



EuPC contribution to the public consultation on the European Commission's Proposal for a Regulation on circularity requirements for vehicle design and on management of End-Of-Life vehicles, amending Regulations (EU) 2018/858 and 2019/1020 and repealing Directives 2000/53/EC and 2005/64/EC

Catalysing the circular revolution in the automotive and transport sector: ambitious targets and crucial key enablers

EuPC supports the European Commission's proposal for the revision of the rules on End-of-Life vehicles, specifically the commendable goal of attaining a minimum of 25% recycled content target for plastics in newly approved vehicles. EuPC firmly believes that this goal will play a pivotal role in elevating circularity within the automotive and transport sector, promoting sustainability, while considerably reducing environmental impacts by replacing fossil feedstock with high-quality recyclates.

However, it is essential to acknowledge that achieving this ambitious target necessitates the implementation of some key enablers, the implementation of which requires changes in the current text of the proposal, with a specific focus on the source of the recycled material that can be reported towards the achievement of the target.

- **Inclusion of pre-consumer waste**

The inclusion of pre-consumer waste is an imperative precondition for the purpose of achieving the 25% mandatory recycled content target set in the proposal. This key enabler will guarantee several economic and environmental benefits that will undeniably contribute to the attainment of an increasingly growing circular economy without compromising the well-functioning of the internal market.

First and foremost, through post-consumer waste alone, it is already clear now that it will not be possible to match the overall growing demand for high-quality recycled materials. In EuPC's view, supported by the OECD's global data from 2022, only 9% of plastic waste is recycled (15% is collected for recycling but 40% of that is disposed of as residues). Member States will have to adapt linear waste management infrastructures throughout the EU towards circularity, while closing landfills, and stopping subsidising incineration facilities. The EU industry will need more time to provide additional infrastructure and investments to produce the amount of high-quality recycled material needed to meet the target. Furthermore, pre-consumer waste is a cost-effective source of recycled material readily available within the production process. Unlike post-consumer waste, which can be subject to supply fluctuations and quality variations, pre-consumer waste can be controlled and managed more effectively by the value chain partners.



Furthermore, incorporating pre-consumer waste will incentivise converters to optimise their production process, with a considerable minimisation of waste generation, consequently reducing disposal costs and greatly contributing to the overall operational efficiency.

Additionally, pre-consumer waste tends to have a more consistent quality compared to post-consumer, which can vary widely in terms of contamination and composition.¹ Consistent material quality leads instead to more predictable manufacturing processes and reduces the chances of production issues. In this regard, it is well established that *“the use of pre-consumer waste guarantees more homogenous properties on the new compounds”*² since, even though plastics undergo intensive sorting processes in the post-consumer phase, the resins still contain many impurities, which pose quite some challenges for manufacturers in terms of securing a stable supply of quality materials. This is also confirmed in the 2023 JRC study *Towards recycled plastic content targets in new passenger cars and light commercial vehicles*, where it is observed that recycling plastics coming from post-consumer waste can face quality issues, due to potential heterogeneity in composition which may affect the stability of the batches and the predictability of its behaviour during process operations.

Therefore, EuPC urges policymakers and stakeholders to adopt a comprehensive approach to recycling practices in the automotive and transport sectors. By considering both pre-consumer and post-consumer waste, it will be possible to achieve a more sustainable and resilient industry that benefits not only the plastic (converting and recycling) sector but also the environment and society as a whole.

- **The essential contribution of chemical recycling technologies and their complementarity with mechanical recycling**

In the wording of Article 6(1), according to which *“the plastic contained in each vehicle (...) shall contain a minimum of 25% of plastic recycled by weight from post-consumer plastic waste”* the word “plastic” should be erased when referring to the type of waste that can be reprocessed towards the achievement of the target as the current phrasing could pose a considerable barrier to the present use and future development of chemical recycling technologies. Additionally, it should be taken into consideration that the current proposal fails to specify a proper definition of recycling; in order to provide legislative clarity and coherence among legislations, a viable solution is the extensive application of the definition of recycling contained in Article 3(17) of the Directive 2008/98/EC on waste (i.e., Waste Framework Directive), according to which *“recycling means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes”* and which would therefore also allow the inclusion of chemical recycling for the purpose of the achievement of the target.

