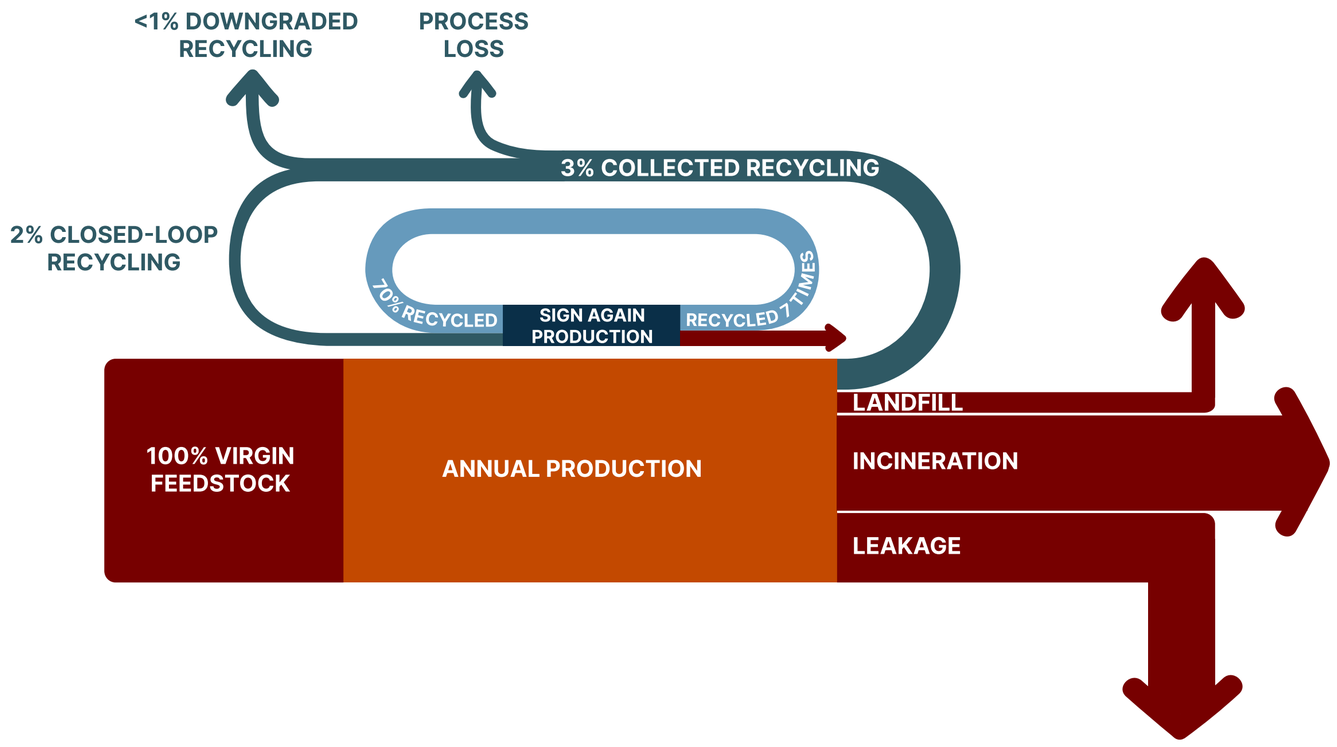
Circularity within the Print & Sign industry:

Shedding light on the story behind the recycling of PVC banners.

Every year, millions of square meters of PVC/PET banners are manufactured for temporary advertising, only to be discarded after an average of just 45 days. Due to the PVC coating being permanently fused to a PET mesh, they cannot be separated, leaving landfilling or incineration as the default end-of-life.

Instead of fighting the fusion, we can embrace it. By mechanically shredding and heat-pressing shredded banner waste, we transform this monstrous hybrid into repurposed composite panels. This process keeps materials in the loop for up to 7 cycles, capturing kilograms of waste.



This Master's thesis, conducted in collaboration with innovation agency Horizonteer, addresses the systemic waste crisis in the print and sign industry. Currently, 97% of PVC/PET banners are incinerated after a single event because their fused composite structure makes them technically and economically unviable for traditional recycling.

The project develops a strategic roadmap to transition the industry from a linear "take-make-waste" model to a circular one. The core concept is Sign Again: a process that embraces the hybrid nature of the waste by shredding and thermally pressing old banners into heavy, rigid and weather-resistant panels.

To bridge the knowledge and tactile gap identified in the research, the project delivers two key tools:

The Sign Again guidebook: A B2B procurement asset that translates scientific material testing into actionable design data and circular storytelling.

The texture board: A physical boundary object that allows stakeholders to feel the material's properties like rigidity and surface finish while mapping its transition from waste banner to repurposed panel.





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18-05-2026
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