



WHAT'S BEST FOR THE PLANET?

Lots of opinions, legislation, facts, and fiction about packaging. The consumer plays a major role in use and final destination for the end of life choices; land-fill, re-use, recycle, compost, or energy recovery.

The Environmental Protection Agency (EPA) reports on what affects our environment and advises that protecting food protects the environment, as ten times more resources are used to make and distribute food than the package to protect it. Food waste takes space in landfills and releases methane (21 times more potent than carbon dioxide) as it decomposes.

ANCHOR PACKAGING MANUFACTURES RIGID PACKAGING TO PROTECT FOOD-TO-GO, AND FOLLOWS THE EPA RECOMMENDATIONS FOR SOLID WASTE MANAGEMENT.



For over 50 years, Anchor Packaging has manufactured innovative consumer packaging solutions with performance characteristics that maintain food quality for delivery, display and takeout. We continue to expand our knowledge, designs, technology and operational base to create and deliver the answers to tomorrow's packaging challenges.

Our products are in use for meals to go and side dishes at a wide variety of restaurants, fast food chains, and other foodservice operations.



Our packaging is utilized in grab and go displays in supermarkets and convenience stores to merchandise prepared, ready-to-eat hot and cold foods and ready-to-reheat in the microwave items.

Anchor Packaging offers environmentally neutral products produced in a sustainable manufacturing environment. Anchor recycles virtually 100% of its raw materials and continues to optimize our product designs in order to reduce fuel costs and waste.

EPA Solid Waste Management Hierarchy

REDUCE:

Our product development team has greatly reduced the use of petroleum-based resins in our products through design, process and material engineering without sacrificing performance. Many of our polypropylene (PP) products have seen reductions of up to 40%. All polyethylene terephthalate (PETE) products we manufacture use a minimum of 10% FDA-approved, post-consumer recycled material.

REUSE:



Anchor Packaging was the first to introduce "REUSE, then recycle" with our polypropylene takeout packaging. Our product designs provide sturdy, rigid packages that are dishwasher-safe for multiple uses. The EPA continues to recommend REUSE over many other waste management strategies.

RECYCLE:

Anchor's rigid plastic products are made of PETE/RPET and PP/MFPP. PETE is the most recycled food packaging material nationwide. Polypropylene is also eligible for recycling curbside in most communities. Check for local recycling information at www.earth911.org.

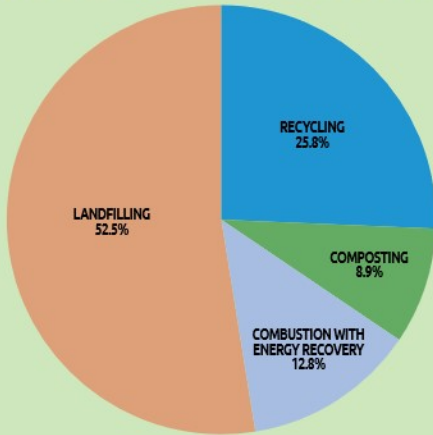
RECOVER (STORED ENERGY):

Anchor polypropylene products, when safely incinerated in a waste-to-energy facility, produce the highest per ton BTU energy value of any waste material: 38 million BTUs per ton. This is twice the energy value of coal, the primary source of electric power generation in the U.S.

ABOUT THE TRASH...

A recent EPA municipal solid waste (MSW) annual report shows an increase to 262.4 Million tons; 4.5 lbs. per person per day. Over half the trash goes to landfills, however, the 137.7 million tons is lower than 1990 totals despite population growth. Recycling and composting have increased to 91 million tons with the majority of paper recycled from non-food applications and no significant volume of packaging in the composting data. Food residuals must be removed before recycling allowing plastic food packages to be washed and recycled.

91 MILLION TONS RECYCLED & COMPOSTED



OUR PROGRESS

OVER THE LAST FEW DECADES, THE RECYCLING, COMPOSTING, COMBUSTION WITH ENERGY RECOVERY, AND LANDFILLING OF MSW HAS CHANGED.



RECYCLING Process & Technology Evolve

Curbside recycling of PETE and PP plastic packages is available to 73% of all U.S. consumers and over 86% of the consumers in large municipalities. Recycling increased from less than 10% in 1980 to 34.7% MSW in 2015. This growth slowed in January 2018 with the China ban on imports of mixed bales. Some U.S. cities that previously made money from selling recycled materials began paying to process these materials or send them to landfill.

Material Recovery Facilities (MRFs) have similar operations but are not all the same.



- Lack of funding to modernize recovery facilities limits substantial increases in high-demand materials like PETE
- Float/Sink tanks used by some MRFs can consider very dense blended PP as waste
- Black materials or labels rendered non-recyclable by some sorting equipment
- More MRFs sort plastics into dedicated bales to export
- Investments to upgrade equipment to meet current purification standards (Phoenix AZ \$4.5Million replaced 15 year-old equipment)

The plastics industry recognizes the importance of packaging to the consumers' lifestyle and the need to address the end-of-life for packaging.

