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# SPRING INTO SUSTAINABILITY

*Sabert's Guide to Sustainable Food Packaging*

[www.sabert.com](http://www.sabert.com)

# ABOUT

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Food packaging has significantly evolved over the centuries to accommodate our changing lifestyles and eating behaviors. Over recent years, the foodservice industry has seen a momentous shift towards sustainability, primarily driven by consumer awareness about environmental issues and government regulations.

However, the landscape of food packaging sustainability can be complex and often needs to be clarified. There's a wide range of packaging materials available, each with its own environmental impacts, functionality and benefits. Additionally, there are numerous certifications and standards that aim to guide sustainable practices, but understanding the exact requirements can take time and effort.

As regional legislation continues to evolve, it becomes even more critical for operators to understand the big picture of this dynamic environment and keep pace with local food packaging requirements and guidelines to stay compliant.



This comprehensive guide has been designed to help foodservice providers make informed decisions. With insights into certifications, materials, trends and more – we aim to simplify the convoluted world of sustainable packaging to empower operators to make the right choices for customers and the planet.

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**SABERT'S PURPOSE:  
REINVENTING FOOD  
PACKAGING TO NOURISH  
AND PROTECT OUR WORLD.**

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# THE IMPORTANCE OF FOOD PACKAGING

One of the primary roles of food packaging is to protect and preserve food and prevent damage and spoilage during transportation, storage and handling. Proper packaging ensures that food arrives for consumption in the best possible condition, preserving freshness, quality and integrity.

Apart from its functional role, packaging can communicate a brand's values and personality. For instance, providers can leverage custom printing capabilities to ensure their brand is front and center to create a memorable impression and stand out from competitors. Beyond printing, large operators cultivate signature packaging customized to their menus, promotions, and restaurant personalities.

Similarly, adopting sustainable food packaging demonstrates the business's commitment to eco-friendly practices, which is increasingly important to consumers. Innovative packaging designs that are easy to open, offer interactive features or provide the ability to reheat the food can increase customer satisfaction and foster loyalty.

In short, proper food packaging can significantly influence consumer perception and purchasing behavior.





# FIGHTING FOOD WASTE

One of the most pressing societal challenges is food waste. According to the United Nations, approximately one-third of the food produced globally for human consumption every year gets lost or wasted. This represents a massive economic loss and a waste of the resources used in producing, processing and transporting the food and negatively impacts climate change.

Here's where food packaging can make a significant difference. Well-designed and innovative food packaging can protect the food from damage during transportation, extend its shelf life and maintain its quality and safety. By doing so, it can be a powerful tool in reducing the amount of wasted food.

While the industry has relied heavily on non-renewable materials in the past to deliver the performance required to minimize food waste, there is growing awareness and deeper understanding of the environmental challenges associated with food packaging. Companies are now looking for ways to address the environmental impacts of food packaging throughout the entire lifecycle, from raw materials to disposal.

Sustainable food packaging, made from renewable, compostable, or recyclable materials, can balance the need to protect food quality while minimizing the environmental footprint. It signifies a shift from viewing packaging as a necessary evil to seeing it as a solution for a more sustainable future.

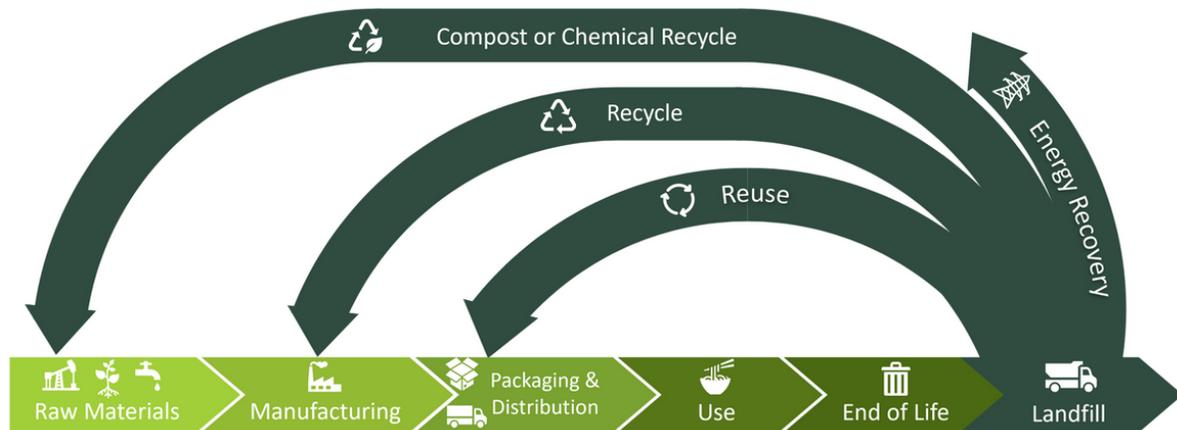
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of food produced in the U.S. for human consumption is wasted at some point along the production lifecycle.

