

SUSTAINABLE PACKAGING SOLUTIONS: OPPORTUNITIES FOR THE INDUSTRY

OCTOBER 2021

AUTHOR
JAN-OLIVER SESTAK
Principal

How packaging companies, converters and equipment providers can navigate the rapidly evolving sustainable packaging market

Sustainability is now at the heart of the packaging sector, driving rapid changes in materials, business models, regulations and consumer priorities. This presents a range of challenges and opportunities for packaging companies, converters and equipment providers. By embracing the circular economy, they can develop scalable, sustainable solutions that deliver attractive financial returns.

1. Sustainable packaging: A sector full of change

Packaging plays a vital role in modern life. It ensures the hygiene and safety of products; protects goods during transport; provides space for necessary consumer information; and its design plays an important role in our purchasing decisions.

However, packaging is frequently highlighted as a villain in the battle for environmental sustainability because it often becomes waste after use. This poses a serious challenge to packaging companies, converters and equipment providers. They must find ways to close the loop and minimize the negative environmental impact of packaging while still delivering all of its benefits.

"The market for sustainable packaging provides enormous opportunities. The best solutions are scalable, provide attractive financial returns and create meaningful sustainable impact."



SVEN SIEPEN
Senior Partner &
Managing Partner
Switzerland

Sustainable packaging solutions is a rapidly evolving field, full of innovation across the value chain. Cutting-edge materials are starting to make a difference and new business models are emerging. Already, sustainable packaging accounts for 25% of the overall packaging market. Reusable packaging represents approximately 40% of this segment and includes a broad set of sustainable packaging solutions such as returnable containers, intermediate bulk containers (IBCs) and pallets.

To capture the changes in this dynamic sector, we recently conducted a study, "Sustainable Packaging Solutions: Trend Radar," in which we analyzed several aspects of the international packaging market and conducted interviews with 50 industry experts.

Six key market trends

We identified six main trends that are particularly relevant for packaging companies, converters and equipment suppliers.

1 Increasingly stringent packaging rules and regulations

Packaging regulations are becoming tighter, especially for the use of plastic and recyclability. The EU Circular Economy Action Plan 2030, for example, specifies:

- Recycling 75% of packaging waste
- Recycling 55% of plastic packaging
- Recycling 65% of municipal waste
- Reducing landfill to <10% of municipal waste
- Harmonized recycling rates across EU

Europe is harmonizing extended producer responsibility (EPR). This stipulates that producers are responsible for the recovery and recycling of the packaging they place on the market after it has been used.

2 Sustainability is gaining importance among companies and customers

Businesses, governments and consumers are making sustainability a priority. The use of recycled materials and recyclability of packaging are particularly important.

International FMCG and retail companies have defined sustainability targets to improve recyclability and reduce CO₂ emissions. Unilever, for example, plans to use 100% recyclable plastic packaging and 25% recycled content in plastic packaging by 2025.

3 Circular economy principles are increasingly relevant

Circular economy concepts, such as reusable plastic containers, are expected to grow. Several countries and industries are already exploring the practicality of such schemes.

4 Raw material prices remain volatile

Virgin plastic prices have benefited from low oil prices. Other packaging types, notably wood pulp, have seen prices increase.

5 The rise of e-commerce

The growing popularity of online shopping has led to higher demand for corrugated packaging and flexible plastics.

6 Robust market development

Growing demand is being driven by market developments in the food and beverage sector, healthcare, household goods, and industrial logistics and supply. The impact of Covid-19 has been mildly negative but the long-term forecast is for robust growth.

