Waste hierarchy as an obstacle for transition to circular economy

Ján JENČO[1, 2], Michaela HLETKOVÁ PLOSZEKOVÁ[2]

[1] Faculty of Law, Charles University, Department of Environmental Law*, nám. Curieových 901/7, 116 40 Praha 1, Czech Republic,*
e-mail: jan.jenco@volkswagen.sk
[2] Automotive Industry Association of the Slovak Republic, Lamačská cesta 6353/3C, 841 04 Bratislava, Slovakia,
e-mail: jan.jenco@volkswagen.sk, michaela.hletkova.ploszekova@volkswagen.sk

Summary

This paper examines the legislative challenges of implementing principles of the circular economy within the legal boundaries set by the European Union´s Waste Directive, with a specific focus on its transposition into Slovak national law. The current waste hierarchy, as outlined by the EU, prioritizes waste management strategies that do not fully integrate the comprehensive "R strategy" elements such as reusing, repairing, refurbishing, remanufacturing, and repurposing. This oversight perpetuates a linear economy model, inadvertently encouraging waste generation rather than promoting circular models that extend the life span of products and materials. Through a detailed analysis of Slovak legislative measures and their alignment with the European Union´s Waste directive, this paper highlights the gaps and inconsistencies that hinder the transition to a circular economy. The findings suggest that a re-evaluation of the definitions used in waste hierarchy characteristics is essential to incorporate comprehensive R strategies elements effectively, thereby fostering a more sustainable and circular economic model. Recommendations for policy adjustments are proposed to better support the circular economy principles and reduce waste generation at its source.

Keywords: *Circular economy, Waste hierarchy, European Green Deal.*

Introduction

Since environmental protection is one of the most harmonized fields within the secondary legislation of the EU, the EU institutions are the key players in formulating the legal instruments regulating both conservation and industrial production. The transition from linear to circular economic models is crucial for sustainable development, as it minimizes waste, maximizes resource efficiency, reduce greenhouse gas emissions, and promotes long-term environmental and economic resilience. Circular economy is a key element in many recent strategic documents adopted by the EU, namely the first circular economy action plan titled Closing the Loop: An EU Action Plan for the Circular Economy[1] (hereinafter referred to as "CEAP 1") adopted in 2015, the European Green Deal[2] (hereinafter referred to as "EGD") first presented in 2019 and then finalized in 2020, A New Circular Economy Action Plan for a cleaner and more competitive Europe[3], which was adopted in 2020, and the Clean Industrial Deal[4] (hereinafter referred to as "CID"), which was introduced in 2025.

These policy documents, mainly CEAP 1, in 2018 transpired into legislative changes, six EU waste directives were amended in a manner proposed in 2015, namely:

a) Directive 94/62/EC on packaging and packaging waste,
b) Directive 1999/31/EC on the landfill of waste,
c) Directive 2000/53/EC on end-of-life vehicles,
d) Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators,
e) Directive 2008/98/EC on waste (hereinafter referred to as "the Waste Directive"),
f) Directive 2012/19/EU on waste electrical and electronic equipment[5].

Moreover, the EGD has introduced a comprehensive set of new or significantly revised legislative measures aimed at strengthening environmental protection while enabling an effective green and digital transformation of industry in response to the growing threats of Climate change. Considering the EGD as a growth strategy that aims to transform the EU into a fair and prosperous society with a modern, resource-efficient, and competitive economy; and achieve zero greenhouse gas emissions by 2050[6], the EGD emphasizes the importance of designing products that are durable, repairable, and recyclable. The EGD represents a transformative framework that supports both carbon neutrality and the development of a sustainable circular economy. This approach seeks to extend product life cycles, reduce waste, and minimize resource consumption by promoting processes that retain materials within the EU economy for as long as possible. To achieve these goals, the EGD calls for a fundamental rethinking of production and consumption patterns, aiming to establish closed-loop circular systems. These systems not only reduce the carbon footprint of products and services but also contribute to overall environmental sustainability. Empowering consumers and public buyers with the tools and information necessary to make sustainable choices is a central component of the EGD, as it helps stimulate demand for environmentally responsible products and services. The EGD prioritizes sectors with significant environmental impacts, including electronics, batteries, packaging, plastics, textiles, construction, and food. By focusing on these areas, the EU aims to achieve substantial reductions in resource use and waste generation. Through the establishment of high standards and the promotion of sustainable practices, the EGD positions the EU as a global leader in the transition to a circular economy. These efforts are integral to achieving broader EU objectives, such as climate neutrality, halting biodiversity loss, and increasing circularity. Ultimately, the EGD embodies a holistic approach to sustainability, which is expected to be reflected in future legal instruments.

