



Packaging Under Siege

Why fact-based decisions are key to true sustainability in packaging

Packaging is everywhere. It's fundamental to a consumer lifestyle, so it's hard to imagine life without it. It serves to contain, protect, preserve and market products. It enables products to arrive from any part of the planet and reach your table. It sustains the quality of products over prolonged periods of time without losing quality, thus reducing losses. Nevertheless, packaging, particularly plastic packaging, has developed a bad reputation when it comes to its environmental impact. The media floods us with images of once beautiful beaches, now resembling landfills, and vulnerable ocean animals dying after swallowing plastic packaging. Our immense consumption of packaging also depletes non-renewable resources. This is an unsustainable state of affairs.

Packaging recycling targets from the European Commission stipulate that we must reach a recycling rate of 65% of municipal waste by 2035 and 75% of packaging waste by 2030. By 2030, we also have to reduce the waste ending up in landfills by at least 10% for municipal waste and 100% for



2019 could become a year of opportunities for the packaging industry.

separately collected waste.¹ With China's recent import ban on plastic waste,² large companies and associations will change how they treat waste and packaging.

Other, country-specific regulations tighten the corset around packaging producers, designers and users. But what sounds like a threat for the market is actually a chance to change our approach to packaging—how we design, use and dispose of it. It is a chance to rethink our packaging choices, the materials we use, how much we use and even if we need it at all. The process of rethinking and

redesigning will help support us in our inevitable movement toward a truly circular economy and lower our consumption of virgin resources. Innovative and (self-declared) sustainable packaging solutions have sprung up in recent years, encompassing a range of focal points, from reuseable and refillable packages via entirely new materials, all the way to stores establishing plastic-free aisles³ and packaging-free stores.⁴ A recent article⁵ focused on the consumer's participation in succeeding with innovative recycling actions and trackable and/or refillable packaging. But we believe success hinges on more than that.

While all these efforts are applaudable, they will not achieve the set targets without a systematic and interdisciplinary approach. Using more recycled materials might be part of the solution, but it doesn't negate the fact that plastic

LCA is a commonly used method that quantifies and calculates environmental impacts, basing its assessment on an internationally established, scientific framework. It analyzes all lifecycle stages, from raw materials extraction to waste processing, and the final disposal, including all the steps in between. Ultimately, this allows you to objectively compare several different products or even common products, but only differentiates individual parts during their lifecycles.⁶ Together with the identification of a product's circularity, it is possible to generate science-based results, which help to enhance every decision you make.

1 European Commission (2018): Circular Economy. (http://ec.europa.eu/environment/circular-economy/index_en.htm accessed on 14.11.2018).

2 Brooks, A. L., Wang, S., & Jambeck, J. R. (2018): The Chinese import ban and its impact on global plastic waste trade. *Science Advances*, 4(6), eaat0131.

3 "Plastic-free-aisle-opens-in-netherlands" <https://www.bbc.com/news/av/world-europe-43270605/world-s-first-plastic-free-aisle-opens-in-netherlands>

4 <https://www.environmentalleader.com/author/alyssa-danigelis/page/4/>

5 <https://projekte.sueddeutsche.de/artikel/wirtschaft/deutscher-plastikmuell-verschmutzt-malaysia-e590969/>

6 Preventpack (2012): Environmental impact of packaging. (http://www.preventpack.be/sites/default/files/publications/201206-14-polyvalence_1.pdf (accessed on 14.11.2018)).

is derived from a finite fossil fuel resource. Banning single use plastic might be part of the solution, but will it help prevent the plastic waste problem in the countries that contribute the most, such as Indonesia, Malaysia, Thailand and Bangladesh?⁷ Switching to more renewable materials might be part of the solution, but do we have enough (land) resources to enable a complete switch and is it even technically feasible? Or might this lead to burden shifting: killing fewer turtles, but increasing deforestation and killing more orangutans instead? And can we dispense with consumer packaging without generating even more food waste? Can we create refillable packaging without significantly increasing water and energy consumption? All these questions lead to one conclusion: isolated actions can't solve our problems—they may only temporarily delay our challenges or even make them worse.

Humanity tends to make decisions to achieve short-term success. Feeling good in the short-term, improving immediate personal reputation, enduring pressures for quarterly success and confronting monetary limitations often dictate our decisions. This sort of decision making can lead to misguided choices, because it is impossible to assess the overall impacts of products if we just analyze and plan for the short-term. On the contrary, it is even more probable that we will run into bigger problems in the future, with higher costs and with the potential to undermine the ability for a company to continue operations into the future. You can surely recall instances when organizations developed solutions to a seemingly isolated problem without understanding the complex

implications for an interconnected (eco)system. Introducing invasive species to control pests (cane toad in Australia) or to provide food and economic benefits (Nile perch in Lake Victoria) are good examples of how isolated solutions can trigger much larger disasters.

Often with individual choices, we use our "gut-feeling." The shrink-wrap on cucumbers is a good example of this. Often decried as an unnecessary use of plastic, it actually decreases environmental impacts by increasing the shelf life by three times as long as an unwrapped cucumber, greatly reducing product waste, which has a much greater negative impact than the film production and disposal have.

That is why it is critical to conduct analyses during the design and production phases of packaging products. Our decisions have to be fact-based rather than emotion-based. To make sure that this happens, we need to take a holistic, interdisciplinary approach. One method, which helps you to make fact-based decisions, is Life Cycle Assessment (LCA). While not all-encompassing, it enables a multi-faceted approach and helps you and your supply chain to avoid burden shifting.

Our mission for the coming years should be to keep up the R&D and analyze using multi-dimensional indicators—as is reportedly done by the LOOP initiative⁸—before taking large-scale action. Focal areas should include:

- minimizing the amount of packaging we use without compromising the benefits it provides—this may require marketing departments to

think up new ways to promote products and provide "shelf-presence."

- selecting packaging materials with the lowest production impacts. To do this right, you must compare materials based on the unit of product that you need to package safely for a given transport option and shelf-life.
- developing and implementing new concepts for collecting and recycling waste packaging to reduce demand on resources. We need to ensure waste packaging has a value, so there is less incentive to discard it as litter.
- and, most of all, we need to integrate all these ideas, with interdisciplinarity and systems science to solve our packaging problems over the long run.

Because a packaged problem requires a packaged solution, let's join forces to find the best solutions for a more sustainable future!

The GaBi Packaging Calculator is an easy-to-use configuration tool to model the LCA of packaging designs and compare different scenarios. It provides science-based information that allows you to identify the most sustainable alternative. In addition, you can measure the level of circularity, based on the Material Circularity Indicator (MCI).

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[Visit our website](#) to find out more.

⁷ <https://www.independent.co.uk/life-style/food-and-drink/features/a-lesson-in-packaging-myths-is-shrink-wrap-on-a-cucumber-really-mind-less-waste-8340812.html>

⁸ Starre Vartan (2019 Jan 24) Loop could be the major packaging shift we've been waiting for https://www.mnn.com/money/sustainable-business-practices/blogs/loop-could-be-major-packaging-shift-weve-been-waiting?utm_source=Weekly+Newsletter&utm_campaign=310edb9076-RSS_EMAIL_CAMPAIGN_FRIO125_2019&utm_medium=email&utm_term=0_fcbff2e256-310edb9076-42495881