¹ CPA Guidance on waste definition, 2021

² *Ibidem*



The text of the proposal stipulates that the mandatory recycled content must be resourced exclusively from post-consumer plastic waste. From a technical perspective, it is important to scrutinise in detail the terminology of the proposal as it is immediately evident that the specification “*plastic waste*” aligns with mechanical recycling practices while posing significant barriers to chemical recycling. As mechanical recycling practices revolve around the physical processing of plastics to reclaim their material properties, they can efficiently utilise post-consumer plastic waste as a primary source to produce recycled materials. On the opposite, the scenario is more complex for chemical recycling practices: thanks to the ability of those emerging technologies to break waste into molecular components, which can then be used to create new polymers, it will be possible to transform several mixed waste streams, including bio-waste, into materials to be reintroduced in the production process, greatly contributing to the circular economy goals.

Therefore, the phrasing “post-consumer *plastic waste*” might inadvertently pose a limit to the types of feedstocks that can be considered recycled materials suitable for the achievement of the 25% recycling target. This may cause, in turn, a disproportion between the offer and demand of high-quality recyclates as the increasing demand in the automotive sector will, according to the text of the proposal, have to be met solely through mechanical recycling technologies. It should also be considered that upcoming regulations at both the European and national levels regarding the uptake of increased volumes of recyclates in products will result in an overall higher demand, which the current offer is incapable of covering.

From the perspective of the environmental benefits, currently, extended producer responsibility schemes in the automotive sector allow for landfilling and incineration practices, whereas the sectorial approach should be more circular. In this regard, chemical recycling via pyrolysis offers a pathway toward further closing the material loop by handling this heterogeneous waste and providing feedstock for producing virgin plastics. Chemical recycling also has the potential to keep carbon in the material cycle and the gained pyrolysis oil is a valuable petrochemical feedstock and can be used in different processes.

Against this background, EuPC firmly believes in the need to strike a balance between the goal of enhancing circularity in the automotive sector and the need to open up to technologies that will allow the industry to address more diverse waste streams. It is therefore necessary to explore a broader and more inclusive phrasing in the proposal, in order to accommodate new technologies.

- **Closed vs open-loop recycling**

According to the text of the proposed Regulation, one-quarter of the 25% recycled content shall be achieved by including plastics recycled from end-of-life vehicles in the vehicle type concerned (i.e., closed-loop). In this regard, it should be noted that imposing an – although partial – closed loop, will considerably limit the ability of the industry to achieve the



abovementioned target for a very wide array of reasons, ranging from feedstock availability to technical challenges related to quality.

First and foremost, closed-loop recycling, due to its reliance on materials deriving from the same products (even more so when referring to the same vehicle type) is inherently limited by the actual availability of end-of-life vehicles as a source of recycled content, which may not be sufficient to meet the demand for high-quality recycled materials. On the other hand, open-loop recycling allows for a wider variety of plastic sources, thus increasing the availability of feedstock for the automotive industry. When properly managed, open-loop recycling can indeed provide a steady supply of high-quality plastic recyclates that align with the highly demanding technical specifications in the automotive industry.

Moreover, imposing closed-loop recycling poses a problem for car manufacturers in terms of additives in plastics that have been banned over time. As an example, in the past few years, some bans on flame-retardant Persistent Organic Pollutants (POPs) above a certain threshold have been enforced, due to their toxicological effects. Such flame-retardant chemicals can be found in ABS and HIPS plastics, electrical parts, and casings where they have been used in line with legislative requirements in force at the time of their first use. Therefore, since vehicles have a longer life span in comparison to other items (e.g., flexible packaging) a considerable part of the waste streams deriving from end-of-life automotive applications will contain substances that were compliant with the legislation into force at the moment of the production of the vehicle but that have been banned over time. It is therefore a given that such waste streams may not be turned into suitable recyclates useful for the purpose of their incorporation in new vehicles.