Regarding EGD, in order to promote circular economy and sustainable industry, several legislations were adopted, namely:

a) Regulation 2020/852/EU on the establishment of a framework to facilitate sustainable investment, and amending Regulation 2019/2088/EU (known as the EU Taxonomy),
b) Directive 2022/2464/EU amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting (known as the CSRD),
c) Regulation 2023/1542/EU concerning batteries and waste batteries (hereinafter referred to as “the Battery Regulation”),
d) Regulation 2024/573/EU on fluorinated greenhouse gases, amending Directive (EU) 2019/1937 and repealing Regulation (EU) 517/2014 (hereinafter referred to as “the F-gas Regulation”),
e) Directive 2024/1785/EU on industrial emissions (integrated pollution prevention and control) and Council Directive 1999/31/EC on the landfill of waste (known as the IED 2.0),
f) Regulation 2025/40/EU on packaging and packaging waste, amending Regulation 2019/904, and repealing Directive 94/62/EC (known as the PPWR).

The regulatory landscape has become increasingly complex, particularly due to the broad range of legal instruments introduced under the REACH framework (Registration, Evaluation, Authorisation and Restriction of Chemicals). In general, the principles—or even explicit requirements—of circularity are now embedded in nearly every new regulation or directive adopted within the framework of the EGD.

Particular attention to the promotion of circular economy objectives has been given through CID. Although CID is a relatively recent EU initiative and has not yet resulted in major legislative changes, it is expected to play a pivotal role in advancing circular economy principles. One of its key aims is to support secure access to critical raw materials, reduce industrial emissions, and ultimately lead to the adoption of a comprehensive Circular Economy Act by 2026. This legislative milestone is intended to strengthen the competitiveness of the European economy while reinforcing its sustainability and climate goals.

Nevertheless, recent strategic and legislative changes on the EU level that intensively emphasize circular economy may be relatively new, the idea of circular economy and its principles has been around much longer and during that time it kept constantly evolving closely following technological development and even overtaking legal instruments securing efficient waste management. So-called waste management “R-strategies” were invented and are well known by the general public since the late 20th

century[7]. Starting with the basic "3-R strategy" representing the **reduce-reuse-recycle idea**, this strategy sets grounds for circularity by cutting back the amount of waste, finding new use for unwanted things and eventually turning something useless into something useful. This strategy was later extended to "5-R strategy" by adding refuse at the very beginning and reform as the second to last option in waste management establishing a space for not creating any waste at all and later in the life cycle of a product acknowledging its other opportunities to still be useful, generally known as **refuse-reduce-reuse-reform-recycle idea**. However latest "10-R strategy"[8] represents, as far as industrial production is concerned, a highly appreciated approach, which distinguishes short, medium and long loops in circular economy implementing **refusing, rethinking and reducing** within the early "design" phase of products that focus on the beginning of the life cycle of products. Medium loops involve **reusing, repairing, refurbishing, remanufacturing, and repurposing** products that do not necessarily have to be considered a waste within their mid-life cycle. Long loops focus on **recycling and recovering** materials from products that finally may be considered being at their end-of-life phase thus becoming waste. Schematic explanation of the "10-R strategy" is depicted in Figure 1.

