

# Reinventing glass

Policy Recommendations  
June 2023

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# The situation

Single-use glass is proven to have the highest overall environmental footprint compared to other single-use materials. On the other hand, reusable glass offers the greatest potential to reduce environmental impacts: reusable glass bottles produce 85% fewer carbon emissions than their single-use counterparts, 75% fewer carbon emissions than plastic (PET), and 57% fewer carbon emissions than aluminium cans.<sup>1</sup>

The Packaging and Packaging Waste Regulation (PPWR) revision needs to address all packaging and packaging waste from a material-neutral approach. It is crucial to avoid material substitution, such as transitioning from single-use plastics to single-use paper, aluminium, or glass; or from heavier to lighter packaging materials.

In this regard, the PPWR should also set the policy framework for a gradual shift from single-use glass to reusables. However, the European Commission's (EC) current proposal on the PPWR will likely result in an increase in the use of single-use glass, thereby exacerbating the overall environmental impact of the sector. This holds true even if recycling rates were to increase, though this is not expected to happen as there are no proposed measures to enhance the recycling of glass packaging either.

The current PPWR proposal provides preferential treatment to single-use glass by exempting it from the circular requirements applied to metal and plastic beverage packaging (e.g. mandatory deposit return systems [DRS]), and also by discharging spirit drinks (most of which are packed in glass bottles) from the reuse targets. This advantage unfairly prioritises glass despite its significantly higher carbon footprint when compared to other materials.

## A free pass for glass

Below we summarise the exclusions for glass in the current EC proposal for the revision of the PPWR:

§ Article 26 (4): Reuse and refill targets for alcoholic beverages (applicable to beer, carbonated, and fermented beverages) do not include spirit drinks.

§ Article 44 (1): **Deposit and return systems** (applicable to metal and plastic beverage containers) does not include single-use glass.

§ Article 44 (3): Deposit and return systems are exempted for glass, even without achieving a minimum **90% separate collection for recycling rate**, unlike metal and plastic.

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<sup>1</sup> [Reusable VS single-use packaging – A review of environmental impact, Zero Waste Europe, December 2020](#)

§ Article 46 (b)(v): **Recycling targets** for glass are **insufficient**, failing to align with best practices and impeding the establishment of high-quality recycling systems.

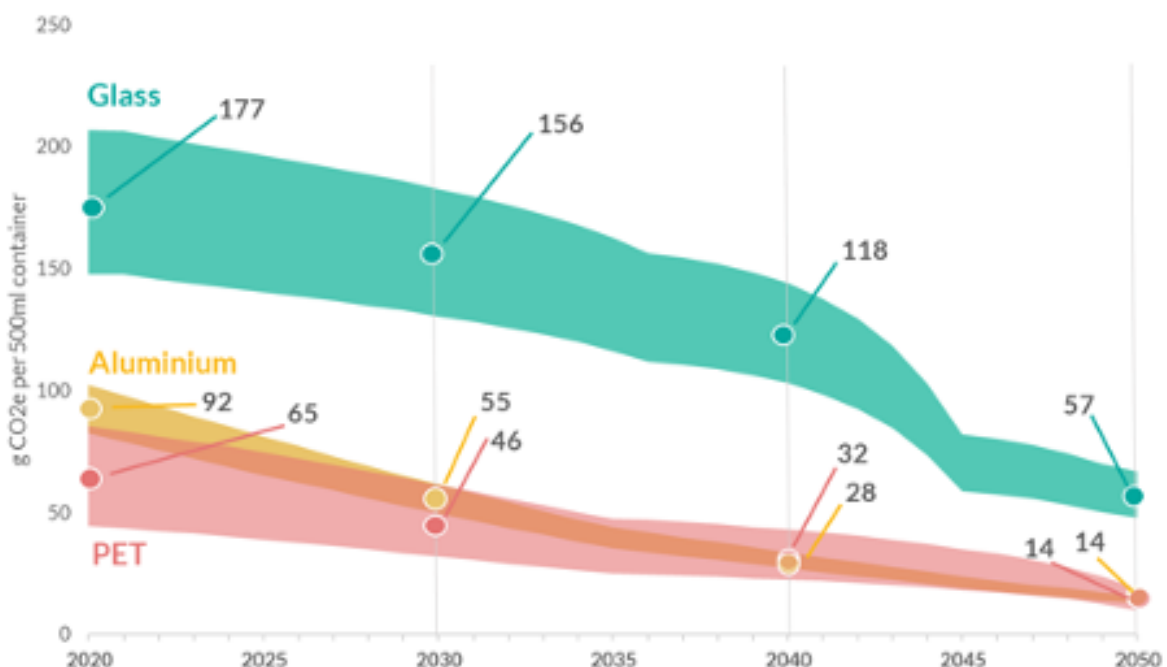
§ Article 7: Minimum **recycled content targets only apply to plastic**, neglecting glass packaging.

