

ENSURING THE SUCCESS OF COMPOSTABLE PACKAGING



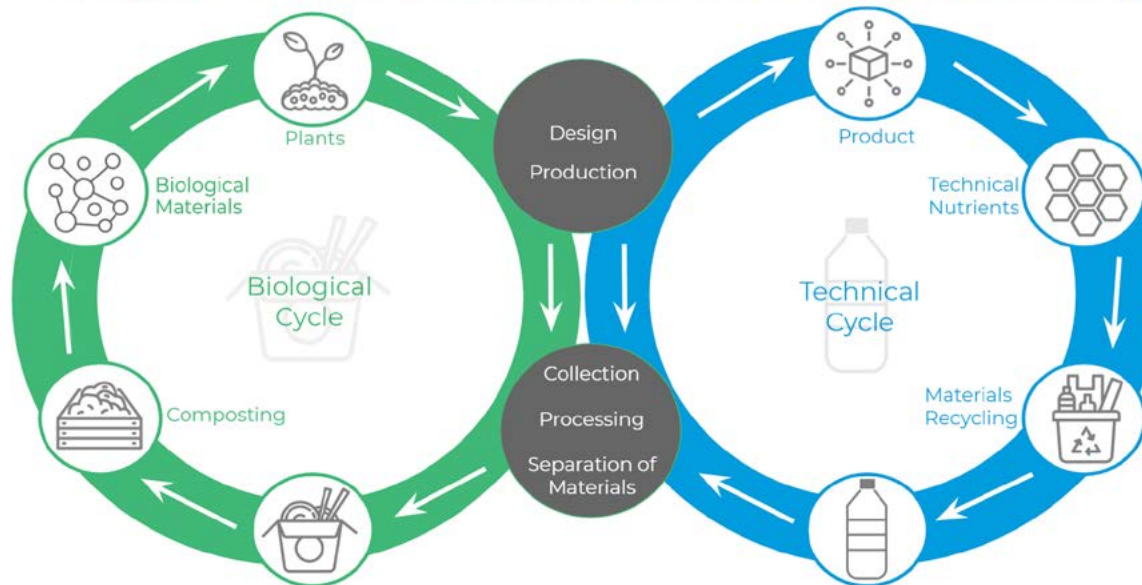
ENSURING THE SUCCESS OF COMPOSTABLE PACKAGING

Compostable packaging is receiving significant attention from brands and retailers, and cities across North America are beginning to explore the role of compostable packaging in helping to divert food waste and other materials from landfills. At the same time, concern about access to composting infrastructure and confusion about the right applications for compostable packaging are widespread. These are challenges that must be addressed if compostable packaging is to meet its potential as a tool for sustaining the biological cycle of a circular economy.

What is the biological cycle? A true circular economy consists of both technical and biological loops of materials. Recycling supports the recovery of technical materials, such as metal cans, glass bottles, and plastic made from fossil fuels. Meanwhile, in biological cycles, food and biologically-based materials (such as fibers, cotton, or wood) re-enter the system through processes like composting and anaerobic digestion.