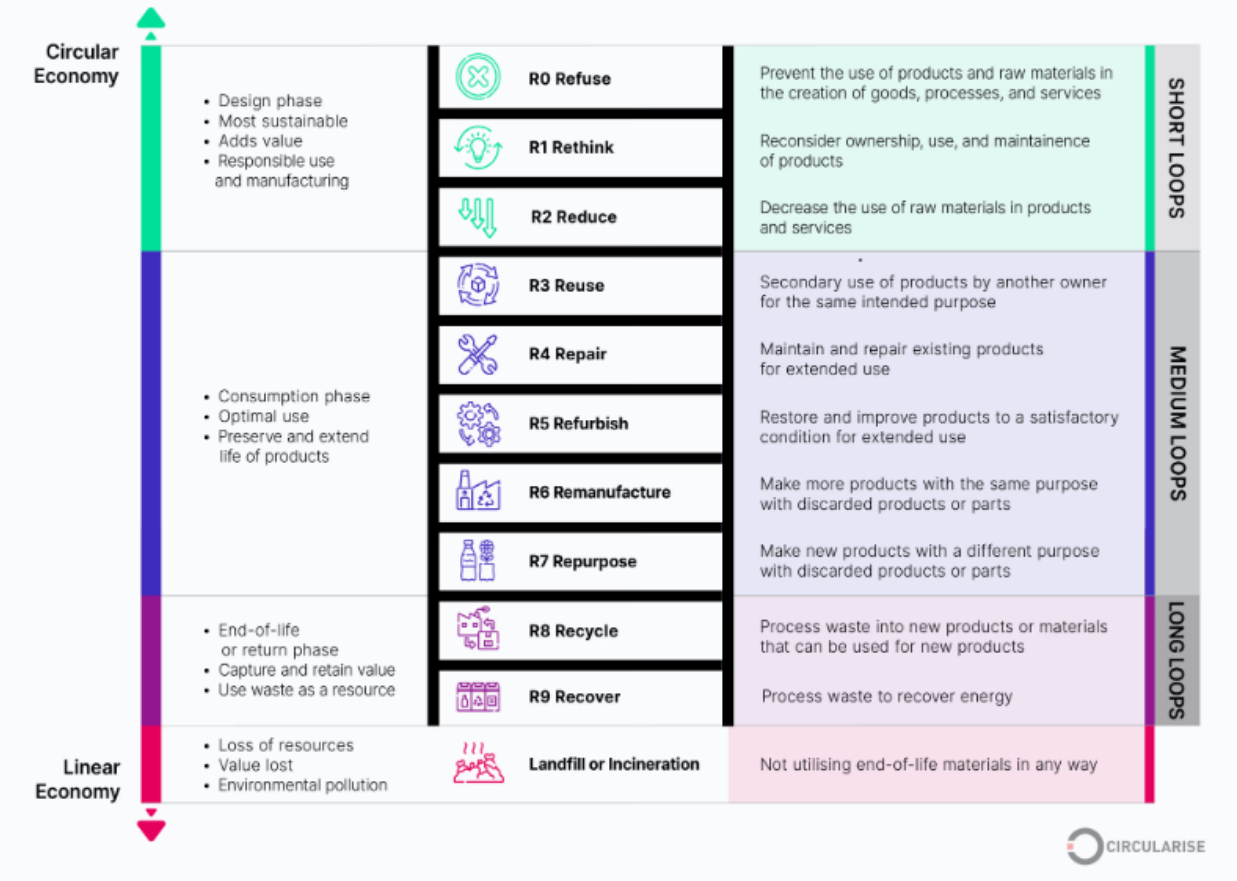

Figure 1: Schematic depiction of the "10-R strategy"[8].

