

**As the world's population continues to expand, the amount of waste produced will inevitably multiply.**

**With the right program and more sustainable choices, taking out take-out food containers can be a thing of the past.**



## Options for Take-out — With Less Taking Out (of the Garbage)

As the world's population continues to expand, the amount of waste produced will inevitably multiply — a problem given the struggle already underway to manage the volume generated now. A notable percentage of today's waste is fortunately recycled for various uses including compost and new products, but an even larger amount goes into landfills — and eventually, waterways, oceans, the air, and our bodies. Increasing public knowledge of the damage inflicted on the environment, wildlife, and ourselves by certain types of waste has put pressure on both organizations and people to change their behavior, practices, and policies.



# The Impact of Packaging and Containers

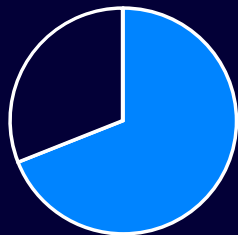
Nearly everything manufactured and purchased outside the home is shipped in, stored in, or protected by some sort of container or packaging.

Most of these containers and packages are single-use and "... assumed to be discarded the same year the products they contain are purchased," per the United States Environmental Protection Agency (EPA). Altogether, containers and packaging — primarily composed of paper, paperboard, glass, steel, aluminum, plastic, or wood — accounted for 82.2 million tons of municipal solid waste in the U.S. in 2018 (the most recent year data available). Nearly 54% of that total was recycled in the same period — most of which was corrugated cardboard — while 21.5% was combusted with energy recovery and another 21% went to landfills.<sup>1</sup>

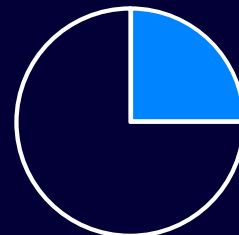
The level of recycling of containers and packaging is a testament to the results possible when efforts are made to control single-use waste. But much work remains, especially regarding single-use

plastic containers and packaging, whose widespread use and longevity make them a major contributor to both the amount of non-compostable waste and greenhouse gas emissions.

In 2018, 14.5 million tons of plastic containers and packaging were generated — 69% of which found its way into a landfill.<sup>2</sup> Replacing single-use plastic takeaway boxes and containers is especially important to food service organizations like ISS, which serves more than a million meals per day worldwide in client workplace cafés, catered events, micro-kitchens, and other facilities. In 2018, nearly 30% of municipal solid waste comprised takeaway boxes and containers, which also generated almost one-third of greenhouse gas emissions in production.<sup>3</sup>



