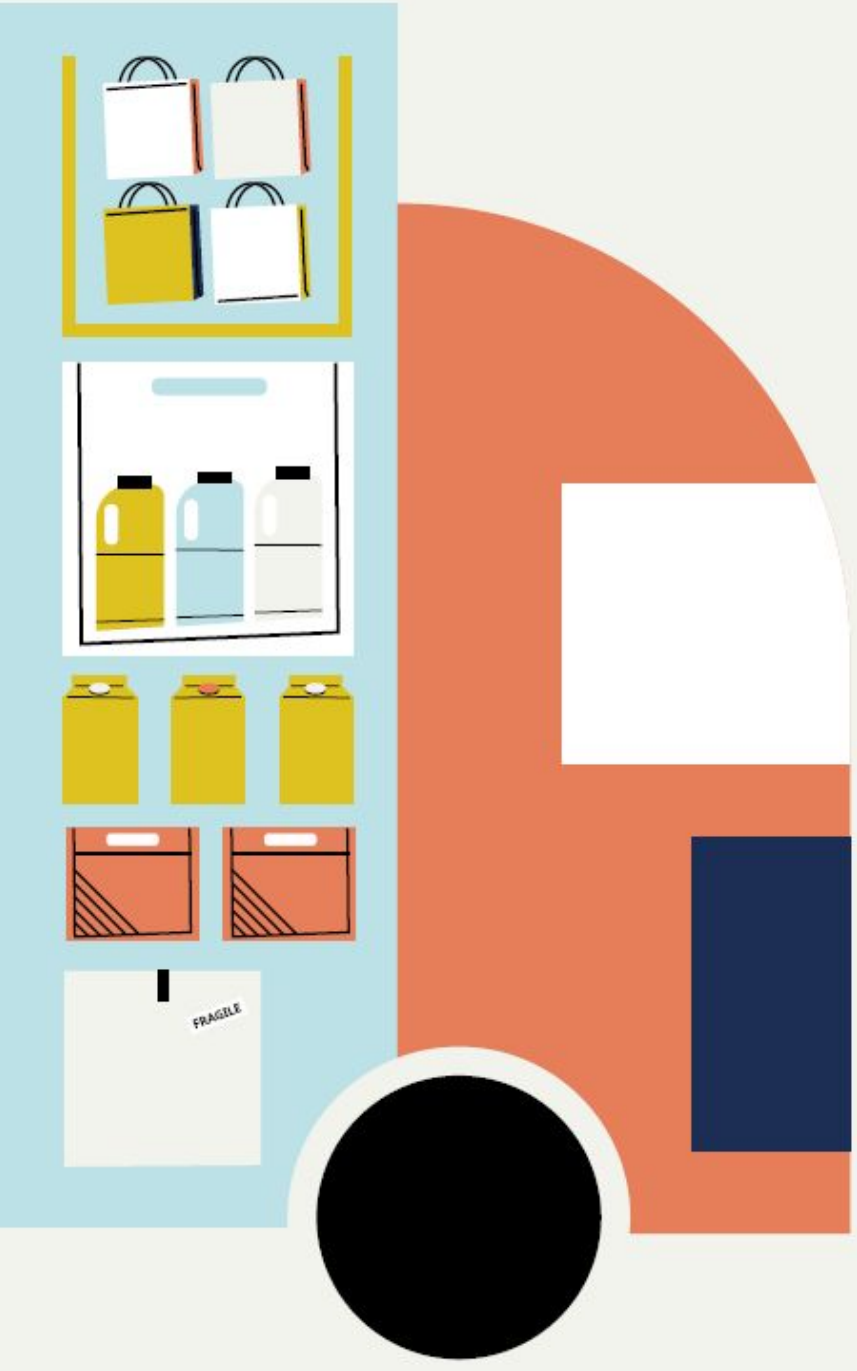
REDUCING PACKAGING WASTE: CHOOSE PREVENTION AND REUSE

Policy Briefing

Zero Waste Europe & Reloop, December 2020



ZERO WASTE EUROPE

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Drawing from the findings of the study "Reusable VS single-use packaging. A review of environmental impacts", Zero Waste Europe and Reloop make the case for the European Union to put in place a set of legislative and economic measures to tackle the ever growing packaging waste stream in Europe.

The right approach to packaging waste: Prevention & Reuse

In Europe, **packaging alone represents 36% of municipal solid waste**. It has also been estimated that CO_2 emissions from materials used for packaging are more than those caused by global aviation[1]. Levels of packaging production and consumption continue to rise, especially for single-use applications. Current waste management systems cannot cope with the increasing amount of waste generated.