# Breaking Down the Food Packaging Lifecycle

Food packaging plays a crucial role in our daily lives, ensuring the safety and preservation of our nourishment. Understanding the environmental impact at every stage of the food packaging lifecycle is important.

At every stage of the lifecycle, from the moment packaging materials are sourced and manufactured to their distribution, use, and disposal, it's imperative that foodservice packaging is designed to address environmental impacts.



## RAW MATERIALS

Food packaging typically includes preprocessing (i.e., processes to make paperboard) during the raw material stage. Whether it's resin or pulp, each raw material carries its own environmental impact, from the extraction of natural resources or impacts from recycling to the processing and associated energy and water required to make intermediates ready to be transformed into food packaging.

## MANUFACTURING

Once raw materials are sourced, they undergo a series of processes to become food packaging. For instance, paper sheets are cut, folded and glued to form boxes, cartons and other types of packaging. Each process varies in terms of energy consumption and waste production, which can further contribute to the environmental footprint.

## DISTRIBUTION

Environmental impacts don't stop with the manufacturing of the product. During the packaging and distribution stages, the main environmental impacts come from secondary and tertiary packaging, like boxes and pallets, and from fuel used to transport the finished product. Smart food packaging is designed to minimize the use of secondary and tertiary packaging and to reduce the ton-miles shipped.

## USE

Safe and responsible food packaging should have no environmental impacts during the stage where consumers are using it to store and protect their food. Poorly designed packaging may have impacts at this stage if the packaging leads to spills or if there are chemical interactions between the container and the food it holds.

## END OF LIFE

Once food packaging has fulfilled its purpose, it reaches the final stage of its lifecycle. While this stage is in the hands of the consumer, smart packaging is designed for a responsible end of life, like reusing, composting or recycling.



# SUSTAINABILITY DECODED

There is no shortage of buzzwords regarding sustainability, and understanding the jargon can be daunting. Terms like “biodegradable,” “compostable,” and “recycled content” are frequently used in food packaging, but their meanings are often misunderstood. To make informed decisions, operators need to understand the terms and their implications, particularly when it comes to food packaging.

# Understanding Sustainability Terminology

In the world of sustainable food packaging, several key terms frequently arise. Here, we decode some commonly used words to help operators navigate the sustainability landscape more effectively.

## Biodegradable

Biodegradable materials can be broken down into water, carbon dioxide, and biomass within a designated amount of time in a natural environment. It's important to note that some biodegradable materials may take a long time to decompose. This is the main reason why smart food packaging is designed for compostability rather than biodegradability.

## Circular Economy

A circular economy is a system where products and materials are kept circulating through processes like maintenance, reuse, refurbishment, remanufacturing, recycling and composting rather than being disposed of.

## Closed Loop

Closed loop in packaging refers to packaging where materials are reused or recycled into new packaging. Closed loop packaging demonstrates a systematic approach to sustainable management of packaging across its value chain.

## Compostable

Compostable materials are a subset of biodegradable materials. They break down into nutrient-rich compost under specific conditions, aiding the growth of trees and plants. The American Society for Testing and Materials (ASTM) has two primary specifications for compostability: ASTM D6400 for bioplastics and plastics and ASTM D6868 for plastic films or coatings for compostable products. These standards set requirements for substrates designed to be composted in municipal and industrial composting facilities. Products that degrade within several months in an industrial or home composting facility and produce no toxic residues can be classified as compostable.

## PFAS-Free

This packaging is made of material with no intentionally added Per- and poly-fluoroalkyl substances (PFAS), found in many different consumer, commercial, and industrial products. Current scientific research indicates that some compounds in the PFAS family may lead to a variety of health effects. The increasing concern over PFAS chemicals has led several U.S. states to take action by prohibiting the intentional addition of this entire chemical class to food packaging.