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**30%**  
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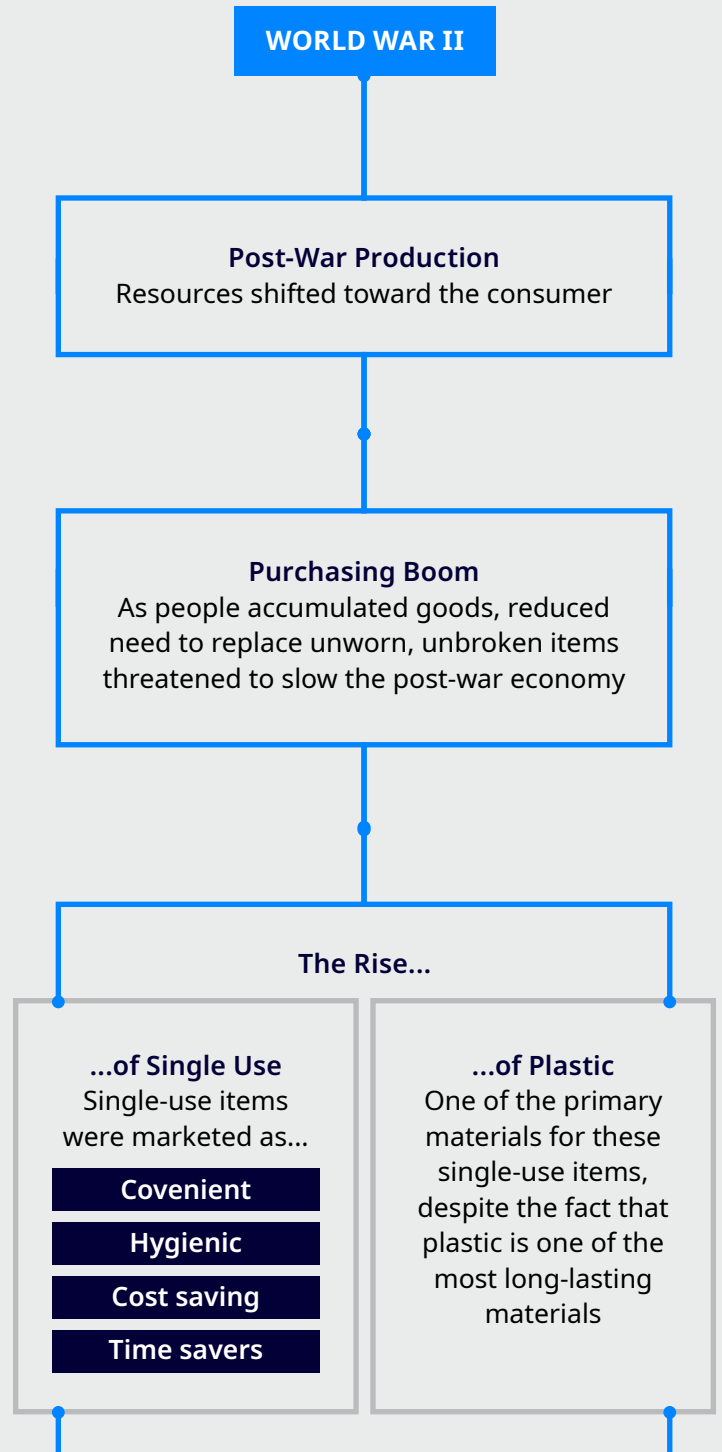
# The Backstory

For decades, plastic has been the go-to material for packaging and containers as it protects products from external damage and contamination, and vice versa.

Materials comprising those containers and packaging include polyethylene terephthalate, high- and low-density polyethylene, polyvinyl chloride, polystyrene, polypropylene, and other plastic resins. Plastic packaging is ideal for food as food is especially vulnerable to external forces in both its raw and processed forms. This situation has not been lost on plastic manufacturers, food and beverage companies, and other organizations seeking cheaper options: approximately 60% of all plastics produced worldwide is meant for food packaging.<sup>4</sup> For almost the same amount of time, activists have called for the elimination of plastic, Styrofoam (a kind of plastic and DuPont brand name), and other related materials negatively impacting the environment.



## The Origins of Our Throw-away Society



## The Case Against Plastic

### So why exactly is plastic so bad?

As a product of petrochemicals, plastics essentially derive from fossil fuels and therefore contribute to greenhouse gas emissions and climate change — a situation likely to grow further as the world's largest economies continue to consume (and dispose) and the developing world increases its use (and disposal) of plastics. According to the International Energy Agency (IEA), petrochemical feedstock accounts for 12% of global oil demand, and is projected to encompass more than a third of the growth in oil demand to 2030, and nearly half to 2050.<sup>5</sup>

Plastics are not biodegradable because the enzymes that help break down biodegradable materials do not recognize the bonds that hold plastic polymers together.<sup>6</sup> Plastics just break down into smaller and smaller pieces that release harmful chemicals and pollute oceans, landfills, groundwater, and soil — and are harder and harder to collect. The majority of the Great Pacific Garbage Patch — two huge accumulations of debris brought together by ocean currents in the eastern and western Pacific Ocean — for example, is micro-plastics too tiny for the human eye to see except as a general cloudiness of the water. Plastics also often contain non-intentionally added substances (NIAS) that cause toxicity and endocrine issues, and generate even smaller, toxic nano plastics that migrate into food. An additive used to make polyvinyl chloride (PVC) containers also migrates into the environment and food, elevating the potential for metabolic disorders.<sup>7</sup>

## Changing the Plastic Dynamic

### What can we do to protect ourselves and the planet?

Efforts to increase recycling of plastics, especially single-use packaging, have seen some progress. In 2018, almost 2 million tons of plastic containers and packaging were recycled — about 14% of all plastic packaging and containers generated that year — compared to 260,000 tons or 4% in 1990.<sup>8</sup>

More is needed, however. Biodegradable, chemically safe, eco-friendly packaging made from sustainable bioplastics and plant materials such as bamboo, wheat, and sugar cane provide another option — though they use considerable energy and water during the growing and manufacturing processes — as do reusables made of glass, ceramic, stainless steel, and FDA-approved, food-grade polypropylene.