There are many sources regarding waste management legislation, however, the lack of relevant legal literature on the circular economy must be underscored[9]. This article draws from the most recent papers on the circular economy published in legal journals, internet resources, non-legislative documents of the EU and existing legislation adopted on European and national level mentioned in the references part. Using doctrinal research methods and legal comparison, the authors articulate their perspective on an existing research gap regarding legal definitions used within the waste hierarchy.

Results and discussion

Waste by its legal definition is any substance or object which the holder discards or intends or is required to discard by this or any other act[10]. Paragraph 1 of Article 4 of the Waste directive defines the waste hierarchy as a set of priorities, that shall be applied in waste management and policy as follows:

a) prevention,
b) preparing for re-use,
c) recycling,
d) other recovery, and
e) disposal.

For the purposes of this article, it must be explained, that the waste hierarchy sets up a prioritized order of activities that shall be applied to ensure as long life cycle of a product as possible in order to prevent its transformation into a waste or eventually secure its as useful as possible application. The waste hierarchy based upon the Waste directive is transposed into Slovak national legislation through subsection 1 of section 4 of the act no. 79/2015 Coll. on Waste and on Amendments of Certain Laws, as amended (hereinafter referred to as „the Act on Waste"). **Prevention**, placed on the top of the waste hierarchy as the most important step, is defined as measures taken before a substance, material or product has become waste, that reduce:

a) the quantity of waste, including through the re-use of products or the extension of the life span of products;
b) the adverse impacts of the generated waste on the environment and human health; or
c) the content of harmful substances in materials and products[11].

Preparing for re-use means checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be reused without any other pre-processing[11].

Recycling means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes, if the other provisions of the Act on Waste do not stipulate otherwise; recycling includes the reprocessing of organic material. Recycling does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations[11].

Other recovery means any operation the principal result of which is waste serving a useful purpose by replacing other materials in production activities or in the wider economy, or ensuring the readiness of waste to fulfill this function; the list of waste recovery activities is given in Annex no. 1 to the Act on Waste[11].

Disposal means any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy. Annex no. 2 of the Act on Waste sets out a non-exhaustive list of disposal operations[11].

All of the abovementioned definitions streamline the waste hierarchy into five levels, of which only the first one is about a "non-waste" meaning the phase before a substance, material or product has become waste, whereas all the following levels are regarding the "waste" phase. Such a hierarchy and strict legal definitions only hardly allow the recognition of the short and medium loops of the 10-R strategy to be applied, because these loops are focusing on the early and middle life cycle before a substance, material or product becomes a waste. Such a comparison between waste hierarchy and the use of non-waste and waste within its levels is depicted in Figure 2.

The transition towards the circular economy necessitates the recognition of medium circularity loops in the treatment and processing of products which did not reach their end-of-life i.e. waste phase, particularly in the context of commercial relationships and compliance with cross-border transport regulations[15, 16]. Addressing these systematic and legal challenges is essential for establishing a fully operational circular economy aligned with the principles of sustainable resource management.

Figure 2: Waste hierarchy compared with non-waste and waste applications[12].

Recently adopted regulations present circularity in a broader and more nuanced framework, particularly the F-gas Regulation and the Battery Regulation. These legal instruments not only emphasize measures to prevent the generation of waste but also detail specific processes and actions for achieving this objective. As regulations, they are directly applicable and legally binding across all EU Member States, introducing uniformity in their enforcement. However, these new legislative requirements are at bad odds with the provisions currently outlined in the Waste Directive and subsequently in the Act on Waste. This divergence highlights critical discrepancies that need reconciliation.

Furthermore, the innovative approaches embodied in these two regulations represent a pivotal evolution in the interpretation of circularity principles, establishing concrete steps for the systemic transformation of processes. Consequently, they serve as a benchmark and inspiration for revising other waste management legislative acts to align with the enhanced understanding of circular economy objectives and practices. Addressing these inconsistencies and adopting best practices from these regulations is crucial for fostering coherent and effective frameworks that support sustainability across Europe.