- Research by Association of Plastic Recyclers (APR) and Institute of Scrap Recycling Industries (ISRI) assisting sorting facilities with latest MRF technology
- Major CPG companies commit to 100% reusable, recyclable packaging by 2030 (i. e., P&G, Coca-Cola)
- Resin producers commit to working with governments, customers, nonprofits and others to significantly improve the recycling and recovery of post-use plastics packaging



American Chemistry Council (ACC) Plastics division of resin producers commitment to significantly improve recycling and recovery of post-use plastics packaging with systems, technology, and

infrastructure to make it happen with measurable goals:

- 100% of plastic packaging re-used, recycled, or recovered by 2040
- 100% of plastic packaging is recyclable or recoverable by 2030
- 100% of resin manufacturing sites operated by members in Operation Clean Sweep Blue to prevent resin pellet, flake, powder loss into environment; All U.S. by 2020, All North America by 2022

COMPOSTING

EPA reports 23 million tons MSW composted; 91% yard trimmings, 9% food, less than 1% packaging. Composting requires professionally managed commercial facilities with a specific biological decomposition process that does not occur in landfills or backyards. Certified compostable products degrade in 45 to 180 days with microorganisms, carbon, water, heat, oxygen, nitrogen, and aeration creating an organic material added to soil to help plants grow. Compost facilities operate 25-100 miles around their location, accepting drop-off of food waste and yard trimmings. The EPA list 2,786 composting locations in the U.S. with 3% (72 locations) taking food packaging (pizza boxes not included).



BIODEGRADABLE
PRODUCTS
INSTITUTE



Compostable certification identifies products that meet the ASTM scientific pass/fail standards that include biodegradation testing, heavy metals limits, and ecotoxicity. Due to environmental concerns around fluorinated chemicals and possible bioaccumulation in plants and humans, BPI set limit of 100 parts per million (ppm) and statement of "no intentionally added" fluorinated chemicals for certification in 2019. Cedar Grove/CMA adopts the same 100 ppm or less standard effective January 1, 2020.

MORE FROM THE EPA ON PFAS

Per- and polyfluoroalkyl substances (PFAS) are chemicals manufactured and used in a variety of industries around the globe and the US since the 1940s. A well-known product is Teflon non-stick coating.



- PFAS chemicals are in the soil and groundwater, build up over time in fish, animals, humans and linked to cancer, low infant birth weights, thyroid hormone disruption.
- Many paper, bagasse, molded fiber, and other compostable containers are made with PFAS chemical additives to prevent oil and grease from seeping through the material causing stains on clothing and car seats.
- Although the FDA approved short-chain (C6) PFAS chemicals used in food-contact applications, there is no test to differentiate these from the long chain (C8) chemicals causing environmental concerns.

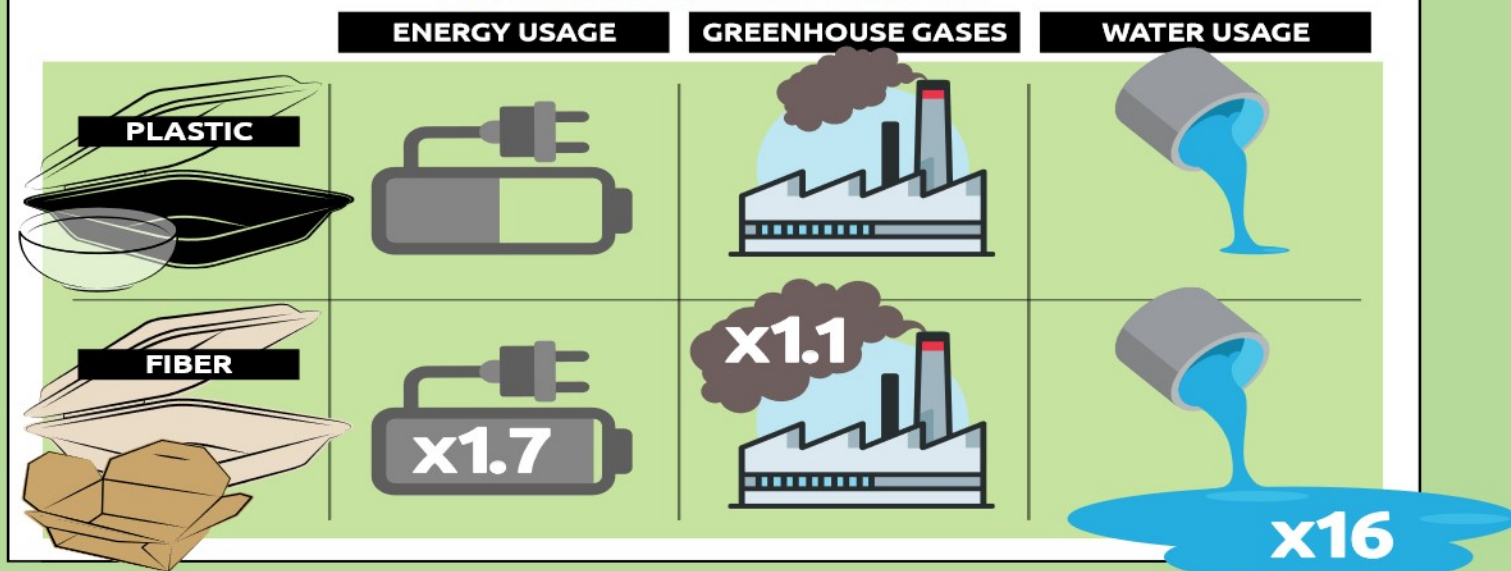
What does this mean? Until another additive is available for grease resistance, and the manufacturers can be sure their fiber materials contain only the small amount of PFAS allowed, the products will not be certified. Unlikely composters will accept packages without certification since they rely on selling the compost produced for certified clean plants and foods.