The overall packaging market is expected to be positively driven by distinct trends

Sustainability becomes the main trend theme

OVERVIEW OF PACKAGING MARKET TRENDS

Packaging regulations

- Increasingly strict packaging regulations, especially regarding the use of plastic and recyclability
- Targeting of single-use plastics by legislators across geographies to reduce consumption

Underlying market development

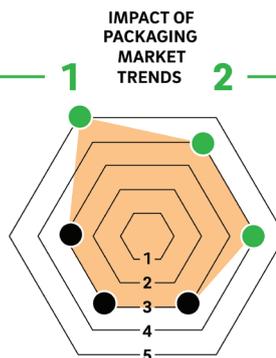
- Demand driven by underlying markets, esp. food & beverages, healthcare, household goods and industrial logistics and supply
- Impact of COVID-19 is expected mildly negative but long-term growth is forecast to be robust

E-commerce

- Popularity of online shopping leading to a higher demand for corrugated packaging and flexible plastics

Score scale: 5 highest impact, 1 lowest impact

Source Interviews with market participants, Roland Berger



Sustainability/recyclability

- Sustainability is gradually becoming a key priority for large corporations and governments
- Use of recycled materials and recyclability of packaging has become a priority for companies and consumers

Circular economy

- Circular concepts are expected to grow (e.g., reusable plastic containers)
- Several countries and industries are exploring the practicality of such schemes

Raw material prices

- Volatile raw material prices
Virgin plastic prices have benefited from low oil prices. Other packaging types, notably wood pulp, with increasing prices



2. The circular economy holds the key to success

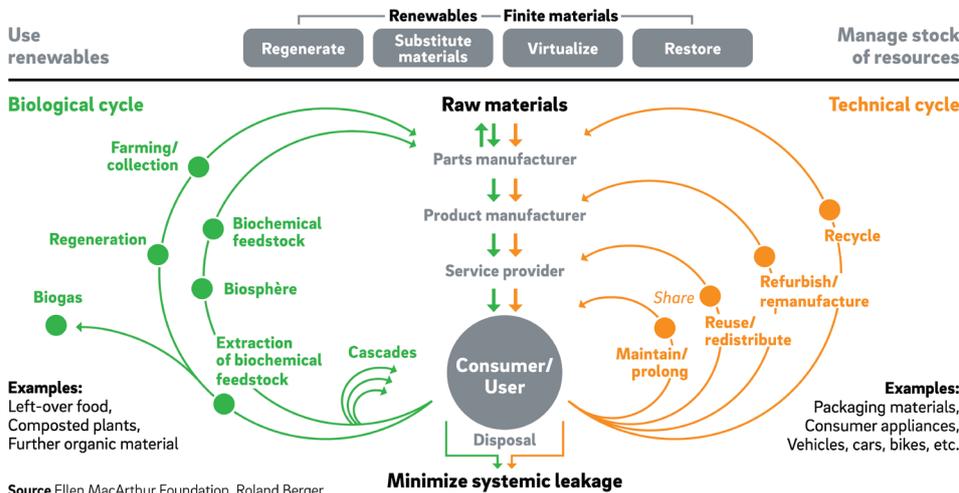
The circular economy concept is critical to sustainable packaging solutions and will have a major effect on how packaging companies, converters and equipment suppliers do business in future. Efficient resource and recycling management are particularly important.

Paper, cardboard, glass and metal are recycled relatively frequently – more than 85% in selected European countries. This is due to their varietal purity and high added value in the case of metals. However, plastic packaging is different. Currently only around 30% of plastic packaging is recycled in Europe, while approximately 40% of plastic packaging waste is incinerated. What's more, only a fraction of the recycled material goes back into packaging. In Germany, for example, only 10% recycle was used on average in 2019 to produce new packaging. Sustainability concerns ensure businesses are under growing pressure to use alternative materials or increase plastic recycling.

The circular economy concept includes the interplay across layers

Keys factors are efficient resource and recycling management

MARKET TRENDS – CIRCULAR ECONOMY



Source Ellen MacArthur Foundation, Roland Berger



Companies across a variety of industries have now set themselves ambitious packaging targets.

Henkel targets for 2025 (selected):

- 100% of Henkel's packaging will be recyclable or reusable by 2025.
- Reduce the amount of virgin plastics from fossil sources in consumer products by 50%.

