by 2035;
- ✓ By 1 January 2025, Member States shall organize the separate collection of hazardous waste fractions from households to ensure treatment and to ensure that they do not contaminate other municipal waste streams.
- ✓ specific measures to combat food waste and marine litter, in order to achieve the United Nations Sustainable Development Goal of 50% reduction in food waste per capita worldwide, in the retail and consumer network, and on reducing food losses in production and distribution chains by 2030;

Directive 2018/852, according to art.6 par.5.

- ✓ recycling of packaging waste by 31 December 2025 at the latest, at least 65% of the weight of all and at least 70% of the weight of packaging waste will be recycled by 31 December 2030;
- ✓ recycling targets for certain packaging materials, by 31 December 2025 at the latest, for the recycling of the following specific materials contained in packaging waste: Paper and board: 75%, Ferrous metals: 70%, Glass: 70%, Aluminum: 50%, Plastic: 50%, Wood: 25%.
- ✓ recycling targets for certain packaging materials, no later than December 31, 2030: Paper and cardboard: 85%, Ferrous metals: 80%, Aluminum: 60%, Glass: 75%, Plastic: 55%, Wood: 30% [6-3].

During 2018, several actions related to the circular economy were carried out. Thus, the European Commission has published the so-called *circular economy package*. The first important action is the adoption of a European strategy on plastics: Communication: A European strategy on plastics in a circular economy Brussels, 16.1.2018, COM (2018) 28 final - this strategy lays the foundations for a new plastics economy, in which the design and production of plastics and

plastics products fully meet the needs of reuse, repair and recycling and in which more sustainable materials are developed and promoted.

This Strategy proposes concrete actions to turn the vision for a more circular economy of plastics into reality. In this context, the strategy proposes a set of measures at EU level, as by 2030 all plastic packaging should be recyclable, thus contributing to the transition to a more circular economy. The strategy provides for actions to:

1. Improving the economic aspects and the quality of plastics recycling;
2. Reduction of plastic waste and waste disposal in the public domain;
3. Orientation of investments and innovation towards circular solutions;
4. Capitalizing on global action.

The Communication notes that in Europe's external market, per capita consumption of plastics is growing rapidly, especially in Asia. Thus, the value chains of plastics are spread across continents, and plastic waste is traded internationally: in the EU, almost half of the plastic waste collected is sent abroad, where uncertainties remain about its treatment. And more than 85% of exported plastic waste is currently shipped to China, a situation that will soon change given China's decision to ban the import of certain types of plastic waste, thus creating opportunities for EU recycling companies [7].

Over the period 2014-2020, more than EUR 5.5 billion has been allocated to improving waste management. Thus, this is expected to lead in particular to an increase in waste recycling capacity of 5.8 million tonnes per year. The European Fund for Strategic Investments (EFSI) plays an important role in supporting greater integration of the value chain and closed-loop plastics recycling projects.

As part of the strategy, the Commission has launched several international fora and "commitment" campaigns to ensure that by 2025, ten million tones of recycled plastic are found in new products on the EU market. Respectively also initiatives launched in international fora (such as the G7, G20, the United Nations and in the context of the MARPOL Convention) and regional maritime conventions; The agenda for international governance of the oceans for the future of the oceans includes actions against marine litter.

COMMUNICATION on a monitoring framework for the circular economy. Strasbourg, 16.1.2018 COM (2018) 29 final. The Commission proposes an EU monitoring framework for the circular economy, consisting of a set of key indicators, covering each stage of the product life cycle, at European and national level. Spectrum of indicators will be constantly updated on the website dedicated to the monitoring framework. This site includes, tools for monitoring progress and documents methodologies for indicators, data sources, definitions and publication standards, in particular food waste and green public procurement [8].

In 2018, the European Commission adopted other ambitious initiatives in the context of the Circular Economy Action Plan: *the EU Directive on reducing the environmental impact of certain plastics. Brussels, 28.5.2018 COM (2018) 340 final.* The European Commission proposes on 28 May 2018 for adoption a new directive that aims to reduce the impact of certain plastics on the environment by implementing the EU Strategy for Plastics, addressing the gaps identified in existing legislation. The Directive proposes key actions for specific disposable plastics items, taking into account consumer behavior as well as consumer needs and opportunities for businesses. When clearly available alternatives - both single-use and multi-use - restrictions are proposed. Other measures include appropriate labeling, raising awareness, voluntary action and establishing extended producer responsibility schemes that would cover the costs of landfilling [9].

Thus, on 4 March 2019, the European Commission presented a comprehensive report on the implementation of the Action Plan for the Circular Economy to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions.

Report on the implementation of the circular economy action plan. Brussels, 4.3.2019 COM (2019) 190 final. The report outlines the main results of the implementation of the action plan and outlines the future challenges of shaping the EU economy, by creating a competitive advantage, paving the way for a climate-neutral economy, where pressure on natural and freshwater resources, as well as on ecosystems is minimized. The report is a response to the Council's request for "a written annual update on the progress made in implementing the action plan", a request also taken up by the European Parliament.