§ Article 38: **Prevention of Packaging Waste** sets overall combined waste reduction (weight-based) *per capita* target, without being **applied to each material, including glass**. Setting material specific targets will set a level playing field for all types of packaging and will mitigate any marketplace distortions arising from unnecessary packaging substitutions due to the varied densities of materials.

## Carbon crackdown, rethinking single-use glass

On top of having the highest carbon footprint compared to other single-use packaging materials, **single-use glass is the most expensive material to decarbonise**. The recent study commissioned to Eunomia Research & Consulting by Zero Waste Europe, *Decarbonisation of Single Use Beverage Packaging*,<sup>2</sup> shows its incompatibility with the climate agenda.

Figure 1: EU beverage container decarbonisation projections per 500ml container



Source: Decarbonisation of Single Use Beverage Packaging, Eunomia Research and Consulting, June 2023

<sup>2</sup> Decarbonisation of Single Use Beverage Packaging, Eunomia Research and Consulting, June 2023

# Reuse: building a sustainable glass future

- 1) Include **material-specific waste prevention** sub targets . Since the intent of Article 38 of the PPWR is to prevent waste from all packaging types and motivate industries to consider prevention measures for all materials, prevention targets should be set on a material by material basis and be more demanding on glass, given its high environmental impact.

The carbon impact of glass is closely linked to its weight – and, therefore, preventing the production of glass in the first place – should be a priority. Reinventing glass in a carbon neutral future means reusing glass containers over and over again, before re-melting them again. Future investments should be aimed in this direction in order to make the most of the glass which is produced.

- 2) **Set stronger sectoral-specific reuse targets and expand to other key market segments** to reduce the use of the most environmentally harmful applications. Precise sector targets which are set based on the sectors' packaging impact offer the greatest support in terms of green investment in the right market segments. While the sectoral targets in the PPWR proposal already covered many key packaging sectors, there are still others that can be explored:

- HORECA sector – takeaway and on premise consumption;
- Retail sector – food and beverage;
  - Both HORECA and retail sectors: ready-to-eat packaged food for home consumption;
- Alcoholic (including wine and spirits) and all non-alcoholic beverages (including milk).

## Optimising existing collection and recycling systems

Including single-use glass in DRS is an important milestone – not only in terms of improving recycling through a better collection and closed-loop system, but also in the shift to more reuse as it will build out the consumer return infrastructure and get people accustomed to returning their containers to be reused.

- 3) Treat all beverage packaging equally and **include glass beverage containers in deposit return programmes**. As with metal and plastic beverage containers, glass should equally be subject to the minimum 90% separate collection for recycling target which, if reached, can serve as an exemption to the DRS.



# High design standards for packaging circularity

As stipulated in the waste hierarchy, the shift towards reuse should progressively become the norm in the coming decades. However, there are specific circumstances where highly efficient single-use systems can be considered. Given the exponential carbon reduction benefits that arise from closed-loop recycling of plastic, metal, and glass, Article 7 should be expanded to include, at a minimum, recycled content requirements (i.e. high-quality recycling) for both glass and metal packaging.

- 4) For glass, metal and plastic beverage packaging, at least **65% (by weight) of the content** of the packaging placed on the market on the territory of that Member State in the period from 2030 to 2039 is recycled material; and at least **85% (by weight) of the content** of the packaging placed on the market on the territory of that Member State in the period from 2040 is recycled material, established through a methodology of calculation and verification in accordance with the implementing acts referred to in paragraph 7 of Article 7.

Economic operators shall review whether these conditions continue to be met at intervals of no greater than five years, taking into account good practices in packaging design, recycling, and reuse systems and other developments in packaging circularity.

By 5 January 2026, the EC shall draw up guidelines to assist and facilitate economic operators in calculating and verifying the collection rate of specific packaging formats placed on the market within specific Member States and of carrying out an assessment to demonstrate compliance with the requirements of paragraph 16 subparagraph.

## Encouraging reusable glass: EU's leadership in sustainability

Glass packaging plays a crucial role in the ongoing transition towards sustainable systems. However, to effectively contribute to sustainability goals, glass must move away from single-use applications and focus on reuse systems.

European Union policies should take the lead in encouraging glass producers and container users to adopt reusable glass and implement measures that support high-quality recycling.



Zero Waste Europe (ZWE) is the European network of communities, local leaders, experts, and change agents working towards the prevention and elimination of waste in our society. We advocate for sustainable systems; for the redesign of our relationship with resources; and for a global shift towards environmental justice, accelerating a just transition towards zero waste for the benefit of people and the planet. [www.zerowasteurope.eu](http://www.zerowasteurope.eu)



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