



Corbion

# Improving Sustainable Practices in Your Bakery

A resource guide from Corbion



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## Introduction

For well over a decade Corbion has invested heavily in partnering with the world's food manufacturers to put truly sustainable food solutions to work. Our state-of-the-art ingredient solutions redefine preservation, inspiring and enabling forward-thinking companies to create and prolong all the hallmarks of freshness and safety - like texture, taste and antimicrobial control - that shape delightful eating experiences, all while protecting the planet future generations will inherit. We deliver both tangible and intangible value, helping our customers craft delicious,

nourishing foods consumers can trust. At Corbion, our priorities as consumers shape the products we help make possible - products that allow our families, our friends, and our customers to thrive.

As an industry, our shared future is closely intertwined with human health and the health of the planet, and we believe it's time - for all of us - to take a closer look at how we meet the needs of the market together. An ingredient choice can help create and preserve consistent product quality, prolong the taste and texture of freshness and even create a more consumer-friendly label product. Corbion is dedicated to sustainable development in our quest to preserve what matters.

# What is Sustainability?

**Being sustainable means meeting the needs of the present without compromising the ability of future generations to meet their own needs. In other words, it is about finding a balance between social, economic, and environmental needs in a way that supports long-term well-being.**

Sustainability encompasses a wide range of issues, including environmental protection, social equity, and economic viability. A sustainable approach to business or life involves minimizing negative impacts on the environment, promoting social equity, and ensuring economic viability for the future.

Sustainability is often associated with the concept of the “triple bottom line,” which refers to the three dimensions of

sustainability: economic, social, and environmental. A sustainable business or organization aims to maximize positive impacts in all three areas while minimizing negative impacts.

For example, a sustainable bakery might use locally sourced ingredients to reduce its environmental impact and support local farmers, invest in energy-efficient equipment to reduce energy consumption and costs and pay fair wages to its employees to promote social equity.

Overall, being sustainable means adopting a long-term perspective and taking actions that promote the well-being of people and the planet, while also ensuring economic viability for the future.

## Three Dimensions of Sustainability



Economic



Social



Environmental



# What are Sustainable Development Goals (SDGs)?

Sustainable Development Goals (SDGs) are a set of 17 global goals that define the 2030 development agenda of the United Nations. To determine our own strategic focus, Corbion performed an **SDG impact assessment**. To that end, Corbion has chosen to focus on SDG 2 (Zero hunger), SDG 3 (Good health and well-being), and SDG 12 (Responsible consumption and production) as the goals on which it believes it can create the most significant positive impact, given its business activities.

Sustainability not only is an important practice to protect our world, but it also makes a company stronger by increasing profitability and enhancing value over the long term. However, sustainability is a broad term that can encompass a wide range of values and tactics. No two companies will tackle sustainability in the same way.

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Corbion focuses on these 3 SDGs:



# Why is sustainability an issue, particularly for bakeries?

The “good for you” movement has a long track record. Food producers and marketers have been touting the health benefits of their products for as long as there’s been food to sell.

But in the 21st century, “good for you” often isn’t good enough. Today’s consumers, particularly Millennials and Gen Z-ers, want foods that not only are good for them but good for their fellow humans and for the Earth.

Increasingly, it’s the notion of sustainability that determines a food’s worth for many consumers, thanks to growing concerns about climate change, resource scarcity and potential health effects associated with certain products, including baked goods. Nearly 54% of millennials, for

instance, say they consider the environmental impact of products when making purchasing decisions.

Companies that figure out how to deliver sustainability without sacrificing quality, flavor and other essential attributes are guaranteed to thrive in this new, more connected world.