In order to create a more circular economy, the report presents the most important achievements. Thus, the Commission defines the circularity process which means adapting industrial processes. To ensure the circuit, the design that is at the beginning of the product life cycle comes to the rescue. Products and services designed in a circular manner can minimize resource use and promote the reuse, recovery and recycling of materials in the future. The Commission has introduced circularity issues (energy consumption and use of materials, waste prevention, recycling and reduction of hazardous chemicals) in reference to Best Available Techniques (BREFs) under the Industrial Emissions Directive, turning them into reference standards for Member States when granting authorizations for industrial installations.

Circularity has also opened up new business opportunities, led to the emergence of new business models and developed new markets, both domestically and outside the EU. In 2016, circular activities, such as repair, reuse or recycling, generated an added value of almost EUR 147 billion, while the value of investments was around EUR 17.5 billion. The report also highlights the importance of adopting the first policy framework at EU level - the Strategy for Plastics in a Circular Economy, which states that by 2030, all plastic packaging placed on the EU market must be reusable or recyclable, and by in 2025, 10 million tons of recycled plastics will be included in new products.

The Report sets out adapted sets of measures, which are in the final stages of the legislative process on disposable plastic articles and fishing gear, such as:

- ✓ measures to reduce the consumption of food containers and beverage cups, plastic, as well as the specific marking and labeling of certain products;
- ✓ the target of including 30% of recycled plastics in beverage bottles from 2030 and 25% for PET bottles from 2025, as well as the target of separate collection of 90% of plastic bottles by 2029, as well as the introduction of design requirements for connecting caps to bottles;
- ✓ measures aimed at reducing plastic waste from ships, such as setting a flat rate for waste from ships, etc.

The Commission proposes that EU countries, in order to accelerate the transition to a circular economy, need to invest in innovation and provide support for adapting the industrial base. Over the period 2016-2020, the Commission has stepped up efforts in both directions, providing public funding for the transition totaling more than € 10 billion [10].

The year 2020 is a year with tough challenges for the entire planet, shaped by the COVID-19 pandemic crisis, with a negative economic and social impact with isolation measures. However, it revealed the vulnerability and dependence of the population on raw materials. Thus, the competent institutions must find the necessary measures to transform this crisis into an opportunity for an ecological restart and a sustainable society.

The new action plan for the circular economy, adopted by the European Commission on 11 March 2020, is part of the main blocs of the European Green Pact, a new European agenda for sustainable growth and an EU growth strategy to achieve climate neutrality by 2050.

Communication A circular economy action plan for a cleaner and more competitive economy. Strasbourg, 11.3.2020 COM (2020) 98 final. The document proposes initiatives throughout the life cycle of products, aiming at their design, promoting the processes of the

circular economy, encouraging sustainable consumption and aiming at ensuring that the resources used in the EU economy are preserved for as long as possible.

The communication proposes the following objective: expanding the circular economy from pioneers to major economic actors will make a decisive contribution to achieving climate neutrality by 2050 and decoupling economic growth from resource use, while ensuring the EU's long-term competitiveness and it is not left behind. It also states that the principles of the circular economy across the EU economy have the potential to increase EU GDP by 0.5% by 2030, creating around 700,000 new jobs. There are also clear economic arguments for individual companies: given that EU manufacturing companies spend on average around 40% on materials, closed-loop material management models can increase their profitability, while protecting them from resource price fluctuations.

At the same time, in order to promote a longer product life, the Commission proposes a series of actions focused on the sectors that use the most resources and where the potential for circularity is high. Thus, the Commission introduces concrete measures on:

- ✓ electronic products - "Initiative for circularity in the field of electronics" to have products with a longer life and to improve waste collection and treatment;
- ✓ batteries and vehicles - a new regulatory framework for batteries in order to improve the durability and boost the potential for battery circularity (this legislative proposal will be based on the evaluation of the Batteries Directive and the work of the Battery Alliance);
- ✓ packaging - new mandatory requirements on what is allowed on the EU market, including the reduction of (excessive) packaging;
- ✓ plastics - new mandatory requirements for the content of recycled materials, special attention being paid to both micro-plastics and plastics of biological and biodegradable origin;
- ✓ textiles - a new EU Strategy for textiles in order to strengthen competitiveness and innovation in this sector and stimulate the EU market for the reuse of textiles;
- ✓ constructions and buildings - a comprehensive Strategy for a sustainably built environment that promotes the principles of circularity in the case of buildings;
- ✓ food - a new legislative initiative on reuse, in order to replace disposable packaging, crockery and cutlery with reusable products in food services [11].

Conclusions

At both European and national level, this provision pays attention to the avoidance of waste production as a whole and its transformation into high-quality secondary resources that benefit from a functioning secondary raw materials market. Thus, the Commission will examine the possibility of establishing a harmonized model at EU level for the separate collection and labeling of waste. The action plan also proposes a series of actions aimed at minimizing EU waste exports and addressing the issue of illegal shipments in this area.

To the European Committee of the Regions, presented an Opinion *The new Circular Economy Action Plan to be adopted in plenary on 12-14 October 2020*. The document proposes to strengthen the local and regional pillar of the new Circular Economy Action Plan, in order to put cities and regions in the spotlight. According to Eurostat, the amount of waste generated annually by EU economic activities amounts to 2.5 billion tones, which means 5 tones per capita [12]. There is currently no comprehensive set of legal and policy requirements to ensure that all products placed on the EU market are increasingly sustainable and meet the circularity criteria, and the Commission's New Circular Economy Action Plan (CEAP) European Parliament, presented on 11 March 2020, aims to do just that.

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