Improving and expanding existing infrastructure for recycling is necessary but that alone will not stop the trend of continual growth of use of single-use items. Waste prevention and reuse are at the top of the waste hierarchy[2] for a reason. While prevention stops waste from ever happening, reuse helps reduce waste generation and the need for resource extraction and energy use compared to the manufacturing of new products and recycling. Reuse also has the potential to reshape our relationship with products and packaging while shifting towards more conscious production and consumption.

Getting out of our current linear model requires rethinking systemically the current way products are delivered to consumers. When it comes to packaging, waste prevention and reuse should become a top priority for the EU.

What do the latest findings on reusable packaging say?

The study analysed the results of 32 Life-Cycle Assessments (LCA)[3] that compared the impact of single-use and reusable packaging, including beverage packaging, buckets, bulk dispensers, carrier bags, crates, cups, drums, food containers, jars, kegs and transport packaging. **The results of the 32 LCAs have shown that reusable packaging is greatly preferable than single-use for most types of packaging analysed.** 72% of the studies show positive results for the environmental impact of reusable packaging compared to single-use**.**

It is important to highlight that the overall benefits of reusable packaging systems compared to single-use ones are likely to be much greater than the findings of this analysis suggest, as standard LCA methodology does not look at a full spectrum of impact categories of a product life-cycle. For instance, it doesn't typically address the

[1] theconversation.com/plastic-warms-the-planet-twice-as-much-as-aviation-heres-how-to-make-it-climate-friendly
[2] zerowasteeurope.eu/2019/05/a-zero-waste-hierarchy-for-europe/
[3] LCA is a methodology for assessing environmental impacts associated with all the stages of the life-cycle of products, processes, or services.

impacts of littering nor the impacts to human health (regarding the toxic chemicals present in products), which are crucial factors that need to be looked at when assessing the overall impacts of packaging waste.

Despite these limitations, LCA is still the most used technical methodology tool to assess environmental impact of products and always provides some general insights that can help guide decision-makers[4].

As regards the efficiency of reusable packaging systems and their environmental benefits, the study lays out **four key parameters that have a substantial influence on the success of reusable packaging systems**:

Production: In most cases, even for reusable packaging, the production phase was found to have the most impacts. This is understandable given that reusable packaging is usually of higher quality in order to withstand the rigors of multiple cycles throughout its lifetime. Nevertheless, for the majority of reusable packaging, the production emissions become less relevant since the overall environmental impact is divided throughout the number of cycles (reuses).

Number of cycles: As the environmental impacts of the production of reusable packaging are distributed across its life-cycle, the number of times the packaging is used throughout its lifetime is also a key variable. Several LCAs highlight a steep reduction of impacts within the first number of cycles, which then gradually reaches a plateau, as the impacts associated with transportation and cleaning of the packaging are still present in every cycle (reuse) of the packaging.

Transport: The majority of the studies found that the most impactful stage of the packaging's life-cycle related to transportation emissions. The impacts of transportation are influenced by three interconnected variables:

(i) transport distances and the use of backhauling;
(ii) weight and volume of the packaging; and
(iii) mode of transport.

End-of-life: As mentioned above, the LCA methodology does not address the full end-of-life scenario of products. Therefore, this approach was limited to recycling, incineration, landfilling, recycled content and recycling credit. Studies found that packaging (reusable or single-use) that incorporates recycled content has a lower environmental impact on its production phase than packaging manufactured using only virgin material, since resources and extraction emissions are lower for the production of a new packaging.

[4] Further information on the limitations of LCA studies can be found at a recent report by Eunomia and Break Free From Plastic.

These four parameters may be more or less relevant to determine the environmental performance of the packaging depending on the packaging type (bottles, cups, crates, food containers, etc.) and their material constitution (plastic, glass, carton, etc.). For instance, the production phase of glass bottles accounts for the largest environmental impact compared to other beverage packaging materials, as it demands a lot of energy to be produced.

In addition, the study showcases the interaction between these parameters and the packaging materials, for instance the relation between distance and CO2 emissions of one entire life cycle of a reusable glass bottle compared to other single-use beverage packaging **From the average results of the LCAs analysed in the study, it was concluded that reusable glass bottles have much lower emissions than the other packaging formats (i.e. glass, aluminium, PET, carton), when they are reused for a certain number of cycles, which varies by material**.

- Reusable glass bottles vs. single-use glass bottles: this comparison presented the most significant decrease in CO2 emissions from all packaging observed. Already 40% of the emissions from glass production are reduced after the bottle has been reused two or three times.

- Reusable glass bottles vs. single-use PET bottles and single-use aluminium cans: the analysis shows that after three cycles, reusable glass bottles have lower CO2 emissions than single-use PET bottles and aluminum cans.

- Reusable HDPE bottles vs. single-use HDPE bottles: the analysis shows that the largest reduction in CO2 emissions occurs after a reusable HDPE bottle has undergone between two and ten cycles.

