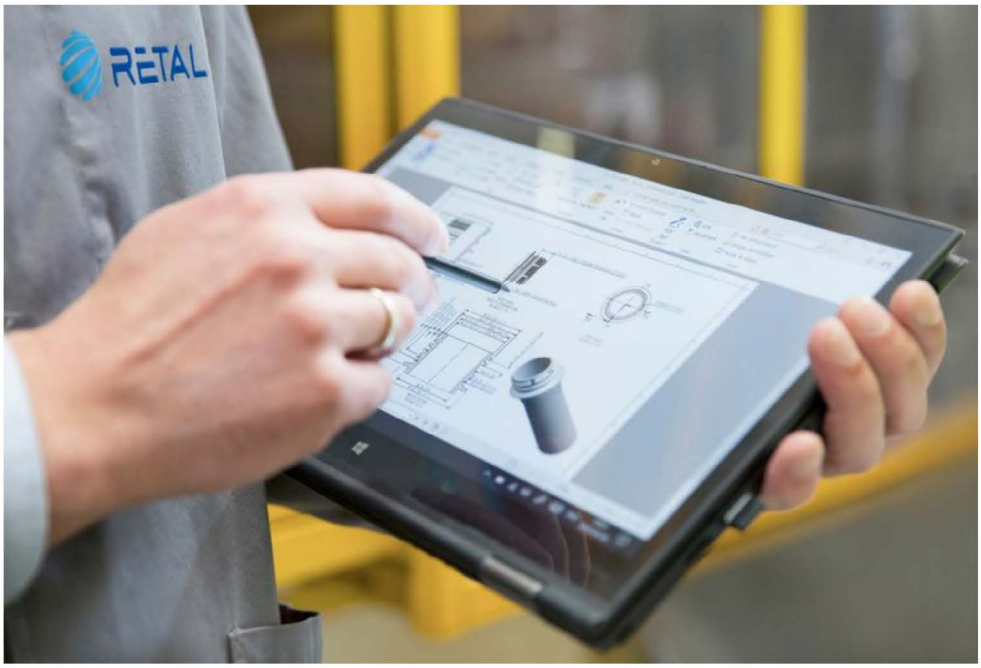
October 11, 2022 08:00 AM

From linear to circular

How integrating design for recycling supports a sustainable future

Emma-Jane Batey



Well-being, diversity, abundance...keywords that have become hot topics across subjects on social media in recent years. Perhaps their importance has been bolstered by the fact that they impact across demographics, across industries and across locations, but also because fairness is an emotional common denominator.

We can add 'waste' to that list of keywords too, for the same reasons. While we all want to feel like we are accepted, appreciated and valued, the notion that a valuable resource – time, energy, food – is wasted seems like a pointless use of something precious. We wouldn't do a weekly shop and then just throw away our groceries, or have the increasingly expensive heating on and leave the windows open...so why waste plastic without acknowledging that we can do better?

For the plastic industry, that appreciation for the forensic reduction of waste has been increasingly integrated into our businesses. We've all been aware of the need to 'reduce, reuse, recycle' for some time now, with conscientious consumers also comfortable with responsible use of used packaging. But what about the myriad steps before the packaging becomes used by the consumer?

Are we doing everything we can?