## Recyclable

Recyclable materials can be recovered from the waste stream and converted into new raw materials to be used in the creation of new consumer goods. Not all materials are recyclable, and recycling processes vary depending on the material and local facilities. Some governments and other organizations require the following criteria to be met for a product to be deemed recyclable: (i) must be technically recyclable using the current state of technology at material recovery facilities (MRFs), (ii) communities must have access to facilities that accept the article in question, and (iii) there must be an end market for the recycled material.

## Reusable

Reusable packaging is designed to be used multiple times before it reaches the end of its life. Many businesses are exploring these models, offering incentives for customers to return their packaging for cleaning and reuse.

## Sustainability

This refers to practices that meet the present needs of society without compromising the ability of future generations to meet their own needs. In the context of food packaging, it means using materials and processes and designing products that have minimal negative impacts on the environment and society.

# Certifications and What They Mean

Numerous certifications are used to give credibility to a product's sustainability claims and promote transparency across the industry. Recognizing and comprehending the various certifications can help operators identify the best sustainable packaging options for their needs.

Here are some common certifications in the food packaging industry.



## BPI Compostable

The Biodegradable Products Institute (BPI) certification is a third-party verification indicating whether a product or package is compostable at a commercial composting facility.

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## Composting Manufacturing Alliance's Compost Maturity Analysis – Index I (CMA-I)

Refers to a method of field testing, analyzing and indexing the maturity and stability of compost and serves as a quality assessment tool for compost producers and consumers.

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## EN 13432

European standard that specifies requirements for compostable and biodegradable packaging. Packaging must break down and be fully biodegraded in industrial composting facilities to comply with the standard.

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## Forest Stewardship Council (FSC)

FSC labels certify a forestry product or material that supports responsible forest and supply chain management. The three labels are:

- FSC 100%: All materials come from responsibly managed, FSC-certified forests.
  - FSC Recycled: Made from 100% recycled materials.
  - FSC Mix: Made with materials from FSC-certified forests, recycled materials, and/or FSC-controlled wood.
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## How2Recycle and How2Compost

Labels inform consumers on how to dispose of each component of the package responsibly. Products labeled recyclable must meet requirements for technical recyclability and access to recycling facilities. Products labeled compostable must be certified through third-party testing.

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## SCS Global

Offers third-party certification, auditing, testing, and standards developed for environmental, sustainability, and food quality.

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## Sustainable Forestry Initiative (SFI) Certification

To be SFI certified, forest operations must meet requirements around reforestation, protecting water quality, biodiversity conservation, and chain-of-custody requirements for tracking wood fiber.

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## TUV Austria OK Compost Certified Home or Industrial Compostable

Products may be third-party certified to meet TÜV Austria's criteria for either home compostable or industrial compostable. This is more common in European markets.

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## USDA BioPreferred

Aims to increase the purchase and use of biobased products. Certified biobased products are eligible to display the USDA Certified Biobased Product label.

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## Western Michigan University

Certifies fiber products that meet their testing requirements for repulpability and recyclability. Products with WMU certification are likely to be recycled at paper recycling facilities with a high yield of quality fiber that can be used for new consumer goods.

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# Exploring Sustainable Packaging Materials

Sustainable food packaging is surrounded by misconceptions, creating confusion about what truly constitutes sustainable packaging. For instance, while compostable packaging is inherently sustainable, it usually requires specific industrial composting conditions to break down effectively.

When considering sustainable food packaging materials, operators should dig deeper into the entire product lifecycle, including disposal processes and evaluate environmental impacts to align with business goals and customer expectations.

Here's a quick look at some commonly used materials.

## PAPERBOARD AND CORRUGATED

Paper-based food packaging encompasses a wide array of paper varieties, including uncoated, coated, bleached, etc.

Paperboard and corrugated are generally recyclable and may be compostable, depending on the type and thickness of the coating.

## MOLDED FIBER

Molded fiber or molded pulp packaging is made from various bio-based or fibrous recycled materials such as bagasse, bamboo, paper and wood fibers. Since it is bio-based and, in many instances, recyclable and compostable, molded fiber is often considered a more eco-friendly alternative.

## ALUMINUM

Aluminum food packaging is recyclable and may contain recycled content, but producing and recycling can be more complex. It's important to note that material composition, thickness and other factors may impact usage and reclamation.

## BIO-RESIN

Specialty polymers such as bioplastics (plant-based resins) are derived from bio-based renewable resources like corn starch or sugar cane. In some cases, they may be biodegradable or compostable, but many have the same structure as petrochemically derived plastics. Using bio-resins in food packaging offers several environmental benefits, such as reduced carbon footprint and reliance on fossil fuels; they may also be biodegradable or compostable.

