



LIFE CYCLE ASSESSMENT

COMPARATIVE LIFE CYCLE ASSESSMENT

Traditional life cycle assessment (LCA) is a powerful but imperfect tool. We can and must evolve how we think about environmental impact and how we measure it. A crucial component of this transformation is transparent accounting of environmental impacts beyond traditional cradle-to-grave thinking. We must consider real circularity thinking in order to achieve meaningful measurements and informed decision-making.

CHALLENGE

Many LCAs published in the beverage packaging industry over the past decades have attempted to measure the environmental impacts of different beverage packaging options. But based on assumptions that are simply not reflective of today's realities or without providing any analysis that would allow the reader to understand how changing key parameters, like real recycling rates, can affect those findings.

SOLUTION

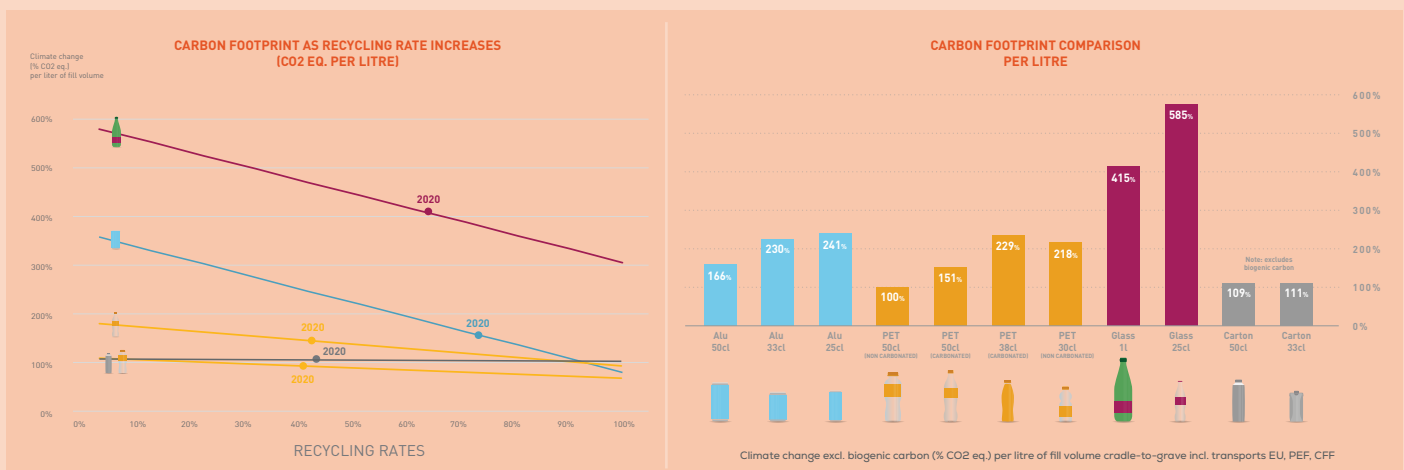
Commissioned by Ball, Sphera, along with an expert third-party critical review panel, has developed a new comparative LCA to deliver a more transparent and holistic view of packaging's environmental impact. The evolved methodology compared aluminium drink cans, PET bottles, glass bottles and drink cartons and included sensitivity analyses to forecast potential impact of opportunities such as increasing recycled content, recycling rates, or renewable energy in manufacturing. It also included the results of a Material Circularity Indicator methodology.