The Battery Regulation sets mandatory recycled content targets for materials like cobalt, lead, lithium, and nickel. This aims to promote the recovery of these materials from waste, supporting the circular economy. Furthermore the regulation addresses the entire lifecycle of batteries, including end-of-life management, to support recycling markets and the use of secondary raw materials and also introduces whole new spectrum of activities for handling with used batteries, not necessarily those that shall be considered waste, such as preparation for repurposing, repurposing and remanufacturing[17] which once again broadly oversteps common definitions of waste management hierarchy.

F-Gas Regulation emphasizes the recovery, recycling, and reclamation of fluorinated greenhouse gases as a key application of circular economy principles. This includes provisions for the recovery of substances from products and equipment to prevent emissions and maximize the reduction of emissions[18]. Particularly paragraph 12 of article 3 of the F-gas regulation with its definition of recycling as re-use of a recovered fluorinated greenhouse gas following a basic cleaning process, including filtering and drying[18] oversteps first three priorities of the waste management hierarchy meaning that recycling of fluorinated greenhouse gas, based on the actual methods of recycling put in use, may be considered not only just as a prevention but as well as preparation for re-use and recycling according to the definitions used in the Waste Directive and subsequently in the Act on Waste.

Conclusion

Considering the fundamental requirements of the EGD for material circularity, it brings new opportunities to the EU economy through the circular use of resources. It is essential to note that the use of such materials is expected to significantly reduce greenhouse gas emissions, contributing to carbon neutrality. Concurrently, EU legislation motivates manufacturers to utilize materials from circular cycles instead of raw natural resources. Therefore, it is crucial to support the implementation of practical procedures and legal instruments to achieve the overall concept of circular economy realistically.

If there is a demand for circular materials and the gradual implementation of new technologies allows for greater variability of input materials in production processes, these potentials within the EU should not be wasted due to the lack of a sufficient legislative framework that acknowledges the value of circularity and promotes sustainable thinking.

Waste undoubtedly represents a significant risk to the environment. Strict rules had to be applied to prevent the pollution and threats caused by improper handling of waste. This approach is clearly depicted in waste management legislation such as the Waste Directive and its national transposing laws, which in Slovakia is the Act on Waste. However, the legal instruments of waste management can by their rigidity prevent an effective implementation of circular economy principles into relevant legal systems, because circular economy by its definition seeks further use for products after their original purpose is fulfilled and does not see them as a waste, which is in contrary to the waste hierarchy. The waste hierarchy in its second most preferable priority "preparing for re-use" does not allow any checking, cleaning or repairing of a substance, material or product that is not a waste, thus pushing the whole industrial production system into creating waste even though its original form may still be an object of reusing, repairing, refurbishing, remanufacturing or repurposing.

The waste prevention, as a top priority of the waste hierarchy defines as one its measures the extension of the life span of products. This follows both from the Waste Directive and the Slovak Act on Waste. However, the term "extension of product life span" is not defined in either the directive or the national law, and for this reason as one of the key conceptual changes supporting the transition towards the circular economy shall be the legal definition of the extension of a product's life span. The definition shall encompass activities related to the inspection, cleaning, repair, renovation, refurbishment, or repurposing of a used product or part of an unused product that has not become waste, and whose result is that the product or its unused part is used for the same purpose or has the same or a similar application as originally intended. The definitional features shall be designed to non-discriminatorily include relevant activities, while also setting the objective of such activities: to achieve the same intended use or function as the original new product, thereby preventing the generation of waste.

Small steps towards recognition of circularity of products before their end-of-life i.e. waste phase may be visible in the Battery Regulation which recognizes repurposing and remanufacturing as operations that do not necessarily must concern waste batteries and may be understood as a mere re-use. The F-gas Regulation also introduces new approach which offers rather wide interpretation overstepping commonly known definitions of the waste management hierarchy priorities. The existence of such a definition would narrow the legislative gap between the first priority and the second priority of waste management hierarchy and would significantly contribute to reducing waste generation, which is currently a key requirement for industrial operations. At the same time, it would harmonize the various possible interpretations of the Waste Directive with the Battery Regulation and the Regulation on Fluorinated Gases, thereby bringing a higher degree of legal certainty to the business environment.