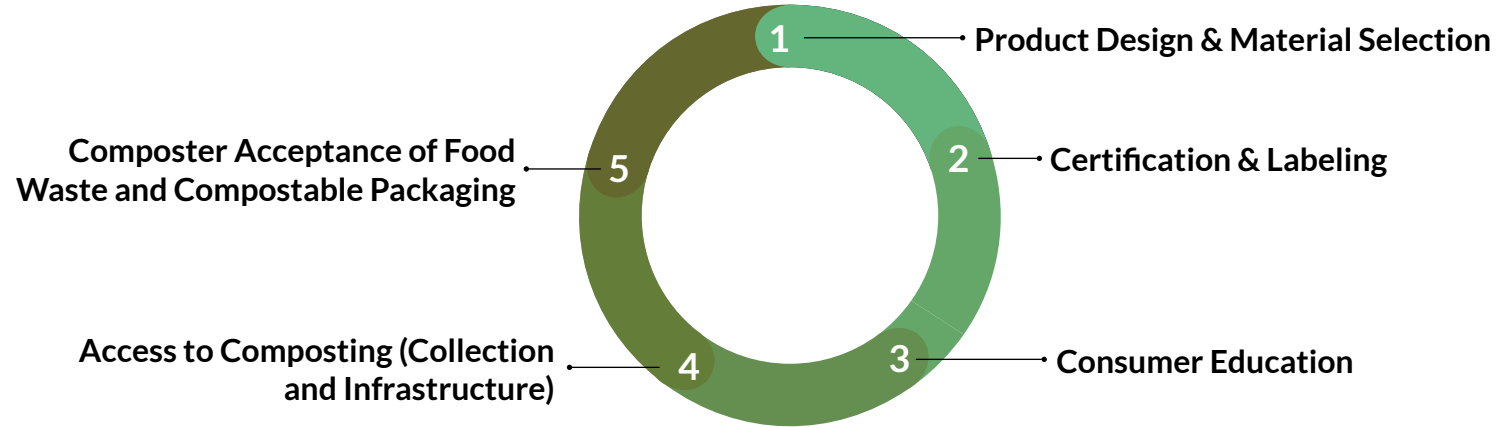
While today food is often landfilled, returning it to the biological cycle has immense climate benefits. Food scraps can be used to create compost, which is a powerful tool for restoring soils, increasing crop yields, and improving rainwater absorption. Healthy soils in turn sequester carbon and feed growing populations. Compostable packaging is a proven way to collect more of the food scraps that are currently being landfilled or are contaminating recyclables, and instead drive the recirculation of biological materials.

Biological & Technical Cycles of the Circular Economy



To serve its purpose, compostable packaging must be properly designed, certified, and labelled. Consumers, municipalities, and composters must all play a role in participating in available programs, providing access to composting, and working to reduce contamination.

What does success for compostable packaging look like? It needs to fulfill its promise of diverting more food waste and other organic materials out of landfills. To do so, compostable packaging must navigate and move beyond today's barriers in the realms of product design and material selection, certification and labeling, consumer education, access to composting, and composter acceptance and contamination.



The goal of this document is to organize the barriers facing compostable packaging and the solutions needed, as well as to outline the organizations working to address and ultimately overcome these barriers. In highlighting what additional efforts are needed and how companies can get involved, this document aims to spur further investment, research, and collaboration. It seeks to ensure that compostable packaging can be used effectively by brands, foodservice companies, and other stakeholders.

In early 2021, BioCycle and BPI hosted virtual workshop sessions that were a multi-stakeholder series of conversations with composters and haulers, municipalities, foodservice operators and brands, and compostable product and material manufacturers. One of the stated goals was to identify and confirm the top barriers to the acceptance and successful processing of certified compostable products. As a result of these conversations, a [Roadmap and Action Plan](#) outlined the barriers, desired future states, and BPI projects. The barriers included core issues preventing acceptance and successful processing of compostable products, while the future states are statements of what success looks like on each barrier.

This document builds on the barriers and projects showcased in the BPI Roadmap, adding in other barriers such as challenges with product design and consumer education. It also serves as a directory of past and current projects, research efforts, and working groups associated with the more than dozen industry organizations seeking to advance composting infrastructure and compostable packaging.

The barriers, past and current efforts to address barriers, and additional measures needed to achieve the goal of diverting more packaging and food waste, are outlined below. For every barrier, there is also an opportunity for companies to get involved to address the challenges of today.

For more on compostable packaging, including best applications and how it can fit into a sustainable packaging portfolio, please refer to the Sustainable Packaging Coalition's guide, [Understanding the Role of Compostable Packaging in North America](#).

WHAT ARE THE BARRIERS? HOW ARE THEY BEING ADDRESSED?