## Sustainability in Bakery - by the numbers

For many people it’s not enough just to ‘feel’ as though we need to be part of something larger, we need tangible proof of the need...the movement. And for those people there is mounting research that sustainability in its various forms is becoming a deeply entrenched trend. Consider these 10 reasons:

- 1 77% of consumers believe sustainability is important.<sup>1</sup>
- 2 Sustainability-marketed products are driving 1/3 of all CPG growth.<sup>1</sup>
- 3 Sustainability-marketed products are growing nearly 3x faster than conventionally marketed products.<sup>1</sup>
- 4 In 2021, 50% of all new products were sustainability-marketed.<sup>1</sup>
- 5 Millennials are the go-to-market segment for sustainability-marketed bakery products.<sup>1</sup>
- 6 Gen Z and Millennials associate sustainability more with environmental factors than social factors.<sup>2</sup>
- 7 Reducing by-products, reducing waste and extending shelf life are among the most important sustainability messages for baked goods.<sup>1</sup>
- 8 Sustainability-marketed bakery products command a 38% premium...cookies 116%.<sup>3</sup>
- 9 Online shoppers are looking for your sustainability messaging.<sup>1</sup>
- 10 Carbon labeling and communicating efforts on reducing waste are two great ways to appeal to the bakery consumer’s desire to align with more sustainable brands.

# How do I start a sustainability program, or add to what we're already doing?

## Tried and true areas to focus on:



Responsible Sourcing



Food Waste



Energy Efficiency



Packaging

There are a variety of ways to get going. The first idea might simply be to work with key members of your team to determine what sustainability means to you and your customers and brainstorm ways you might be able to start to introduce sustainability into your operation.

Another way would be to take the **SDG impact assessment** as a means of determining your strategic focus.

And if you're still stuck, talk with Corbion, or one of your other key supplier partners, to get their ideas on where you might start. We've learned from others over the years and we are more than happy to lend our experience, and expertise, in giving your manufacturing operation a leg up. We're all in this together!

## Thought Starters

Here are some tried and true areas you can focus on to get your ideas flowing.

- Responsible Sourcing
- Food Waste
- Energy Efficiency
- Packaging



## Responsible Sourcing

A sustainable food system can only be realized if we consider the full value chain, from raw material sourcing to manufacturing, use, and end of life. Food production depends on agriculture, one of the largest contributors to environmental and social impacts. Implementation of sustainable agriculture is vital to maintaining economic

performance while minimizing the damage to the environment and creating thriving farming communities.

Consumers are more interested than ever in where their food comes from. In the bakery industry, in particular, they're seeking out ingredients that they perceive as healthy for themselves (e.g., label claims such as organic and non-GMO) and for the environment (e.g., regenerative agriculture practices, local sourcing). This can be achieved by working with your suppliers to ensure sustainable practices relating to:

- Traceability of Materials
- Using RSPO Certified Palm Oil
- Bonsucro certified sugar or equivalent



## Food Waste/Manufacturing Food Waste

Human error, including lack of standard operating procedures and poor training, is the main cause of food waste at the manufacturing level, accounting for more than 10 percent of food waste.

Food that is associated with a food allergy, such as peanuts or gluten, is often wasted due to manufacturing lines that need to be run several times to produce an allergen-free product.

New product development creates food waste due to the production processes that manufacturers must go through to coordinate correct volumes and product quality. And approximately 30 percent of food in American grocery stores is thrown away.<sup>4</sup>

US retail stores generate about 16 billion pounds of food waste every year.<sup>4</sup> Wasted food from the retail sector is valued at about twice the amount of profit from food sales.<sup>4</sup>



# How to set achievable sustainability goals

Setting achievable sustainability goals for bakers requires a thoughtful and strategic approach that takes into account the unique circumstances of each bakery's operations. Here are some first steps to consider:

## Conduct an environmental impact assessment:

Before setting sustainability goals, bakers should conduct an **environmental impact assessment** to understand their current environmental impact and identify areas where they can improve. This assessment can include evaluating the bakery's energy and water consumption, waste generation and disposal, and transportation emissions.

## Review industry best practices:

Bakers should review industry best practices and benchmarks to establish a baseline for sustainability goals. This can include examining the sustainability efforts of other bakeries in the industry, as well as consulting resources from sustainability organizations or governmental agencies.

## Set measurable and achievable goals:

Sustainability goals should be specific, measurable, and achievable, and should align with the bakery's overall mission and values. For example, goals could focus on reducing energy consumption, decreasing water usage, or reducing waste generation.

## Develop an action plan:

Once sustainability goals are established, bakers should develop an action plan that outlines the steps needed to achieve the goals. The plan should include timelines, responsibilities, and metrics for tracking progress.

## Engage stakeholders:

Sustainability efforts are most effective when all stakeholders are engaged and committed to the goals. Bakers should communicate their sustainability goals and progress to employees, customers, suppliers, and other stakeholders, and encourage them to support the bakery's sustainability efforts.