Alpla targets for 2025 (selected):

- All packaging solutions must be fully recyclable.
- The volume of processed post-consumer recycled materials must rise to 25% of total material usage.
- All packaging will remain completely free of PVC.

Embracing the circular economy can help packaging companies, converters and equipment suppliers to achieve their targets. In a circular economy, the aim is to avoid packaging wherever possible, use resources effectively, make high-quality packaging that's usable for as long as possible and ensure it is reusable and recyclable.

Below are some of the key concepts of a circular economy.

Reduce, replace and rethink materials

- Redesign packaging to maximize functionality and design for effective resource use (e.g., reduction of weight).
- Use materials from sustainable sources. The FMCG sector, for example, is investing heavily in a "paper where possible" ethos and increasingly using bio-based plastics.

Extend use, reuse and recycle

- Refillable containers and refill stations for products like detergent or soap offer new business model opportunities.
- Expand the portfolio of designed-for-recycling packaging solutions.
- Create designs that are optimized for recycling, for example by using one type of material. Use more recycled material in new packaging.

Integrate green engineering

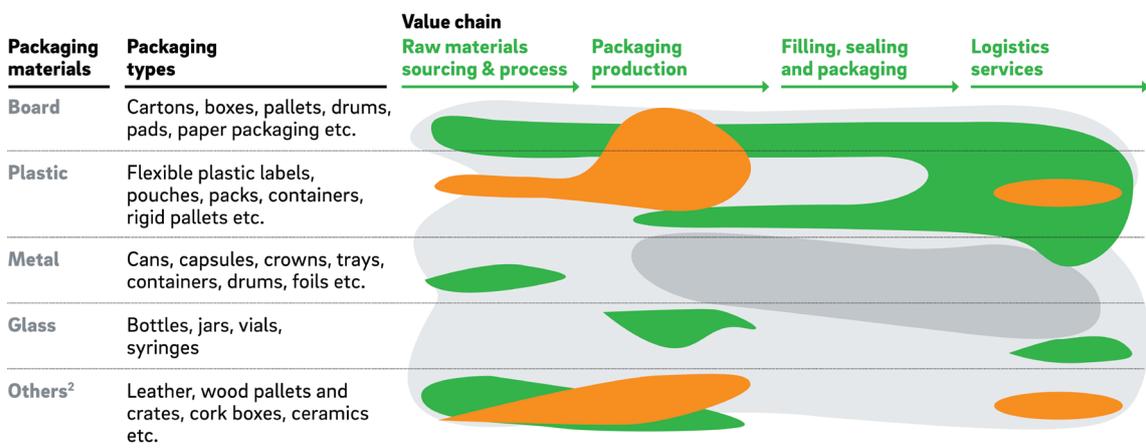
- Equipment suppliers can also contribute by applying a "green engineering" approach to the entire product and packaging lifecycle. Some packaging converters are even working together with equipment suppliers to develop solutions. Focus areas include: R&D and idea generation; product design and manufacturing; operations and end of life. In operations, for instance, equipment suppliers can focus on superior equipment design and functionality to:
 - Drive **resource efficiency** (e.g., electricity, water, emissions, waste heat/heat cycles).
 - Improve **material efficiency** and **sustainability** (e.g., scrap rate, waste, material types).
 - Advance **operational efficiency** of machines and production lines (e.g., availability, performance, quality).
 - Improve performance on **social factors** (e.g., labor safety, noise).

• **3. Innovation leads to opportunity**

The market for sustainable packaging solutions provides a wealth of opportunities for all industry players. In our analysis, we reviewed the main packaging market segments to identify the most attractive areas. Packaging production and logistics services for board and plastic materials scored particularly highly.