Phase 1: Product Design & Material Selection

Barrier	Barrier in Detail	Future State / Goal	Documents / Resources	NGO Projects	Additional Measures Needed to Achieve Goal	How Companies Can Get Involved
Compostability Used for Incorrect Applications	Some packaging or products are being designed for compostability, even though they are not in contact with food and would not help to divert food from landfills (e.g. compostable makeup tubes, compostable polybags)	Packaging is only designed to be compostable when it is food-contact and helps to divert food waste and reduce contamination at composting facilities	SPC - Guide to Compostable Packaging	BPI - Does not certify non- food-related applications	- Legislation requiring certain categories of packaging (e.g. food-soiled food serviceware) to be compostable only	- Join BPI to engage in legislation and advocacy efforts
Lack of Harmonization/ Standardization across Categories	Some products in a category (e.g. takeout containers) are designed to be recyclable, while others are designed to be compostable, resulting in a lack of harmonization and consumer confusion	Entire categories of packaging (e.g. food serviceware, salad bags, etc.) are compostable, minimizing consumer confusion.	SPC - Guide to Compostable Packaging		- Legislation requiring certain categories of packaging (e.g. food-soiled food serviceware) to be compostable only -Pre-competitive brand alignment on which categories should be compostable	- Join BPI to engage in legislation and advocacy efforts -Join SPC Compostable Packaging Collaborative
Compostables Not Adding “Inherent” Value to Composting Operation	Some composters believe compostable packaging should bring additional value, such as built-in nutrients	The packaging adds nutrients or other added value to the composting system, beyond diverting food waste.	FPI/BPI - Study on value of CP as a feedstock		- R&D into packaging materials and/or additives that contribute additional nutrients to the composting process	-Collaborate with resin manufacturers and packaging converters

Phase 2: Certification & Labeling

Barrier	Barrier in Detail	Future State / Goal	Documents / Resources	NGO Projects	Additional Measures Needed to Achieve Goal	How Companies Can Get Involved
Contamination from Poorly Labeled Products	Products and packaging that are not compostable are mistakenly put in organics recycling bins and end up at composting facilities. These items may be indistinguishable from compostable packaging	Contamination from non-compostable products does not prevent composters from accepting and successfully processing compostable products.*		BPI - Testing of existing labeling guidelines	- Waste audits and similar research to examine the causes and makeup of contamination at a compost facility (e.g. what is it, where does it come from, etc.)	-Fund waste audits and other research -Use How2Recycle to label recyclable products
Lack of Product Labeling	Compostable packaging is not always clearly labeled for the general public to know it is compostable	Compostable products are clearly and prominently labeled.	BPI - Labeling Guidelines	BPI - enforcement of using BPI certification mark on packaging How2Compost - Consumer- facing on-pack labeling	- Widespread adoption of labeling best practices among brands using compostable packaging - Legislation requiring compostable packaging to be clearly and prominently labeled	-Follow labelling guidelines and best practices -Join Closed Loop Partner's Composting Consortium - Join BPI to engage in legislation and advocacy efforts
Regulatory Inconsistency*	Some states (e.g. CA) are creating their own definitions for what packaging will be considered compostable, or may set unique rules for how products should be labeled	Agreed-upon labeling criteria and definition of compostability provide consistency and trust along the value chain.*		BPI: Guiding Principles for Labeling Policy USCC - Compostable packaging model legislation	- R&D into packaging materials and/or additives that contribute additional nutrients to the composting process	- Join BPI to engage in legislation and advocacy efforts

