
packaging

SUSTAINABILITY IN PHARMACEUTICAL PACKAGING

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In this article, industry leaders discuss the importance of sustainability in pharmaceutical packaging, what they're doing to promote and support sustainable efforts within their companies and organization, and the impact of environmental concerns on the future of pharmaceutical packaging.

Sustainability has been a hot topic in the packaging industry and, if models are to be believed, will continue to be so in the future. The global market for sustainable packaging (also known as green packaging) is expected to grow at a compound annual rate of 6 percent, reaching \$280 billion by 2025 [1]. As consumer awareness and demand continues to grow, switching to sustainable packaging materials and practices can help companies stay relevant and profitable.

Adopting sustainable packaging practices requires more than simply switching to reusable and renewable products. According to the Sustainable Packaging Coalition, a membership-based organization focused on connecting stakeholders across the supply chain, sustainable packaging:

- Is beneficial, safe, and healthy for individuals and communities throughout its life cycle.
- Meets market criteria for performance and cost.
- Is sourced, manufactured, transported, and recycled using renewable energy.
- Optimizes the use of renewable or recycled source materials.
- Is manufactured using clean production technologies and best practices.
- Is made from materials that are healthy throughout the life cycle.
- Is physically designed to optimize materials and energy.
- Is effectively recovered and utilized in biological and/or industrial closed loop cycles [2].

With so many components to think about, it can be difficult for companies to know where to start. For pharmaceutical companies who must first and foremost comply with FDA regulations, making changes to packaging can be especially complex. However, many pharmaceutical packaging companies have already taken the leap into sustainability, and resources are available for companies looking to make the switch to sustainable materials and practices. Recently, *Tablets & Capsules* asked several industry professionals about their sustainable practices, current industry trends, and the future of sustainable pharmaceutical packaging.

Why is sustainability important to your company/organization?

Torsten Eckardt, PhD, head of corporate social responsibility (CSR) and senior manager of project management office and innovation at Hermes Pharma: For us, sustainability means meeting the healthcare needs of current patients without compromising the needs of future ones. We're keenly aware of our responsibilities regarding both the environment and working conditions in the industry. We want to avoid causing harm to either the environment or any of the people working in our value chain—from API suppliers to shipping agents—and feel responsible for everybody who deals in developing or manufacturing our products.

Maria Ferrante, senior director of marketing and communications at PMMI: Packaging protects the products that keep us happy and healthy. We need packaging to safeguard our food, protect our medicines, shield our purchases, and transport our goods. Because of packag-

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ing's essential place in our world, we have a responsibility to limit its environmental impact. To that end, our organization serves as a global resource for packaging and processing companies undertaking sustainability initiatives.

Scott Garverick, vice president of business development at Pharma Packaging Solutions and Carton Service: Because we believe in making an investment in sustainability that will continue

for many years to come, we are committed to continuous improvement in all areas related to sustainability. As part of our corporate social responsibility program, we undertake green, eco-friendly packaging efforts. We are also members of the Sustainable Packaging Coalition and participate in several other similar programs.

Jörg Pieper, chief executive officer at Romaco: On the one hand, sustainability is a matter of social responsibility. On the other hand, it has become clear in recent years that sustainability is a key factor for long-term corporate growth and success. This is why, in addition to our own internal sustainability initiatives, we focus on using our technologies to enable our pharmaceutical customers to produce more sustainably and improve their ecological balance sheet.

What sustainable practices does your company/organization employ and promote?

Garverick: We ensure that our waste paperboard is recycled into print media, packaging, and folding carton stock, and all of our facilities offer office and production packaging recycling programs. Also, we have led a number of companies from 3-ply corrugated materials to single-sheet substrates as a component of our green packaging initiative. We demonstrated that the single-sheet substrate is not only a more sustainable material, but also offers better printing and packaging performance, yields compelling packaging economic rates, and delivers improved package imagery. We also work with customers who want or need to align with established sustainability plans so that the packaging solutions created are designed to be recyclable.

Eckardt: We separate waste by type to enable more environmentally-friendly processing and disposal. Besides using renewable materials where possible, we are also reducing the amount of material used in our packaging. For example, we are deploying thinner polyethylene tubes and utilizing new tube stoppers without distance holders and with new opening systems, which will help us to save around 11 tons of material per year. Minimizing our environmental impact is another focus area, so we proactively mitigate the possibilities of environmental contamination via our standard operating procedures. If there was to be a material spillage, say, we have clear and robust guidelines on how we should act in order to

protect the environment from any possible risk. Even before we established our CSR department, there were processes in place to protect both the environment and our workers. We've built on and optimized these processes and continue to work toward additional practices and initiatives to further grow our positive impact both locally and globally.