Although there are already several techniques available in the sector (e.g., density sorting) used by plastic recyclers to separate these contaminants³, *“the proposal to lower POPs threshold may have some potential negative effects on the availability of ELV plastics for recycling”*.⁴

In summary, while closed-loop recycling has its merits in certain contexts, it may not be the most practical or effective approach when dealing with long-lived products. Thus, open-loop recycling can provide greater flexibility, ensure a steadier supply of materials, reduce potential risks associated with legacy substances, and encourage the development of more innovative and sustainable recycling practices in the automotive and transport industry.

- **Legislative overlap on substances of concern**

The ELV framework is not the most suitable mechanism for regulating substances of concern or ensuring chemical safety. This is primarily due to the fact that hazards associated with chemicals, whether in terms of impact on human health or the environment, are already

³ 2023 JRC study, *Towards recycled plastic content targets in new passenger cars and light commercial vehicles*

⁴ *Ibidem*



comprehensively addressed under the REACH Regulation, which stands as the most extensive and robust chemical management framework globally. There are many risks potentially stemming from a legislative replication, namely:

- **Duplication and overlap:** as mentioned above, the inclusion of provisions related to hazardous substances within the proposal in question would inevitably lead to duplication and overlap with existing legislation. This redundancy could create confusion for manufacturers in the automotive and transport industry, regulators, and other stakeholders, as they would need to navigate two separate sets of rules that could potentially contradict each other. Furthermore, REACH's scope is broad, covering not only substances but also downstream uses and applications. It provides a holistic approach to chemical management, addressing the entire life cycle of chemicals. Attempting to replicate this level of comprehensiveness within the ELV framework may prove impractical and less effective.
- **Legal uncertainty:** the introduction of a second layer of legislation could result in legal uncertainty. This would not only hinder the smooth implementation of ELV Regulation but also raise questions about jurisdiction and interpretation. Long-term clarity and consistency in regulations are vital for businesses, which need to understand and comply with the law in order to operate effectively.
- **Inadequate expertise:** regulating hazardous substances requires a significant degree of expertise in chemistry, toxicology, and environmental science. REACH, being specifically designed for this purpose, houses this expertise and infrastructure. Implementing a parallel framework within the ELV framework may lack the necessary scientific rigor, potentially leading to suboptimal decision-making.
- **Global harmonisation:** the REACH Regulation has set the standard for chemical safety and is already closely aligned with international standards and agreements. Trying to incorporate hazardous substance regulations within the ELV framework could hinder global harmonisation efforts, causing complications in matters related to international trade and cooperation.

- **Definition of plastics**

The definition of plastics currently encompassed within the text of the proposal appears to be partially incomplete due to the referral to the definition of polymer contained in the REACH Regulation, which includes only thermoplastics while excluding thermosets due to the fact that those are crosslinked polymers. In this regard, it should be noted that thermosets cover a considerable weight of the car. Therefore, the ideal solution would be to extensively apply the more comprehensive definition contained in Article 3 (2) of the Regulation (EU) No 10/2011 on Plastic Materials and Articles Intended to Come into Contact with Food.

A complete definition that covers all types of plastics, including thermosets, encourages innovation within the plastics industry, which can lead to the development of new materials



with improved properties. Furthermore, in terms of regulatory clarity, using consistent definitions for plastics across various regulations ensures legislative clarity, reduces compliance challenges for businesses, and offers a European-level playing field. A higher degree of precision and uniformity can lead to smoother operations within the plastics converting and recycling industry, resulting in cost savings and increased efficiency.