Phase 3: Consumer Education

Barrier	Barrier in Detail	Future State / Goal	Documents / Resources	NGO Projects	Additional Measures Needed to Achieve Goal	How Companies Can Get Involved
Limited Understanding of Composting	Consumers aren't familiar with why composting is valuable and can be considered a climate change strategy	Consumers understand the value of diverting organics from landfill.	SPC - Bioeconomy graphic SPC - Types of composting graphic	BPI - Seeking funding for consumer education/ awareness campaign CCREF - International Compost Awareness week	- Multi-channel consumer education about how composting works and why it is important as a climate change solution	-Fund consumer education campaigns -Share resources on the benefits of composting to educate consumers
Lack of Consumer Composting Resources	Consumers aren't familiar with how to compost in their home or in their community, or where to find this information	Consumers know where and how to get more information about composting in their community.	WeCycle Today app foodscraps.info	BPI - Seeking funding for consumer education/ awareness campaign	- Consumer resource (e.g. website, app) that provides information about signing up for a local composting service and/or managing a home composting system	-Fund consumer education campaigns -When available, share resources on composting access to educate consumers
Uncertainty about Purpose of Compostable Packaging	Consumers aren't familiar with the purpose of compostable packaging (i.e. diverting food waste from landfills)	Consumers understand the value of compostable packaging.	SPC - Value of compostable packaging graphic	BPI - Seeking funding for consumer education/ awareness campaign	-Multi-channel consumer education that explains how compostable packaging can divert more food waste from landfills	-Fund consumer education campaigns - Share resources on food waste diversion to educate consumers
Confusion about Terminology	Consumers and other end-users (e.g. venues, food service) are not clear about the differences between the terms "compostable" and "biodegradable".	Consumers and end-users understand the unique characteristics of compostable packaging.	SPC - Biodegradable vs. Compostable Packaging		-Multi-channel consumer education that explains how compostability is different from biodegradability	-Fund consumer education campaigns - Share resources on terminology to educate consumers

Phase 4: Access to Composting & Collection

Barrier	Barrier in Detail	Future State / Goal	Documents / Resources	NGO Projects	Additional Measures Needed to Achieve Goal	How Companies Can Get Involved
Limited Food Waste Collection	While at least 27% of the US population has access to a composting program for food waste and/or packaging, this is not enough to be considered widespread, high-quality access	The United States has widespread drop-off programs or curbside collection of food waste.		US Composting Infrastructure Coalition - Advocating for federal funding for food waste programs USCC Target Organics - Supporting municipalities with composting programs	- Resources and federal funding for cities and towns across the US to set up curbside collection and/or drop-off programs for composting	- Join US Composting Infrastructure Coalition - Join USCC Corporate Compost Leadership Council
Value Proposition Uncertainty for Compostable Packaging*	There is limited data about the increased diversion of food scraps associated with using compostable packaging, which causes uncertainty about its value among composters, food service establishments, and municipalities	The correlation between compostable products, food scraps diversion, and participation rates for organics programs is clear.*	SPC - Value of Compostable Packaging	BPI - Correlation Study (planned)	- Waste audits and similar research that demonstrate a correlation between the use of compostable products and increased food scrap diversion (e.g. at a closed venue or restaurant)	-Fund waste audits and other research
Infrastructure Funding*	There is limited funding for new composting infrastructure or expansion to existing infrastructure on a federal level, as well as on state levels	The increased cost of processing and collecting compostable products in food scraps programs is supported by product and material manufacturers.*		BPI - Guiding Principles for Funding CLP - Investment in composting infrastructure and related projects (e.g. Grow NYC composting service) US Composting Infrastructure Coalition - Advocating for federal funding for composting infrastructure	- Legislation and/or voluntary mechanisms that enable compostable packaging manufacturers and brands to support funding for composting infrastructure	- Join US Composting Infrastructure Coalition
Limited Data on Access to and Participation in Composting Programs	There is limited data on what percentage of the US population has access to a composting program (curbside, drop-off) and participates in composting (including home composting)	It is clear how many people have access to and participate in collection programs.	SPC - Composting access, composting facilities maps Biocycle - Residential collection data		- Research that provides data on how many people in the US have access to, and participate in, composting programs, including curbside, drop-off, and home composting programs - Research that provides clarity on what “good quality” access to composting looks like	-Fund composting access research

