

Aerosol Dispensers and Circular Economy Briefing Paper

This FEA internal briefing paper is designed for National Associations and their Members on the issue arising with Sustainable Development.

1. Background

The European Commission released its communication *Closing the loop – An EU action plan for the Circular Economy* in December 2015.

The transition to a more circular economy, where the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste minimised, is an essential contribution to the EU's efforts to develop a sustainable, low carbon, resource efficient and competitive economy.

Transitioning to a circular economy represents a systemic shift that builds long-term resilience, generates business and economic opportunities, and provides environmental and societal benefits.

The model distinguishes between technical and biological cycles:

- Consumption happens only in biological cycles, where food and bio-based materials are designed to feed back into the system through processes like composting and anaerobic digestion. These cycles regenerate living systems which provide renewable resources for the economy.
- Technical cycles recover and restore products, components, and materials through strategies like reuse, repair, remanufacture or (in the last resort) recycling.

Making the circular economy a reality will require long-term involvement at all levels, from Member States, regions and cities, to businesses and citizens.

This briefing paper explains where aerosol dispensers fit into a circular economy.

2. Option for Aerosol Dispensers

Currently by legal definition aerosol dispensers are non-reusable/refillable containers/receptacles. Many are also fast-moving consumer goods. Consequently, aerosol dispensers will not be able to meet many of the objectives of the EU Circular Economy, i.e. be maintained/prolonged, reused/redistributed, refurbished/remanufactured.

The sole option for aerosol dispensers to avoid the traditional linear “Take, Make, Waste” economy is recycling.





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Thus turning aerosol dispensers at the end of their life into a resource is an essential part of increasing resource efficiency and closing the loop in a circular economy.

Currently only around 40% of the waste produced by EU households is recycled, with recycling rates varying from as high as 80% in some areas to lower than 5% in others.

The potential for improvement is very high and recent amendments to the EU Waste Framework Directive and the Packaging and Packaging Waste Directive aim to deliver these improvements!

3. Cradle to Cradle

A circular economy starts at the very beginning of a product's life. Both the design phase and production processes have an impact on sourcing, resource use and waste generation throughout a product's life.

Product design

Better design can help recyclers to disassemble and sort products to recover valuable materials and components. Overall, it can help to save precious resources.

However, the interests of producers, users and recyclers are not always aligned, for example many aerosol dispensers have black plastic components, these are difficult to recycle because optical systems used by many recycling facilities to separate the different polymers do not recognise black materials which means they remain in the unsorted residues.

Metal aerosol dispensers are easily sorted with a magnet for steel and Eddy current for aluminium, but a re-design of the metal valve into a plastic one could help facilitate the recycling of plastic aerosol dispensers.

Production processes

Even for products or materials designed in a smart way, inefficient use of resources in production processes can lead to lost business opportunities and significant waste generation.

Primary raw materials, including renewable materials, will continue to play an important role in production processes, even in a circular economy. In this context, attention must be paid to the environmental and social impacts of their production, both in the EU and in non-EU countries.

Many companies in the aerosol industry already use renewable energy sources to manufacture their aerosol dispensers and/or have implemented a zero-waste strategy in their factories.

Consumption

The choices made by millions of consumers can support or hamper the circular economy. These choices are shaped by the information to which consumers have access, the range and prices of existing products, and the regulatory framework. This phase is also crucial for preventing and reducing the generation of household waste. Clear labelling for consumers on how to recycle their empty/used up aerosol dispensers could be an important way to show that they are recyclable.



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Green claims must be reliable, accurate and clear. However green claims may not always meet these legal requirements.

The European Commission also tests the Product Environmental Footprint and will explore its use to measure or communicate environmental information. Sister European associations, as A.I.S.E. and CEPE, participated to the testing phase, but the exercise was quite complex and costly.

Waste management

Waste management plays a central role in the circular economy: it puts the EU waste hierarchy into practice.

The waste hierarchy establishes a priority order from prevention, preparation for reuse, recycling and energy recovery through to disposal, such as landfilling. This principle aims to encourage the options that deliver the best overall environmental outcome.

The way we collect and manage post-consumer aerosol dispensers can lead either to high rates of recycling and to valuable materials finding their way back into the economy, or to an inefficient system, e.g. lack of collection, where most recyclable aerosol dispensers end up as waste in landfills or are incinerated, with potentially harmful environmental impacts and significant economic losses.

The revised Packaging & Packaging Waste Directive (PPWD) includes increased recycling targets for packaging materials, which will reinforce the targets on municipal waste and improve the management of packaging waste.

To raise levels of high-quality recycling, improvements are needed in waste collection (and sorting).

FEA recommends that empty/used up post-consumer aerosol dispensers are included in recycling schemes. Large numbers of post-consumer aerosol dispensers are already being recycled successfully around the world.

Empty/used up aerosol dispensers still contain a small residual amount of propellant and/or product in the container, therefore, will still be pressurised. However extensive trials have shown that in normal concentration in the waste stream, if properly handled, their collection, transport and treatment is safe.

However, if empty/used up aerosol dispensers are collected separately (e.g. in a deposit return scheme), segregated or concentrated they should be collected, stored and transported in well ventilated spaces, packagings and vehicles to prevent the creation of flammable atmosphere and the build-up of pressure.

It is important to note that the classification of post-consumer aerosol dispensers as household hazardous waste remains a real threat.

PET is currently the polymer of choice for plastic aerosol dispensers and FEA is currently working with Petcore Europe on the integration of PET aerosol dispensers into the PET recycling streams.



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4. Use of secondary raw materials

In a circular economy, materials that can be recycled are injected back into the economy as new raw materials thus increase the security of supply. These "secondary raw materials" can be traded and shipped just like primary raw materials from traditional extractive resources.

Metal aerosol dispenser cans and valves are recyclable materials with established market demand. However, plastic aerosol dispensers and components, still account for a small proportion of the materials used in the EU and so use as secondary raw materials remain to be developed. The improvements to waste management practices being introduced as part of the EU Circular Economy programme will have a direct impact on the quantity and quality of the secondary raw materials available to manufacturers.