Our segment attractivity analysis highlights the value chain areas packaging production and logistics services for board & plastic materials

SUSTAINABLE PACKAGING SEGMENTS – SEGMENT ATTRACTIVITY HEAT MAP



¹ Not exhaustive ² e.g., wood, textiles, leather
 Source Roland Berger

Segment attractivity: ● High ● Medium ● Low



"The topic of sustainability is at the heart of the packaging industry. Equipment suppliers and packaging manufacturers must embrace the principles of the circular economy to succeed."



JAN-OLIVER SESTAK
Principal
Germany

But as the list below shows, innovation is now happening everywhere.

New business models

Circular packaging concepts are evolving fast. Take closed-/open-loop pooling, for example, which emphasizes sharing resources like plastic boxes, pallets or medical containers. Packaging is delivered, filled, transported, emptied, picked-up, washed and ultimately reused. Concepts like refill stations are also gaining popularity among packaging companies for products such as food, detergents and dishwashing liquid.

More sustainable materials

Some sustainable materials are already widely available. Board packaging, for instance, can be used for secondary or tertiary packaging in various applications such as board pallets for one-way air transport. The materials can often be easily recycled after use.

Innovative new materials

New materials like biopolymers can deliver important packaging characteristics such as barrier protection, which means they can replace traditional plastics. Single-use plastic packaging can also be replaced by materials with sustainable characteristics like biodegradability.

Cutting-edge technologies

Mixed plastic waste was once impossible to recycle but new chemical recycling techniques now enable it to be effectively reprocessed and reused. The ChemCycling pilot project, for example, led by BASF, aims to turn bottles into a secondary raw material called pyrolysis oil.

4. Outlook

The market for sustainable packaging solutions is growing fast, spurred on by legislative efforts as well as innovation from packaging companies and shifting consumer demands. Sustainability has become the focus of the industry, affecting all packaging types and market players.

Yet, sustainable packaging solutions and business models need to deliver on two fronts: attractive financial returns and meaningful sustainable impact. What's more, solutions need to be scalable.

Circular economy principles provide the basic framework for packaging companies, converters and equipment providers to innovate and further adapt their current business models – an imperative if they are to remain competitive.

This is a field characterized by its diversity, encompassing everything from biodegradable materials to new circular business models that turn packaging into recyclable waste. Ultimately, the winning packaging equipment and solutions will be the ones that have a clear and measurable sustainability proposition.

Further reading

PACKAGING SUSTAINABILITY 2030

→ rb.digital/Packaging_sustainability

SUSTAINABILITY IN THE PACKAGING AND PROCESSING EQUIPMENT INDUSTRY

→ rb.digital/Sustainability_in_the_packaging-and-processing_equipment_industry

PACKAGING AND PROCESSING INDUSTRY: RETHINKING THE SERVICE BUSINESS

→ rb.digital/Packaging_and_processing_industry

SUSTAINABILITY – HERE TO STAY

→ rb.digital/Sustainability_here_to_stay

CONTACT:

JAN-OLIVER SESTAK

Principal
+49 30 39927-3490
jan-oliver.sestak@rolandberger.com

DILHANI DE SILVA

Principal
+1 312 256-4597
dilhani.desilva@rolandberger.com

SEBASTIEN MURBACH

Partner
+33 1 70 39-4109
sebastien.murbach@rolandberger.com

FRANCESCO CAMPAGNA

Partner
+39 02 295011-273
francesco.campagna@rolandberger.com

SVEN SIEPEN

Senior Partner
+41 43 336-8670
sven.siepen@rolandberger.com

SZABOLCS NEMES

Partner
+40 21 30605-11
szabolcs.nemes@rolandberger.com

PAUL-LEONARD GLOECKNER

Consultant
+49 89 9230-8351
paul-leonard.gloeckner@rolandberger.com

This publication has been prepared for general guidance only. The reader should not act according to any information provided in this publication without receiving specific professional advice. Roland Berger GmbH shall not be liable for any damages resulting from any use of the information contained in the publication.

© 2021 ROLAND BERGER GMBH.
ALL RIGHTS RESERVED.