BACK TO THE BEGINNING

RENEWABLE RESOURCES – RAW MATERIALS THAT GROW

Fiber-based packaging made from trees, sugar, and other materials require more water and energy to process than polypropylene and PETE. Fiber creates more greenhouse gases, requires almost twice the energy and 16 times more water to make than plastic packaging.

MANUFACTURING PROCESS



PLASTIC RAW MATERIALS

Crude oil is a source of feedstock to make plastic; not the major source for U.S. plastic production. The US Energy Information Association reports more plastics produced from natural gases, feedstock derived from natural gas processing, and feedstock derived from crude oil refining.

RIGID PACKAGING: MATERIAL CHOICES

RECYCLE

PLASTIC

Polypropylene (PP), Mineral-filled (MFPP)
 Polyethylene Terephthalate (PETE), Post-consumer Recycled (RPET)
 Polystyrene (OPS, HIPS)*
 Expanded Polystyrene (EPS, Foam, Styrofoam)*
 *Legislation banning polystyrene. Limited number MRFs accept.

FIBER

Uncoated (No Grease/Food Stains)
 Clay-Coated
 PE/Poly Coated








COMPOST

BIOPOLYMERS

Polylactic Acid (PLA)

FIBER

Molded Fiber **PFAS?**
 Uncoated **PFAS?**
 Wax Coated
 PLA Lined
 Sugarcane/Bagasse **PFAS?**
 Bamboo, wheat fiber **PFAS?**

MATERIALS IN RIGID PACKAGING	Recyclable Curbside Most Communities	BPI Certified Compostable Commercially	Renewable Resource	Post-Consumer Recycled Content	Less Oil-Based Resin	Holds Hot Food	Food Visibility	Integral Anti-Fog	Grease Resistant	Leak Resistant	Dishwasher-Safe/Reusable
PLASTIC											
PP 	YES	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES
MFPP 	YES	NO	NO	NO	YES	YES	NO	NO	YES	YES	YES
PETE 	YES	NO	NO	NO	NO	NO	YES	NO	YES	YES	NO
RPET 	YES	NO	NO	YES	YES	NO	YES	NO	YES	YES	NO
OPS/HIPS 	NO	NO	NO	NO	NO	YES	YES	NO	YES	YES	NO
EPS/Foam 	NO	NO	NO	NO	NO	YES	NO	NO	YES	NO	NO
FIBER*											
Sugarcane/Bagasse	NO	?	YES	NO	NO	YES	NO	NO	?	NO	NO
Paperboard	?	?	YES	?	NO	YES	?	NO	?	NO	NO
Wheat Straw	NO	?	YES	NO	NO	YES	NO	NO	?	NO	NO
BIOPOLYMER											
PLA 	NO	YES	YES	NO	NO	NO	YES	NO	YES	YES	NO

? - Materials vary and may contain PFAS. Consult the BPI website for products certified as of January 1, 2020.

*May be PLA lined or Poly coated.

PENDING LOCAL AND STATE LEGISLATION

Some bans of single use packaging (fiber and plastic) would require "refillable" products brought into a business. Food safety sanitation regulations and operational issues at the establishment will be obstacles, as will the increase in energy and water usage with little or no space allocated to "collect and reuse" packages.

END-OF-LIFE AND CHOICE

Consumers choose the final destination for their packaging. It is our hope they choose re-use, recycle, or composting.

Our roles as manufacturers, distributors, and users of takeout packaging:

Provide the best choices to preserve food quality and the consumer experience while reducing the use of natural resources, reusing materials, recycling, or composting with consideration of performance and price for our businesses.

The choice is yours!