## POST CONSUMER RESIN OR RECYCLED CONTENT

Incorporating recycled materials to create new products reduces the environmental impacts of a package in a number of ways: it reduces the consumption of resources, may reduce impacts associated with pre-processing raw materials, and supports the growth of a circular economy by creating demand for recycled materials and diverting waste from landfills. PCR must be of high purity and quality to be used in food contact applications. Typically, the FDA will issue a no objection letter (NOL) certifying that the collection, cleaning, and processing of the post-consumer materials meets the standards for food-safe plastics.

Each of these materials has its unique advantages and challenges. The choice of a substrate depends on various factors like the type of food product, storage and transportation requirements, and accessible recycling facilities.

# THE CASE FOR A CIRCULAR PLASTICS ECONOMY

Plastic is one of the most versatile manufacturing materials and is prevalent in our daily lives. The environmental footprint of plastic packaging is a complex issue, encompassing the entire product lifecycle, from raw material to end of life.

Significant innovation in plastic packaging has taken shape over recent years, reducing the environmental impacts particularly in these areas:

- Advancements in recycling technology have enabled more efficient and effective recycling of plastic packaging, including PET, the most widely recycled plastic resin. As of 2022, 54% of the US population had access to recycling centers accepting PET food packaging, and 59% had access to PP food packaging recycling. Thanks to collaboration across the value chain, these numbers continue to grow.\*
- Partnerships between recycling facilities and packaging manufacturers have enabled the development of clear guides on how to design packaging for optimal recycling.
- Innovations in reusable products and logistics models can reduce the demand for new products and lower waste and energy consumption.
- Reduced material use through weight optimization minimizes the use of raw materials and decreases transportation costs and carbon emissions.

Plastic packaging plays a crucial role in tackling food waste, contributing in a positive way. In some cases, plastic packaging is the best option to preserve and maintain the food integrity and reduce the risk of spoilage and waste.

These plastic packaging innovations and technologies enable foodservice operators to align more closely with the principles of a circular economy, driving sustainability efforts forward.



## NUVIDA

Sabert's fully-owned recycling facility produces high-quality resin from post-consumer waste that can be used or both food-contact and non-food-contact applications, serving a range of industries from food packaging to automotive. It is one of the world's leading processors and suppliers of food-grade recycled PP resins – a category of recycled materials in high demand to help the food industry meet packaging goals for recycled content and support the transition to a circular economy.



# WHAT'S TRENDING

A growing focus on sustainability is shaping the future of food packaging as companies strive to reduce their environmental impact and consumers aim to incorporate more environmentally responsible practices into their lives.

Innovations and critical developments are not only redefining how food is packaged and delivered but present new opportunities for operators to differentiate themselves and thrive in a more eco-friendly future.

# Innovation

Innovation and technology continually push the boundaries of what is possible in sustainable packaging.

The development of more efficient manufacturing processes and materials, and advances in recycling and waste management technologies all point to a future where sustainable packaging is the norm, not the exception. Here are a few trends to watch:

## CIRCULAR ECONOMY

The concept of a circular economy, where resources are used, recycled, and reused, is gaining traction. Instead of viewing food packaging as a single-use item, new infrastructure and logistics models will be implemented to capture the full value of the packaging material at the use stage through reuse and end of life by recycling.



## MATERIAL INNOVATION

With the rising demands for eco-friendly packaging solutions and the need for enhanced food safety and preservation, companies are looking to develop or improve materials, such as developing new formulations for plastic, pulp and paper products that simultaneously meet safety, sustainability, and performance requirements.

## PACKAGING DESIGN

Optimizing packaging design to reduce material usage, improve recyclability or strengthen product protection can significantly lessen the environmental impact. At Sabert, we approach product innovation by reducing impacts across the entire product lifecycle, including preserving and protecting the food, designing for circularity and material and operational efficiency.



## QUANTITATIVE ASSESSMENT OF IMPACTS

Lifecycle assessment (LCA) tools can help operators evaluate the environmental impact of their packaging choices. Foodservice providers can work with their packaging suppliers to conduct an LCA, which will provide detailed insights into greenhouse gas emissions, fossil fuel usage and water use associated with different packaging options, aiding in informed decision-making.



## WASTE MANAGEMENT INFRASTRUCTURE

The effectiveness of eco-friendly packaging depends on proper waste management. Compostable packaging needs the right conditions to decompose effectively, while recyclable packaging needs to be correctly collected and sorted. Therefore, expect to see improvements of vital waste management systems to maximize the benefits of sustainable packaging.