# You're not in this alone

What can/should a bakery expect from its suppliers in the way of help/tools/resources? Talk to your suppliers and let them know about your needs and goals.

## **Ask ingredients suppliers about:**

- Reducing waste and improving efficiencies
- Improving responsible sourcing. Suppliers can provide information on the sustainability of their ingredients and materials, such as whether they are sourced from sustainable sources, such as local farms or organic farms.
- Environmental impact information. Suppliers can provide information on the environmental impact of their products, such as carbon emissions from production and transportation. This information can help bakeries make informed decisions about which products to purchase.





# Craft and tell your sustainability story

**Telling a sustainability story is important for bakers for several reasons:**

- **It helps to build brand trust:** Consumers are increasingly interested in supporting businesses that prioritize sustainability, and telling a sustainability story can help build trust with customers. By sharing their sustainability efforts, bakers can demonstrate their commitment to environmental and social responsibility, which can help build a loyal customer base.
- **It sets them apart from competitors:** Telling a sustainability story can help bakers differentiate themselves from their competitors. Consumers are more likely to choose businesses that prioritize sustainability, and by telling a sustainability story, bakers can set themselves apart from other bakeries that do not prioritize sustainability.
- **It attracts new customers:** A sustainability story can attract new customers who are interested in supporting businesses that prioritize sustainability. By communicating their sustainability efforts, bakers can reach a wider audience of environmentally conscious consumers.
- **It can inspire others:** Telling a sustainability story can inspire other businesses and individuals to take action on sustainability. By sharing their sustainability journey, bakers can demonstrate that sustainability is achievable and inspire others to take similar steps.
- **It helps to track progress:** Telling a sustainability story can help bakers track their progress and identify areas for improvement. By sharing their sustainability efforts with others, bakers can receive feedback and insights that can help them refine their sustainability goals and strategies.

# What is Corbion's stance on sustainability? How can we help?



At Corbion, we focus our resources and capabilities on addressing the global megatrends of population growth, food security, climate change, and resource scarcity while responding to evolving consumer needs and preferences. With more than 100 years of experience and expertise in creating innovative solutions for our customers, we are well-positioned to help address the impact of these trends. This will not only safeguard our commercial future, but it will also benefit society at large.



In manufacturing, we have a long history of excellence in developing and operating sustainable, resource-efficient production processes. We use these in four key areas: fermentation to organic acids and algae products, polymers, emulsifiers, and functional systems.



Corbion's strategy and all aspects of our operations are built around advancing sustainability underpinned by high ethical standards, whether this relates to the management of our global supply chain, responsible procurement of our raw materials, or the safety and well-being of our people.





**360°**  
by Corbion

“Corbion is already well known throughout the food industry for its incredible customer service and customer care. 360° by Corbion represents the next level of commitment to providing a wide range of services, tools, insights and technologies aimed at giving our customers the upper hand in this competitive market.”

– Mark Hotze, Vice President,  
Sustainable Food Solutions at Corbion

# 360° by Corbion

Your secret weapon against the competition.

## What is 360° by Corbion?

Class-leading ingredient solutions are only one aspect of a partnership with Corbion. When solving problems, having as many tools and resources as possible provides an invaluable advantage, and that’s exactly what **360° by Corbion** brings partners: an exclusive suite of tools and services that help elevate, amplify and enhance their product development processes. To that end, 360° by Corbion encompasses four distinct service segments.



### Application Development

The application teams at Corbion help in product development. They are the ones that will understand how the technology works in specific applications, and develop formulations that meet customer requirements. They also assist in helping with nutrition labeling and developing internal & external sensory panels. Providing formulation advice, product development support, texture and moisture analysis, flour testing and scientific literature support.



### Technical Service

Corbion’s technical services team provides unrivaled support to the baking industry. They work around the clock to keep our customers at the forefront of the baking industry. This means less phone time and more face-to-face visits. From optimizing the introduction of new products to ensuring our ingredients produce consistent, superior results, our team travels coast to coast to help keep our customers operational and profitable. The technical service team also works closely with our R&D department to enhance product performance and create custom solutions for our customer’s most challenging situations.