In addition, the actual process of recycling plastics collected for recycling is somewhat messy and needs re-visiting. Much of the plastics that are collected in single stream services are brokered and sold to whomever will pay the most for the bales, which are often then shipped out of the U.S. to other countries. Better policing of the fate of those plastics will help prevent them from ending up in the ocean or another location where they are not actually recycled.

# Shifting to Sustainable

During the Covid-19 pandemic, the use of takeaway containers exploded as lockdowns and fear of contagion drove the need for carry-out, delivered, contactless food.

Restaurants and other providers stockpiled take-out containers, and more containers were manufactured, while the volume of waste from these containers exponentially increased. And the waste came from more than just the containers themselves: service wares, napkins, and other traditional accoutrements — many of which are not biodegradable and got tossed in the garbage without use — added to the volume produced.<sup>9</sup>

**But the pandemic also furthered a trend already in process: the substitution of more sustainable packaging and containers for conventional plastics.**

Driven by personal, professional, and corporate commitments to sustainability, conscientious organizations, food providers, restaurants, and people sought out opportunities to reduce their carbon footprint, improve their brand reputation, and do the right thing for the planet through alternate workplace behaviors, practices, and materials. Some sought to develop a circular strategy through recycling, composting, waste, energy, and water management, and other actions. All are aware that in today's competitive environment, talent from nearly all generations look favorably on organizations that demonstrate a passion for and measurable success in social and environmental responsibility.



PHOTO: RE:DISH

# Becoming an Informed Consumer Regarding Containers

Most traditional carry-out containers are made of plastic and used only once.



According to Upstream®, 1 trillion food service products become 9 million tons of waste after a single use every year in the United States.<sup>10</sup>

A growing number of alternative products have made considering more environmentally friendly options much easier. The success of instituting true change even with these opportunities, however, will depend on the ability to institute new systems and change the current throw-away mindset. And to make the better option the desired and default option, thereby gaining buy-in and participation from consumers — many of whom are not focused on sustainability.

A lifecycle assessment of an organization's current container choice will aid in understanding how consumers use and dispose of them in each facility — and what is needed in each use case. Below are three categories of products that an informed organization may then evaluate in determining the best strategy for its facilities.

## Recyclables

Recyclable take-out containers allow for the use of non-compostable materials — with the assumption that those ending up in recyclable waste bins will not become landfill. Containers made of aluminum, polypropylene (no. 5 plastic), or polyethylene (no. 1 plastic) are among the choices when change is underway, but only polypropylene is food-grade plastic. Polystyrene (often referred to by the DuPont brand name Styrofoam) or no. 6 plastic is an option, though it is banned in some markets. In those where it is not banned, many recycling facilities do not accept Styrofoam as they lack the grinder and densification system needed for processing and/or do not have the interest or ability to re-introduce the product into the manufacturing process. Regardless of what recyclable is chosen, change management is required to convey consumer, culinary staff, facility personnel, and others' responsibility for cleaning and properly disposing of those containers — or the initiative's results will not meet expectations.

## Compostables

Containers, service wares, plates, cups, and other dining materials designed to degrade into compost in a commercial facility specially dedicated to that activity are known as “compostables.” Most of the materials comprising these compostables are plant-based, making them both compostable and biodegradable. Sugarcane; fast-growing wood such as bamboo and poplar; rice husks; wood pulp; and gelatin are among the foundations of compostables. Polylactic acid plastic (PLA), made from tapioca roots, corn starch, and other organic materials, is another compostable option that acts like plastic but breaks down like natural materials. Some of the containers made with these materials are printed with soy or water-based inks, which also degrade. In general, compostables rival traditional plastic for strength, are grease- and leak-resistant, and are safe to microwave and freeze.

Similar to recyclables, success in achieving sustainability goals associated with compostable food programs depends on many factors. Cooperation of those partaking of the food, proper labeling and education to provide clarity on what is and is not compostable at work and home, separation of contaminants, and the availability of local composting facilities are among those. Bins labeled for correct disposal of the waste also provide direction, not dictation, of behavior.