# Top Legislative Themes

The current state of food packaging laws is complex, highly regulated and involves many different regulatory bodies. In the United States, laws can vary significantly from one jurisdiction to another. For instance, the Food and Drug Administration (FDA)

sets stringent standards on what materials are deemed safe for food contact, but individual states and their municipalities are increasingly developing a patchwork of regulations that are not aligned with one another.

Ensuring compliance often involves understanding and adhering to a complicated mix of local, state and federal regulations. It's difficult, considering different legislative measures vary in scope and maturity levels and tend to use inconsistent terminology. As environmental issues continue to be a top concern for legislators, several themes have emerged:

## HEALTH AND SAFETY

Chemical bans, such as BPA and PFAS

## CIRCULARITY

Extended producer responsibility (EPR) and the use of renewable, recycled or compostable materials

## WASTE

Foam and single use plastic (SUP) bans

## DISCLOSURE

Claims, reporting and labeling

## RESOURCES TO STAY INFORMED

Continuous education about legislative changes enables operators to anticipate future trends and allows businesses to adjust their strategies proactively. Here are a few ways to stay ahead of the curve.

- **Food and Drug Administration (FDA) website**, which provides updates on new federal regulations or changes to existing ones.
- **Trade Associations** offer educational resources, discuss best practices and may also provide a united voice to inform policymaking.
- **Industry publications** and news outlets.
- **Supplier partnerships** can provide insights into sustainable packaging trends and help develop eco-friendly solutions.
- **Professional legal counsel**, especially when interpreting complex regulations or assessing compliance matters.

# Operational Considerations

The path towards sustainable packaging does come with its fair share of challenges. However, these can be effectively managed with the right mindset and strategies.

## COST CONCERNS

Sustainable packaging materials are often more expensive than traditional options. The higher cost is attributed to the relatively new production of eco-friendly materials, which have yet to scale to meet global demand. In some cases, costs may be offset by gains in transportation efficiencies or other efficiencies that arise from the more sustainable packaging.

## END OF LIFE

Making sustainable purchasing decisions is an essential first step and includes consideration of available local disposal facilities. However, businesses should also research ways to improve how customers can dispose responsibly. Some communities offer composting and recycling programs. Retail stores and restaurants can provide appropriate, well-labeled disposal bins onsite. Partnering with local waste management companies or participating in industry recycling initiatives are also ways to adopt sustainable practices. Beyond packaging, many operators find ways to ensure that food scraps are repurposed, from feeding local farms to enriching soil with coffee grounds.

## FITNESS FOR USE

Ensuring sustainable packaging maintains the same quality and functionality as traditional packaging is crucial. The right sustainable packaging products can enhance the look and taste of your food while also contributing positively to the environment.

**Tip:** Implementing sustainable packaging requires ongoing commitment and flexibility. As technology and consumer expectations evolve, foodservice operators need to closely partner with their packaging suppliers to help make the transition to eco-friendly packaging more manageable. Adopting a partnership approach will ensure alignment on sustainability goals and continuously improve packaging solutions strategies.





# PREPARING FOR THE FUTURE

Embarking on a sustainability journey may seem overwhelming. With competing priorities, knowing where to start can feel confusing. Given increasing consumer expectations and legislative demand, focusing on a business's environmental impact is imperative.

The good news is significant progress is possible without radically overhauling operations. For many, it involves better communicating existing efforts or introducing small changes to enable customer sustainability.

# Implementing Sustainability for Your Business

By adopting sustainable practices, foodservice providers have the ability to reduce their environmental footprint. Here are some steps to consider:

## **ANALYZE YOUR CURRENT FOOTPRINT**

Many businesses have already begun sustainability efforts, though they may not realize or promote them externally. Start by evaluating your current operations and packaging. Do you still offer foam containers? Do you donate, repurpose or compost food scraps? It's equally important to consider your customers' behaviors, community infrastructure, and where your product will be consumed the most, and design your strategy around the most common denominators.

## **SET YOUR GOALS**

Define what sustainability means to the business. Set clear, achievable goals related to waste reduction, use of sustainable materials, energy efficiency and more.

## **ENGAGE AND EDUCATE CUSTOMERS**

Promote your meaningful efforts to customers and increase their involvement. Better highlighting current initiatives is an easy first action. Update online menus with photos that showcase meals in the recyclable containers you already utilize. Encourage packaging reuse at home. Tout the recycled plastic content and end-of-life options across your social channels. Additionally, educate customers on third-party sustainability certifications to reinforce your commitment to responsible operations.