With regard to the **break even points**[5] (in terms of environmental impacts) for reusable glass compared to all other single use packaging formats within scope, **the study shows that after the 2nd or 3rd use reusable glass bottles have already lower CO2 emissions than the single-use packaging types analysed**.

Depending on which stage of the life-cycle has the most environmental impacts (i.e. production phase, use phase, etc.), certain measures can be taken to reduce it. For instance, in cases where the production phase is deemed to have the highest emissions (i.e. glass bottles), ensuring that the package undergoes a sufficient number of cycles (reuses) will reduce the overall impact of the package at the end of life.

Furthermore, the study outlines a number of key measures that can further increase the efficiency and benefits of reusable systems, including economic instruments (i.e. deposit return schemes, price and discount/reward systems), standardisation of packaging formats, pooling systems, and accessibility to consumers.

[5] Break even points refer to the number of cycles a reusable package must undergo to have comparable or lower environmental impacts than a single use package.

Our recommendations

Legislation has a key role to play in reversing our current wasteful model by ensuring better packaging design and distribution and collection systems, as well as in addressing overpackaging and packaging waste.

In order to achieve the objectives of the European Green Deal[6], including carbon neutrality, and the new Circular Economy Action Plan (CEAP)[7] and move towards real circular and effective systems and products, **the European Commission should adopt a systemic strategy with integrated solutions, including a set of legal and economic measures to support upstream solutions for reducing packaging**.

Economic incentives can also play a determinant role in helping remove the market barriers for reusable packaging systems and create a level playing field with single-use packaging. And the revision of the Packaging and Packaging Waste Directive (PPWD)[8] constitutes an opportunity to address these challenges.

The EU should set strong policy measures to support circular production and consumption patterns for packaging:

- Set **a cap** on the overall limit **of single-use packaging** material put on the market;
- Set binding **sector-specific reuse/refill targets, starting with sectors where reuse and refill are already being explored**, such as food and beverage;
- Introduce **sector-specific standards** for a high level of harmonisation in packaging formats, also called 'universal' packaging formats. Standardisation is also beneficial for the EU single market, as it takes out the obstacles/barriers to the single market;
- Introduce **bans on selected packaging types**, such as unnecessary/over-packaging (i.e. individually wrapped inert material or product, portion sized pouches and sachets, etc.) as well as formats where sustainable alternatives are already in place ; and
- Ensure the **enforcement of the measures** by requiring a **mandatory reporting mechanism** on the reuse/refill targets and penalties in case these targets aren't met.

[6] ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en
[7] ec.europa.eu/environment/circular-economy
[8] ec.europa.eu/environment/waste/packaging/legis.htm

Beyond the EU level, **national initiatives** are critical and we believe **the Single-Use Plastic Directive[9] transposition phase** is a good opportunity for Member States to go further with the inclusion of waste prevention measures and facilitate the development of reuse models by[10]:

- Ensuring **Extended Producers Responsibility (EPR) schemes** are implemented with **modulation of fees** covering the **full end-of-life costs of all packaging, including clean-up litter costs**;
- Establishing a **dedicated fund** where at least 5% of the **EPR fees** collected are invested in **prevention and reuse systems** (such as packaging free models);
- Expanding the **consumption reduction targets** to other single-use packaging formats;
- **Reducing or eliminating taxes on reusable and refillable products**;
- Establishing **deposit return scheme (DRS) policies** for packaging items and beyond beverage bottles containers, increasing ambition in terms of scale of coverage, and **with binding refill targets within the scheme**;
- Introducing **economic incentives for reusable products and reuse systems to overcome barriers to entry**, such as subsidies for reusable containers and levies/tax for single-use packaging placed in the market;
- Reviewing **public procurement standards** to incorporate bans on single-use items, and targets and incentives for reusables.

Further data and the methods applied to arrive at these recommendations can be found within the full report.

[9] eur-lex.europa.eu/eli/dir/2019/904/oj

[10] Further detail on these recommendations is available at: rethinkplasticalliance.eu/wp-content/uploads/2019/10/bffp_rpa_reusable_solutions_report.pdf

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Zero Waste Europe is the European network of communities, local leaders, experts, and change agents working towards the elimination of waste in our society. We advocate for sustainable systems and the redesign of our relationship with resources, to accelerate a just transition towards zero waste for the benefit of people and planet.

Reloop is an international non-profit organization that brings together industry, government and NGOs who share a vision of a thriving global circular economy - a system where resources are kept in continuous use and waste and pollution are eliminated. Our broad network seeks to bring about positive change at all levels of resource and waste policy. We want a world free of pollution, where an ambitious and integrated circular economy allows our precious resources to remain resources, so that people, businesses and nature can flourish.

#breakfreefromplastic is a global movement envisioning a future free from plastic pollution made up of 1,900 organisations from across the world demanding massive reductions in single-use plastic and pushing for lasting solutions to the plastic pollution crisis

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