Additionally, and specifically for the automotive industry, which is a key industrial sector not only within the EU but especially in the context of Slovakia, the proposed changes appear to be a suitable starting point for meeting the requirements arising from the BAT conclusions for surface treatment using organic solvents[19]. For example, BAT 24 sets an indicative level for the quantity of waste generated per coated vehicle sent off the site. At the same time, BAT 22, which defines techniques for reducing the quantity of waste sent for disposal, establishes the use of a waste management plan as a mandatory technique. This plan should include among the other things the optimization of re-use, regeneration and/or recycling of waste. One of the optional techniques listed in BAT 22 is the recovery and/or recycling of solvents from liquid waste by filtration or distillation, either on site or off site.

In cases where the operator aims to reduce the amount of waste by reusing the solvent, due to the high quality standards required in vehicle manufacturing, this is not possible without at least inspecting and cleaning the used solvent. Under the current legislative setup, the used solvent must necessarily be classified as waste in order to undergo preparing for re-use. However, if operators could rely on a clear definition of extension of product life span, and thus subject the used solvent to inspection and cleaning without the need to classify it as waste, this would significantly contribute to meeting the requirements of BAT 24 and reduce waste generation and contribute towards the application of circular economy principles.

Even though it is clear that harmonized EU legislation which is a base for national laws is recognizing the importance of a circular economy, the revision of definitions of the waste hierarchy priorities, as we know them, is required and has not happened yet even though it is now needed more than ever.

References

1 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Closing the loop: An EU action plan for the Circular Economy (COM(2015) 614 final): https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52015DC0614, sourced 7.4.2025.

2 Communication from the Commission: The European Green Deal (COM(2019) 640 final): https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52019DC0640, sourced 7.4.2025.

3 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A New Circular Economy Action Plan for a cleaner and more competitive Europe (COM(2020) 98 final): https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52020DC0098, sourced 7.4.2025.

4 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: The Clean Industrial Deal: A joint roadmap for competitiveness and decarbonization (COM(2025) 85 final): https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52025DC0085, sourced 7.4.2025.

5 Michalovič M., 2024. Legal regulation facilitating the transition to a circular economy in the legal system of Slovakia. Journal of Agricultural and Environmental Law, Vol. XIX No. 36, ISSN 1788-6171, pp. 57 – 80.

6 Zębek E., 2024. Legal provisions for the facilitation of the transition to a circular economy in the Polish legal system. Journal of Agricultural and Environmental Law, Vol. XIX No. 36, ISSN 1788-6171, pp. 329-350.

7 Marlin L.: https://greencoast.org/3rs-of-waste-management/, sourced 26.10.2024.

8 Malooly L., Daphne T.: https://www.circularise.com/blogs/r-strategies-for-a-circular-economy, sourced 26.10.2024.

9 Vodička J., 2024. Advancing Circular Economy: Czech Perspective. Journal of Agricultural and Environmental Law, Vol. XIX No. 36, ISSN 1788-6171, pp. 255 – 282.

10 Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives: https://eur-lex.europa.eu/eli/dir/2008/98/oj/eng, sourced 7.4.2025.

11 Act no. 79/2015 Coll. on Waste and on Amendments of Certain Laws, as amended: https://www.slov-lex.sk/ezbierky/pravne-predpisy/SK/ZZ/2015/79/20250101, sourced 7.4.2025.

12 https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive_en, sourced 7.4.2025

13 Regulation (EU) 2024/1252 of the European Parliament and of the Council of 11 April 2024 establishing a framework for ensuring a secure and sustainable supply of critical raw materials and amending Regulations (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1724 and (EU) 2019/1020: https://eur-lex.europa.eu/eli/reg/2024/1252/oj/eng, sourced: 7.4.2025.