Moreover, a more inclusive definition of plastics would undeniably foster circularity: plastic converters are committed to developing increasingly sustainable practices and to reducing their environmental footprint. Including thermosets and other plastics in the regulatory framework allows for better tracking, management, and improvement of the environmental impact of all plastic materials. The plastics industry, along the entire value chain, continually invests in research and development to make plastics safer and more environmentally responsible. A complete definition accommodates future technological advancements, allowing manufacturers to adapt to and adopt greener alternatives.

• Modulation of EPR fees

EuPC welcomes the introduction of Extended Producer Responsibility (EPR) schemes in the automotive sector as a valuable instrument for advancing circular economy goals. These schemes, operating under uniform requirements, play a crucial role in ensuring proper financing for waste treatment operations, thereby incentivising both qualitative and quantitative improvements in the utilisation of recycled materials.

However, a crucial consideration arises concerning the fee modulation aspect, as outlined in Article 21 of the current proposal. This provision suggests that fees should be partially calculated based on "*the percentage of recycled content of materials listed in Articles 6 and 10 used in the vehicle.*" EuPC believes that while EPR schemes are instrumental in promoting responsible waste management, the calculation of fees should not be intricately tied to the recycled content of materials. EPR costs are inherently independent of the recycled content in a product as they primarily reflect the producer's responsibility for the entire life cycle of the product, including its end-of-life management.

Several factors contribute to the independence of EPR costs from recycled content. Firstly, the costs associated with the collection, transportation, and treatment of end-of-life products are generally uniform irrespective of the recycled content. These operational costs are incurred regardless of whether the materials are virgin or recycled. Secondly, EPR schemes aim to internalise the environmental costs associated with a product throughout its life cycle. This includes not only the costs of waste management but also the environmental impacts associated with resource extraction, production, and distribution. Focusing fee calculation on recycled content overlooks the broader environmental footprint of a product.

In conclusion, while EuPC strongly supports the implementation of EPR schemes, it recommends a reconsideration of the fee modulation criteria outlined in Article 21. Fees should



be structured to reflect the comprehensive environmental impact of a product's life cycle, rather than being overly reliant on the percentage of recycled content. This approach ensures a fair and effective incentive structure that encourages sustainable practices without stifling innovation in materials and manufacturing processes.

- **Harmonisation of the digital tools**

As part of the overall circularity strategy foreseen in the proposal, Article 13 explicitly refers to the implementation of the circularity vehicle passport as a tool to ensure the proper transfer of information on the safe removal and replacement of vehicle parts and components. In the era of digitalisation, such tools undeniably represent an added value for enhancing traceability and communication along the entire supply chain. In order to guarantee cross-sector harmonisation and legislative coherence and also in consideration of the wide array of actors that are expected to benefit from this type of tool (including not only economic actors but also authorities and consumers), the circularity vehicle passport, while being tailored to the specific sector-specific requirements in the automotive field, should also be developed in line with the requirements set for the Digital Product Passport as foreseen by the Ecodesign for Sustainable Products Regulation with an eye to fostering harmonisation and to avoiding additional burdens on the industry.

Conclusion

EuPC strongly supports the European Commission's proposal for increased circularity in the automotive and transport sector through the enforcement of the 25% recycled content target in newly approved vehicles. Nonetheless, achieving it requires acknowledging and allowing some fundamental key enablers, namely the inclusion of pre-consumer waste, the need to embrace the complementary progress brought by upcoming chemical recycling technologies, a prioritisation of open-loop recycling, an avoidance of legislative overlaps, a more comprehensive definition of plastics as well as a well-defined and coherent modulation of EPR fees. Against this background, EuPC advocates a comprehensive approach to achieve a more sustainable European automotive and transport industry, aimed at fostering a circular economy with the full support of a well-functioning market for the plastic sector, also emphasising the importance of ensuring that all imported products that are placed on the EU market comply with the ambitious circular standards set at the EU level.

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