# Developing a Sustainable Packaging Strategy

Sustainable packaging sends a strong signal about a business's commitment to sustainability. It shows that the operator is taking tangible actions to reduce its environmental footprint and contribute to a more sustainable future. In addition to being the right thing to do, this can resonate with eco-conscious consumers and create a competitive advantage in the marketplace.

Developing a sustainable packaging strategy should encompass not just the choice of materials but also the usage and end-of-life management. When assessing sustainable packaging, several considerations come into play:

## ENVIRONMENTAL IMPACT

Understand the lifecycle of the material, from extraction or production to disposal. How much energy is used in its production? Is it recyclable or compostable?

## FUNCTIONALITY

It's essential that the packaging effectively protects the food, maintains its quality, and meets health and safety standards. The material should be suitable for the type of food and storage conditions.

## REGULATORY COMPLIANCE

Ensure the chosen materials comply with local and international regulations related to food safety and environmental impact.

## ENGAGE SUPPLIERS

Talk to your packaging supplier about your sustainability goals and explore how they can support your transition and help build a portfolio of eco-friendly packaging tailored to your needs.

## PILOT

Start with a pilot project to test the new packaging. Gather feedback, adjust as necessary, and gradually expand the use of sustainable packaging across your business.

# Fitness for Use

## Materials Considerations



### Storage/Shelf Time

Measured in minutes, hours and days



### Merchandising

Clarity, stacking, durability, portions



### Transport

Example: insulation, food weight/durability



### Moisture/Oil Content

Liquid, saucy, dry, high oil/grease, dressing, low oil/grease



### Fill/Storage Temperature

Example: room temperature, hot from cooking, refrigerated, frozen, heat lamps



### Preparation Method/Serving Temperature

Example: room temperature, microwave or oven heated, added sauce/dressing

# Importance of Collaborative Efforts

Collaboration plays a pivotal role in driving sustainability efforts in the food packaging industry. It requires combined efforts across the industry, including manufacturers, suppliers, foodservice operators, waste management companies, and even consumers.

For example, a packaging manufacturer and a foodservice operator can work together to develop customized sustainable packaging that meets specific needs. Ultimately, the key to accelerating progress in sustainable food packaging centers on fostering innovation and taking collective action towards a shared goal of sustainability.

When looking to identify a packaging partner, think about:

## **SUSTAINABILITY COMMITMENTS**

Do they have a clear sustainability policy? Do they engage in sustainable practices themselves?

## **EXPERTISE AND EXPERIENCE**

Consider their experience in sustainable packaging and the industry.

## **INNOVATION AND TECHNOLOGY**

Are they investing in innovation and technology to offer advanced and efficient sustainable packaging solutions?

## **CERTIFICATIONS AND STANDARDS**

Check for relevant sustainability and food safety certifications.

## **CUSTOMER SERVICE**

Good customer service is crucial. Look for a partner who offers support and is responsive to your needs.



# A GLOBAL SUSTAINABLE PACKAGING LEADER

Sabert shares the world's deep passion for food and its enduring commitment to sustainability. Rooted in innovation, we constantly push the boundaries of how food is packaged, protected, preserved and served to help millions enjoy the food they love.

We've been at the forefront of providing innovative and sustainable food packaging solutions to our customers for over 40 years. From a broad range of recyclable and compostable materials to solar and geothermal facilities, our sustainable practices and products drive value by finding better ways to work with minimal environmental impact.

As our customers navigate their pathways to address climate, food and waste, Sabert is positioned to help them meet their sustainability goals because we have invested in research, innovation and development to bring new, more environmentally conscious products to the market across all of our product lines.

Sabert continues to meet the growing demand for sustainability by building on our strong foundation to meet today's and tomorrow's challenges. Together, we are helping to reimagine the future of sustainable food packaging for a healthier world.





## OUR COMMITMENT TO SUSTAINABILITY

At Sabert, we believe that our commitment to the environment is a fundamental part of our core business philosophy -- that a more sustainable future helps our customers, our industry, our communities and our planet.

Across all of our facilities, partners, plants and people, we're putting our inventive culture to work to help find new ways to protect the environment, strengthen communities and drive responsible growth - every day.



Improved environmental outcomes through innovative business thinking.

For packaging options, or for more information,  
visit [www.sabert.com](http://www.sabert.com) or call **1(800) 722-3781**.