Phase 5: Composter Acceptance of Food Waste and Compostable Packaging

Barrier	Barrier in Detail	Future State / Goal	Documents / Resources	NGO Projects	Additional Measures Needed to Achieve Goal	How Companies Can Get Involved
Compostability Standards*	ASTM standards for compostable packaging are sometimes considered too different from real world conditions, causing concerns that products are not breaking down in composters' actual operating time frames and conditions	Composters have enough information on "real world" performance to trust that products meeting ASTM standards will break down in facilities designed to accept food scraps and packaging.*	USCC - Decision-Making Guide to Accepting or Rejecting Compostable Products	BPI - Field validation program CMA - Field testing program CCREF - Compostable packaging field testing protocol	- Field validation and field testing efforts	- Participate in field validation and field testing by submitting products for testing and sharing results Participate in BPI's ASTM Work Item on field testing (contact BPI for details).
Rules for Certified Organic Finished Compost	Compostable packaging is not allowed as a feedstock for composting facilities pursuing the National Organics Program (NOP) certification for finished compost	Compostable products are an allowable input under the requirements for the National Organics Program (NOP) for finished compost.*		BPI - NOP petitioning and legal action to allow compostable packaging as a feedstock	- Support from the broader composting and compostable packaging communities for BPI's petitioning efforts	- Join BPI to engage in legislation and advocacy efforts
Composting Technologies	Some composting technologies used at facilities today are not well-suited to successfully process compostable packaging.	Composters understand which technologies and processes work best for compostable packaging.	USCC - Compost Manufacturers' Decision-Making Guide to Processing Compostable Products		- Funding and end-market support for composters seeking to retrofit their facility in order to be able to accept compostable packaging	- Join US Composting Infrastructure Coalition

*Copied from [BPI Roadmap Document](#)

ORGANIZATIONS WORKING IN THE COMPOSTABLE PACKAGING SPACE

The following is a list of NGO and trade associations working in the compostable packaging space and/or related arenas, organized alphabetically.

Organization	Primary Focus	How to Get Involved	Contact(s)
BPI (Biodegradable Products Institute)	Lab-based certification, advocacy and education	Become a member to get products certified and engage	Rhodes Yepsen , Wendell Simonson
Biocycle	Organics recycling news, research and data	Subscribe to newsletter, explore research	Nora Goldstein
Climate Collaborative (project of OSC2)	Natural products business coalition	Join public-facing commitments	Lara Dickinson
Closed Loop Partners Composting Consortium	Investment firm and innovation center	Join Composting Consortium	Kate Daly
CMA (Compost Manufacturing Alliance)	Field testing of compostable products	Get products tested and certified	Susan Thoman
EMF (Ellen MacArthur Foundation)	Accelerating circular economy solutions	Subscribe to newsletter, explore research	Leela Dilkes-Hoffman
FPI (Foodservice Packaging Institute)	Foodservice packaging association funding a variety of recovery projects	Become a member, engage in working groups	Ashley Elzinga
CREE (Compost Research and Education Foundation)	Advancing composting technologies, practices, and beneficial uses	Explore research, support International Compost Awareness Week	Wayne Howard , Emily McGill
PBPC (Plant Based Product Council)	Advocacy for plant-based products/ bioeconomy	Become a member, subscribe to newsletter	Justin Maroccia , Jessica Bowman
SPC (Sustainable Packaging Coalition)	Driving sustainable packaging across the value chain	Become a member, engage in Collaborative	Olga Kachook
USCC (US Composting Council)	Advocacy and support for compost manufacturers, finished compost, composting	Become a member, engage in committees, join Corporate Compost Leadership Council	Frank Franciosi , Cary Oshins
US Compost Infrastructure Coalition	Advocacy for composting infrastructure	Become a member, support advocacy efforts	Justin Maroccia , Jessica Bowman
US Plastics Pact	Regional initiative to build circular economy for plastics	Join public-facing commitments, become a member	Emily Tipaldo
WRAP (Waste and Resources Action Programme)	UK-focused circular economy advocate	Explore research	Helen Bird

GreenBlue is an environmental nonprofit dedicated to the sustainable use of materials in society. We bring together a diversity of stakeholders to encourage innovation and best practices to promote the creation of a more sustainable materials economy.

The Sustainable Packaging Coalition is a membership-based collaborative that believes in the power of industry to make packaging more sustainable. We are the leading voice on sustainable packaging and we are passionate about the creation of packaging that is good for people + the environment. Our mission is to bring packaging sustainability stakeholders together to catalyze actionable improvements to packaging systems and lend an authoritative voice on issues related to packaging sustainability. The Sustainable Packaging Coalition is a trademark project of GreenBlue Org.

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