



INDUSTRY ARTICLE

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Packaging to protect the environment is a complex job

At the latest since Germany's new Packaging Act went into force last year, many manufacturers have been focusing on package recyclability. But how do you define good recyclability? And how might recyclability conflict with other sustainability goals like a smaller CO₂ footprint? We talked to Sonja Bähr, Packaging Analyst at the packaging management company TILISCO, and lecturer at Berlin's university-level Beuth Hochschule für Technik, about the challenges on the way to real sustainability in packaging design, and the risk of greenwashing.

The theme at FACHPACK 2019 was "Environmentally friendly packaging." What was your impression of what exhibitors were offering in that regard?

It was correct and courageous to promote FACHPACK with "Environmentally friendly packaging" as its theme. I was intrigued to see how exhibitors would react – especially what promises and positions vendors would lay out in terms of sustainability and recyclability. And sometimes there was also information that was inaccurate or vulnerable to misunderstanding. Of course there were very persuasive projects like Mondi's highly recyclable bag with a removable label, developed for Werner & Mertz for the Frosch brand. But I also noticed how terms got used improperly – whether deliberately or by mistake. Any "100%" claim has to be taken with a grain of salt, and likewise you need to look critically into the use of "bioplastics." What regenerable raw materials are used, in what percentages, and with what objective? A major cosmetics brand, for instance, is currently promoting its paper tube as a sustainable solution. The tube is a composite – a flat, non-separable combination of paper and plastic. In this case a small amount of plastic was replaced with a regenerable material, paper. But that means this package can't be recycled

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in the existing disposal systems, and gets processed thermally. If the goal had been “Replace fossil raw materials,” that might have been partly fulfilled; if the goal was “We practice a circular economy,” then this answer was clearly wide of the mark. If the goal was for marketing just to swim with the current on the trendy topic of sustainability, that was satisfied.

But strengthening marketing through packaging can also work well, as it does for Frosta. They’re a medium-sized maker of frozen foods, who switched from a pure plastic bag to a paper solution that really does consist at least 95% of paper. It remains to be seen how well this new solution is accepted on the technical side and by consumers.

So there's no magic fix for a sustainable package design?

No. The first point is always to ask, what requirements does the product impose? The packaging has to ensure an optimum degree of protection, logistics, saleability and – a new requirement – disposal.

Should we aim for very good recyclability of all packaging? Or a maximum CO₂ footprint reduction instead? What’s the role of cost? How is the product transported, and what filling or packing processes are available? Producers, consumers, retailers and disposal operators sometimes have very different and often mutually contradictory ideas of what constitutes environmentally friendly packaging. That’s why we need standards to define very good recyclability, or the product-to-package ratio, so we avoid a glut of options as much as we can. At the same time, we need to be aware that there may be conflicting objectives. That was obvious with the paper tube I mentioned, but you could extend it to any number of other materials. Glass is highly recyclable, but it has a poor CO₂ score card, because it takes so much energy to produce. The CO₂ figure, if you compare directly, is better for composite packages like the Tetra Pak, but in that case you have to allow for poorer recyclability.

Every material has its advantages and drawbacks, and using one packaging usually represents choosing one alternative from among several.

What strategies have already proven to be successful in making packaging more environmentally friendly?

It's very helpful to think in terms of "avoid, reduce, reuse". One option is to start by minimising the amount of material you use. But here too there are limits – legal labelling requirements call for certain type sizes. And quite logically, reducing the format of a package that goes on sale also leads to changes in the other packaging all the way along the transport chain, right down to shelf size at the retail outlet.

That's why, first of all, we need to find a shared objective with participation from everyone involved, and get clear about what effects certain changes in a package will have. On top of that there are also aspects like product properties, filling technology, logistics, and so on. The result will then be an integrated sustainability and packaging strategy built on an objective foundation.

As you see it, who's responsible for improving the environmental impact of packaging?

The makers who put packaged products on the market have a responsibility for the product – even after the goods are sold and even across national borders. On the other hand, the packaging makers also have an obligation to communicate the advantages and disadvantages of a given solution plainly and transparently. For the sake of sustainability, the entity that fills the package – meaning the brand – should have a way to make an informed decision.

What more needs to be done to properly implement "Design for Recycling"?

Design for Recycling is a complex job. It calls for a definition of objectives, careful planning, and sometimes also individual consultation. If packaging is promoted as recyclable, in any case that should be accurate, and should preferably aim for the maximum level.



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And if recycled materials are used in packaging, it should be plainly and transparently indicated where these recycled materials come from – is it genuinely recycled post-consumer waste, or does the material come from other material loops? Very good recyclability is achieved when the disposal process available today is able to recognise packaging, sort it well, and convey it to a high-quality reuse of materials, so that ideally any package can be remade into another package. The aim is to run materials in loops. There's a good deal still to be done here by the various parties involved, right up to government and legislation, to ensure that reuse is ecologically and economically worthwhile, and efforts to improve the environment can have a real impact.

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