14 Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy: https://eur-lex.europa.eu/eli/dir/2000/60/oj/eng, sourced 7.4.2025.

15 Regulation (EU) 2024/1157 of the European Parliament and of the Council of 11 April 2024 on shipments of waste, amending Regulations (EU) No 1257/2013 and (EU) 2020/1056 and repealing Regulation (EC) No 1013/2006: https://eur-lex.europa.eu/eli/reg/2024/1157/oj/eng, sourced 7.4.2025.

16 Agreement concerning the International Carriage of Dangerous Goods by Road: https://unece.org/transport/standards/transport/dangerous-goods/adr-2023-agreement-concerning-international-carriage, sourced 7.4.2025.

17 Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC: https://eur-lex.europa.eu/eli/reg/2023/1542/oj/eng, sourced 7.4.2025.

18 Regulation (EU) 2024/573 of the European Parliament and of the Council of 7 February 2024 on fluorinated greenhouse gases, amending Directive (EU) 2019/1937 and repealing Regulation (EU) No 517/2014: https://eur-lex.europa.eu/eli/reg/2024/573/oj/eng, sourced 7.4.2025.

19 COMMISSION IMPLEMENTING DECISION (EU) 2020/2009 of 22 June 2020 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions, for surface treatment using organic solvents including preservation of wood and wood products with chemicals: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32020D2009&qid=1752002736958, sourced 1.7.2025.

Hierarchia odpadového hospodárstva ako prekážka prechodu na obehové hospodárstvo

Ján JENČO[1, 2], Michaela HLETKOVÁ PLOSZEKOVÁ[2]

1 Univerzita Karlova, Právnická fakulta, Katedra práva životního prostředí, nám. Curieových 901/7, 116 40 Praha 1, Česká republika, e-mail: jan.jenco@volkswagen.sk

2 Zväz automobilového priemyslu Slovenskej republiky, Lamačská cesta 6353/3C, 841 04 Bratislava, Slovenská republika, e-mail: jan.jenco@volkswagen.sk, michaela.hletkova.ploszekova@volkswagen.sk

Súhrn

Tento príspevok sa zaoberá legislatívnymi výzvami implementácie princípov obehového hospodárstva v právnom rámci stanovenom smernicou Európskej únie o odpade s osobitným zameraním na jej transpozíciu do slovenského národného práva. Súčasná hierarchia odpadového hospodárstva, ako ju upravuje legislatíva EÚ, uprednostňuje stratégie odpadového hospodárstva, ktoré plne nezahŕňajú komplexné prvky „R stratégií", ako je opätovné použitie, oprava, renovácia, repasovanie a zmena účelu (z angl. reusing, repairing, refurbishing, remanufacturing, and repurposing). Takéto nazeranie zachováva model lineárnej ekonomiky, ktorý neúmyselne podporuje tvorbu odpadu namiesto podpory obehových modelov, ktoré predlžujú životný cyklus produktov a materiálov. Prostredníctvom podrobnej analýzy slovenských legislatívnych opatrení a ich zosúladenia so smernicou o odpadoch tento príspevok poukazuje na medzery a nezrovnalosti, ktoré bránia prechodu na obehové hospodárstvo. Zistenia naznačujú, že prehodnotenie definícií používaných v popise hierarchie odpadového hospodárstva je nevyhnutné na účinné začlenenie prvkov komplexných R stratégií, čím sa podporí udržateľnejší a obehový ekonomický model. Navrhujú sa odporúčania na úpravy politiky s cieľom lepšie podporiť princípy obehového hospodárstva a znížiť tvorbu odpadu pri jeho zdroji.

Kľúčové slová: *Obehové hospodárstvo, Hierarchia odpadového hospodárstva, Európska zelená dohoda.*

Patron of the issue / Patron čísla: Symposium *ODPADOVÉ FORUM 2025 (12. – 14. 10. 2025, Hustopeče, Česká republika)*