## Market Insights

The Corbion Insights group continually evaluates the latest market trends to help you position your products for success. By assessing the market conditions with data-driven analyses, we help you better understand and reach your targets with pinpoint precision, engage new prospects and motivate them to become regular consumers. By providing input from the lens of an ingredient partner, the Corbion Market Insights group brings years of expertise and experience to help you understand consumer trends and how they impact our business, inspire new product developments, and promote stronger product positioning.



## Modeling Tools & Calculators

Corbion provides specialized online tools that can help you speed product development and get your next product into consumers' hands faster. Our science-based formulation tools are designed to reduce guesswork and risk, tackle complex calculations, and help accelerate the R&D process. Whether you need help in predicting characteristics of your formulation, such as pH or osmolality, these apps and wizards provide invaluable, time-saving support. An example of the tools we have in place to help our customers innovate are below.

### Corbion's CO<sub>2</sub> reduction calculator for Ultra Fresh®

- Use of Ultra Fresh® has several environmental & economic benefits, linked to the production and market strategy and specific to each bakery supply chain.
- Corbion developed an interactive tool to perform an integrated analysis of the economic and environmental impacts of bread across its value chain and life cycle.
- Includes adjustable parameters: recipes, production, distribution and sales data.
- Allows case-by-case evaluation of customer-specific scenarios.

### Corbion's Natural Mold Inhibitor Modeling tool

- Predictive modeling tool developed to assist product developers in preventing mold growth in bakery products. The detailed report projects mold growth in bread formulations based on specific formulation information. The model then plots days to visible mold growth for relevant molds based on bread characteristics entered.
- This can help reduce bread waste by eliminating the trial-and-error plant productions used to understand these growth patterns. It also helps to reduce transportation emissions on wasted bread.



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# About the authors



**Mark Hotze**

**Vice President,  
Sustainable Food Solutions**

Mark Hotze is Vice President, North America, for Corbion, a global market leader in lactic acid and functional blends containing enzymes, emulsifiers, minerals and vitamins.

In his current role, he leads the commercial, technical services and applications teams for the North American food market. Prior to working with Corbion, Mr. Hotze contributed to manufacturing and commercial efforts for Sara Lee, Burford and Danisco.

Mr. Hotze has been an active member in industry associations such as American Society of Baking and Baker Equipment Manufacturers and Allied. He is currently on the board for the North American Meat Institute.

Mr. Hotze holds a bachelor's degree in business from the University of Oklahoma. In his spare time, he enjoys working with secondary education STEM students to explore careers in the food industry.



**Abby Ceule**

**Senior Director,  
Functional Systems**

Abby Ceule is the Senior Industry Director, Functional Systems, for Corbion a global market leader in lactic acid, lactic acid derivatives and lactides, and a leading company in functional blends containing enzymes, emulsifiers, minerals and vitamins.

Ms. Ceule draws on more than two decades of experience as she leads strategy development and growth planning for Corbion's functional systems category. Along with her strategic leadership responsibilities, Ms. Ceule works on customer accounts, maintains key supplier partnerships, and guides research and development innovations for sustainable food solutions.

She holds an MBA from Rockhurst University and a bachelor's degree in business administration with an emphasis in marketing from Kansas State University.



**Jennifer Halliburton**

**Senior Manager,  
Global Insights - Bakery**

Jennifer Halliburton is a Senior Manager, Global Insights - Bakery, for Corbion, a global market leader in lactic acid, lactic acid derivatives and lactides, and a leading company in functional blends containing enzymes, emulsifiers, minerals and vitamins.

With more than 30 years of industry experience, Ms. Halliburton is a key asset to the Global Insights division at Corbion. In her current role, she manages global insights research focused on the Bakery category, providing the sales team with essential information that can inform, influence and help establish greater partnerships with customers. Over the course of her career, she has held positions of increasing responsibility at several leading global food companies.

Ms. Halliburton holds a bachelor's degree in Business Communications from Missouri State University and a master's degree in business administration from Baker University.

Just remember, sustainability is a marathon, not a sprint! At Corbion, we preserve what matters.

# Sources

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- <sup>4</sup> [www.rts.com/resources/guides/food-waste-america/](http://www.rts.com/resources/guides/food-waste-america/)

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