Pieper: Where we can, we avoid pollutants, waste, and energy consumption. For example, our new digital services include a virtual show room with experts presenting technologies in a live stream and answering questions about our projects, and we recently had a virtual factory acceptance test of a Noack blister machine. Thanks to this digitization, our international customers no longer need to be on site as frequently, which reduces CO₂-intensive travel. Where we currently cannot avoid, we reduce. In this sense, our new Push Packs for pharmaceutical solids are an ecologically-friendly alternative to cold-formed aluminum blister packs. They demonstrate the same barrier properties but require far

less foil material to manufacture because the packaging foil used is thinner and weighs less. The lower material consumption leads to a significant reduction in packaging costs. Where avoidance and reduction are not possible, we take compensation measures. We have sponsored a climate protection project that compensates for the CO₂ emissions generated during the production of our Unity 600 blister line to make it climate neutral. To achieve this, we have invested in a certified calculation that enables us to determine the total CO₂ footprint for the line production, including all components.

Ferrante: The 2020 Pack Expo International and Healthcare Packaging Expo, our co-located shows, have launched a green initiative to identify and promote exhibiting companies who provide sustainable solutions through new materials or technologies. In partnership with the Reusable Packaging Association, the show will feature a Reusable Packaging Pavilion to showcase the best of reusable packaging products and services. The adjoining Reusable Packaging Learning Center will host educational presentations and panel discussions on a variety of topics related to sustainability and reuse. There will also be on-floor education featuring a sustainability track providing innovations and solutions to increase sustainability.

What are some sustainability trends you've observed from your customers and in the industry?

Eckardt: It's been truly heartening to see more and more of our customers asking us for proof of our sustainability, either by sending their own questionnaires or asking for a sustainability certificate. Many of our customers have corporate guidelines in place, which we

follow alongside our own (and we ask our suppliers to do the same). Sustainability is set to become an absolute requirement in our industry. It will be as important as cost- or quality-competitiveness and will refer not only to the protection of the environment but also to human rights and working conditions. Over the coming years, we anticipate that a company's ability to prove a strong dedication to sustainability will influence customers' buying decisions.

Garverick: Customers do frequently ask questions about replacing plastic with more sustainable packaging choices and less use of materials overall. There is no question that how to make wise choices in this area is on folks' minds. Many of our customers want to

align their products with sustainability plans, so we work with them to create and design sustainable and recyclable packaging. For example, if a product is packaged in glass or plastic—including dry, semi-solid, and liquid medical products—we can repackage it in "milk stock" gable top cartons, which are recyclable in most US markets.

Ferrante: Our research shows that the next generation of consumers will demand less packaging material [1]. They will check packaging labels for recycling information, read packaging labels for sustainability initiatives, actively seek out products in sustainable packaging, share the importance of sustainable packaging, and even pay more for products in sustainable packaging. As a result, many companies that manufacture consumer packaged goods are reducing packaging materials; switching to recyclable and sustainable materials; implementing "reuse, return, and refill" options; considering new packaging formats; and exploring renewable packaging, such as plant-based and bio-based options.

Pieper: Both the digital service offerings and our new sustainable products, such as the Push Packs, have been well received worldwide. Besides saving material and reducing energy consumption, interest in sustainable forms of packaging in particular has grown. Some countries, like India, have shown great interest in these sustainable solutions.

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What are challenges to consider when implementing sustainable practices?

Ferrante: According to our research, nearly two out of three brand owners cited added costs as the number one reason for slowing down the application of sustainable packaging solutions [2]. Original equipment manufacturers may need to make machine modifications to accommodate sustainable packaging formats and material changes. Handling new, more-sustainable materials can create increased downtime if the right solutions are not in place, because they break more easily and require equipment to have higher tolerances for material variations. Moving from high-density polyethylene to polyethylene terephthalate reduces packaging weight, but lighter-weight bottles, for example, can be more difficult to handle. For any reduction in material weight, machine adjustments need to be considered.

Eckardt: Our sustainability initiatives have brought new opportunities to strengthen our cooperative relationships with existing customers, but they've also brought some hurdles. For our company and many others, the main challenge lies in implementing sustainability initiatives in parallel with the many other ongoing tasks. Company-wide, one of our most challenging areas is procurement, because we ask our suppliers to meet our

sustainability requirements where possible, too. While we try to primarily source ingredients in Europe, we have suppliers all over the world, including China and India. It's crucial that we don't make process modifications that jeopardize lean manufacturing or supply chains. We're hopeful that, in the future, we'll see this kind of issue resolved by committed, industry-wide collaboration. We can then collectively support sustainability in all its forms across our industry and change the pharmaceutical landscape for the better.

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