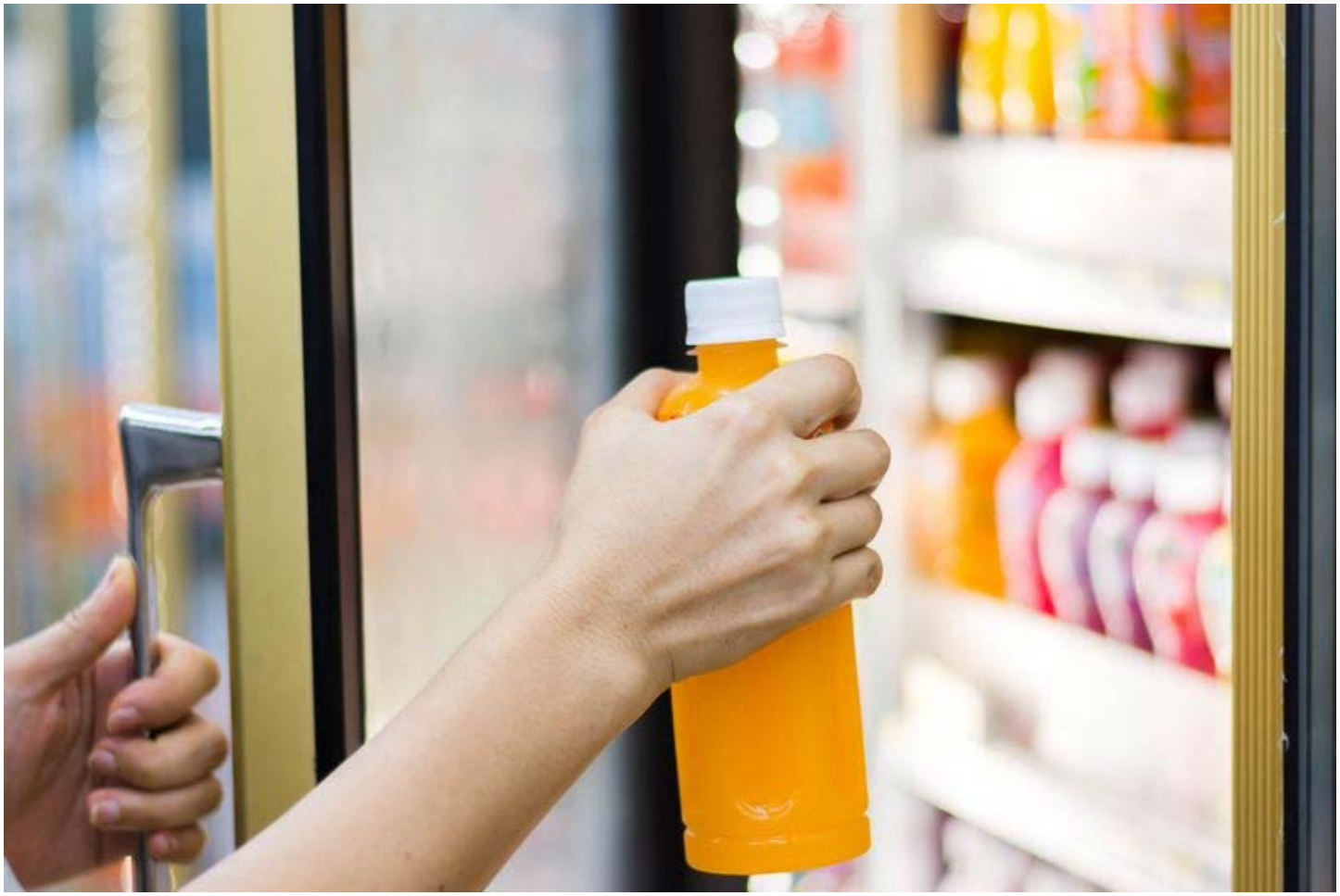
Belgium-based non-profit Plastics Recyclers Europe has created RecyClass, a platform that is a vocal proponent of Design for Recycling (DfR) and its clear approach shares how responsible players in the plastics value chain can do more, earlier. RecyClass defines its purpose as 'a cross-industry initiative facilitating the transition towards a circular economy', which it promotes utilising its roster of 'scientific findings, transparency and traceability'. A useful resource is its Design Book, which was published in June 2022 and is now being increasingly referenced as a science-driven handbook for the entire plastics value chain.

The Design Book is the result of a collaboration from across the entire plastics value chain, particularly members and supporters of RecyClass, with RecyClass Chairman Paolo Glerean explaining that it can, 'lead to improved quality of recycled plastic and stimulates its uptake in new packaging applications', while 'opening the door for a circular plastic future.'

Emmanuel Duffaut, Sustainability Director for multinational plastics packaging manufacturer RETAL, shares how the RecyClass Design Book is an excellent way to clarify and define how that journey from linear to circular economy for the plastics industry.

"There are limitations to simply shouting that increasing recycled material volumes in plastic packaging is the answer, especially in food packaging; of course, this is part of the solution, but there are currently also market issues with supply and quality, so strict legislation on this topic is not only helpful. The RecyClass Design Book is a welcome addition to our continually progressing arsenal of circularity tools, as it clearly defines the concept and guidelines of DfR for all players in the plastics industry, showing how we can work together to dramatically increase the likelihood of a realistic plastic circular economy."

sustainable Plastics



Understanding that supporting the circular economy is a complex combination of components, the principle of DfR addresses a wide range of those components because at its core is the increased compatibility of plastic products with recycling, which, in turn, will show that these goods are not irresponsible. Duffaut continues, “DfR is about putting plastic products on the market that are fully recyclable. Colourants, additives, sleeves or certain inks among other things either make the product harder to segregate from the waste stream, meaning recyclable packaging is lost, or hinders the recycling process and/or the recycled resin quality. It’s about joined-up thinking; seeing how each stakeholder in the circular economy can maximise their contribution and do everything they can in their sphere of influence. For example, as an industry, we mustn’t put all the responsibility on consumers to put their used plastic packaging in the right recycling bin and say we’re doing all we can; we can do the right thing way before the plastic product reaches them, and so we should.”

Everything to gain

Yes, we should. There is nothing to lose from integrating Design for Recycling into the entire plastics value chain. Thanks to the RecyClass Design Book and other science-based documents, the information is available regarding how to make plastic products more easily recyclable, and it starts with education of recyclability and awareness of how early decisions in the design process can generate a positive ripple effect. Duffaut agrees, “We’re always pushing to integrate DfR as early as possible, so we work closely with our customers to understand exactly the performance they require from a preform, container or closure and film, and our R&D team can bring an evolving design to life. We know exactly what type of additives and colourants can support a circular economy, and can use innovative materials like NEOPET Cycle that has 30% rPET integrated into the virgin flakes.”

By appreciating that waste is literally the most pointless of things can we clearly see that committing to integrating DfR right from the very first conversation in a plastic packaging creation journey. As the world shifts to a greater understanding that we all have a part to play in the careful management of our natural and human resources, we can reclaim a sense of abundance by knowing we are contributing to a circular economy.