WE CAN AND MUST IMPROVE THE CARBON FOOTPRINT OF PACKAGING

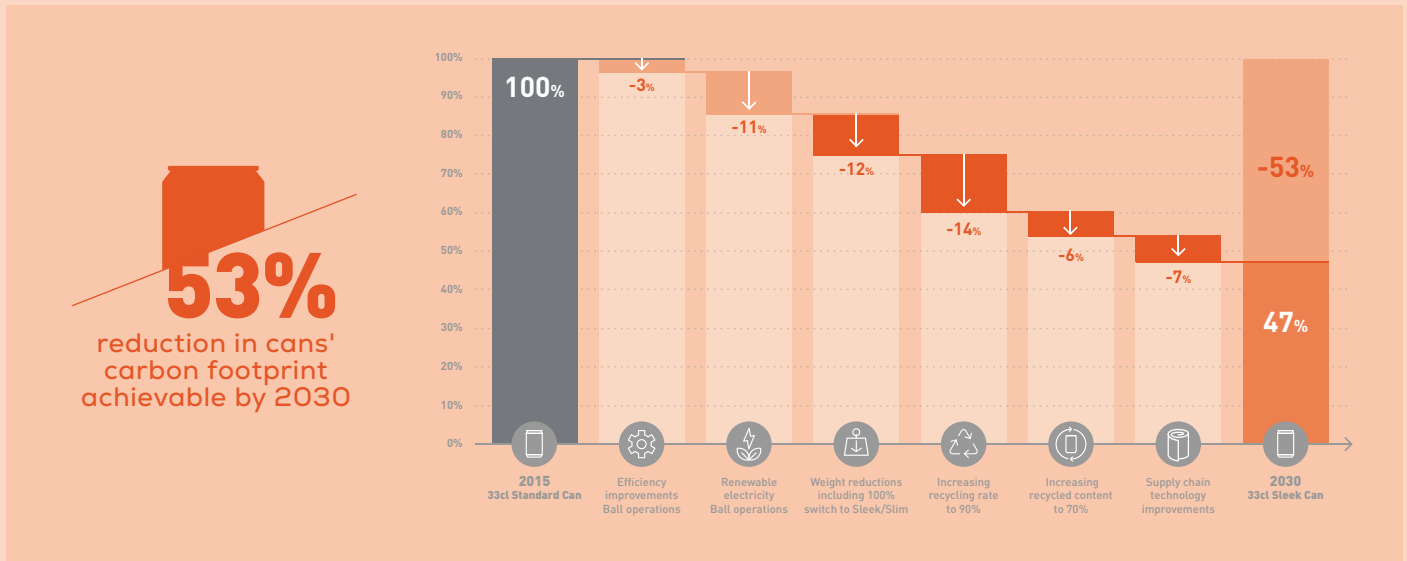
Aluminium cans have a carbon footprint comparable to PET bottles for carbonated and non-carbonated drinks (other than still water).

As recycling rates improve, aluminium cans have the biggest opportunity to continue decreasing their carbon footprint.

Single use glass has by far the highest carbon footprint regardless of recycling rates.



Increasing the recycling rates, combined with renewable energy use and lightweighting, are the biggest opportunities to help cut the carbon footprint of 33cl cans **53%** by 2030.

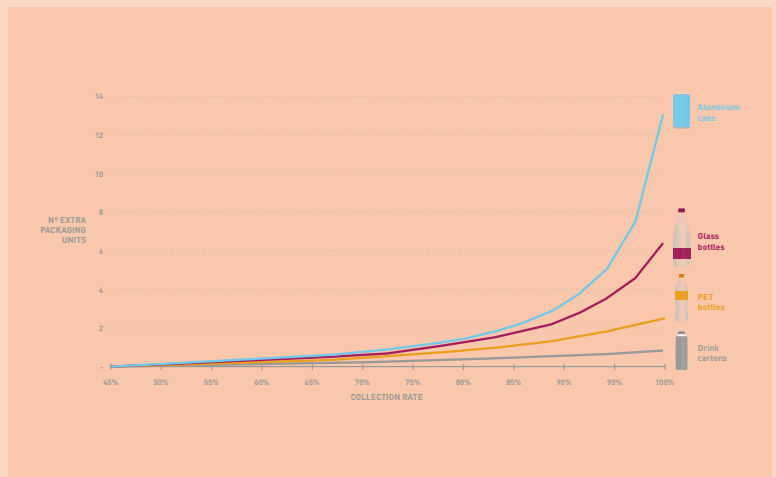


THE POWER OF HIGH RECYCLING YIELDS

Cans are the world's most recycled beverage container and today, an average of 74.5% are recycled in Europe.

When taking into consideration the real recycling rates (accounting for yield losses), cans perform even better.

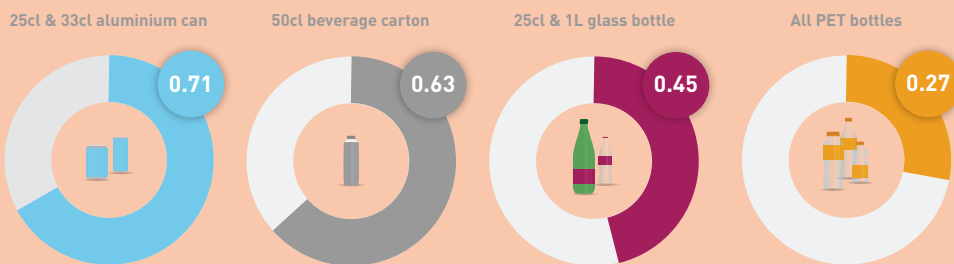
Low yield loss means more containers can be made from the same material remaining in the loop – making aluminium more circular and even more valuable as recycling rates increase.



CIRCULAR MATERIALS THAT BENEFIT THE PLANET

When considering the Material Circularity Indicator of the single use packaging options analysed, aluminium cans have the highest scores.

A new comparative Life-Cycle Assessment (LCA) developed by Sphera is revealing deeper insights about the circularity of common packaging choices.



Material Circularity Indicator methodology includes non-recycled renewables fibres as circular. Other methodologies do not.

75%
of all aluminium ever produced is still in use



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