## Reusables

Reusables seem the logical choice for the most sustainable take-out containers as they only need to be generated once, can be used multiple times, and are durable, hygienic, easy to clean, and recyclable at end of life. Materials composing reusables include stainless steel, glass, and ceramic, as well as FDA-approved, food-grade polypropylene. And adding tops or lids made of a reusable or compostable material sealed with silicone adds to their eco-friendliness. The volume of water and energy required to clean and sanitize reusables does somewhat offset that positivity, however, though increasingly efficient commercial dishwashers are changing that dynamic.

Again, the participation of the end users of the containers impacts program outcomes, as they must return the reusables to the appropriate location — preferably by an environmentally friendly means like walking or biking. Some consumers may choose to keep the containers for home use, thereby removing them from the process and increasing the chance for improper disposal in the future. A joint venture between the corporate world, governments, and other partners to develop the infrastructure and incentives for a circular ecosystem, and engage in a change management effort will help make reusables consumers’ preferred option.





# Measuring the Pros and Cons

When determining the viability of recyclable, compostable, and reusable containers for a particular food service use, an organization must first develop a strategy that fits its unique culture, needs/expectations of its people and/or customers, budget, facility profile and purpose, and sustainability commitments. A few things to consider about each of these options:

## Recyclables

Labels indicating a container's suitability for recycling have been around for a long time, and many municipal, county, and state regulations provide guidelines for mandatory or voluntary recycling in their areas. Success has likely peaked, both on residential and commercial levels. When considering a program based on recyclables, analyze and account for employee/customer/user behaviors, beliefs, and past participation — and the potential need for a significant change management initiative — when determining the best direction.

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## Reusables

For food service providers, reusable containers are probably the best alternative over the long term. Similar to compostables and recyclables, the initial production of these packages consumes resources and produces greenhouse gas emissions, however. And, depending on the program chosen, can also require use of fossil fuels for pick-up and delivery, as well as water and energy for washing and drying. The circular eco-system created through reusables can outweigh much of that, as their longevity significantly reduces the need for replacements, and when retirement is necessary, the foundational materials are mostly recyclable and appropriate for manufacturing into new reusable containers.

## Compostables

Compostables are a visible indication of a food service provider or corporate organization's commitment to the planet's health. And in a time where principles and values make a difference to talent, those kinds of initiatives can mean the difference between hiring the best — or not. While compostables are a positive solution for protecting take-out food given that they theoretically break down into an environmentally friendly substance, some facts should be understood to ensure the compostables chosen offer the most benefits.

Not all composting facilities accept "compostable" products. They can be hard to sort as some contain "forever chemicals" or conventional plastics impossible to screen out. Certain brands of paper and bamboo straws, for example, are treated with PFAS (per- and polyfluoroalkyl substances) to resist/repel water and other liquids. These toxic chemicals have long lives and infiltrate the human body, causing health issues.<sup>11</sup> Additionally, an appropriate commercial composting facility must be available to accept the waste. Few of those exist in the United States.

When the full lifecycle of some compostables is reviewed (manufacturing, transportation, disposal), the results reveal a greater environmental impact than non-compostable materials or compostable materials treated via recycling, landfilling, or incineration.<sup>12</sup>

Some compostable packaging does not actually create much compost as the materials in those containers break down into water and carbon dioxide during the composting process.

# Proper Change Management is Critical

Given the impact of employee or customer behavior on any of these sustainability initiatives, a carefully executed change management program increases the likelihood of success in a location where sustainable behaviors have not been emphasized.

While mandating specific actions can bring about compliance, education around expected behavior, the impact current norms are having, how individual acts can protect the future, and the value derived from acceptance will generate buy-in and even pride from participants.

The University of Michigan recommends informational labels on containers; signage in restaurants, on-site cafeterias, and other food locations; guidelines on websites, social media, and other digital channels; and employee meetings, webinars, and dialogues as a few avenues for communicating new initiatives. Providing multiple locations for return of reusables as well as proper disposal of recyclables and compostables will encourage participation. Larger-scale efforts incorporating common containers across several restaurants, corporate facilities, and even communities can help ease objections, create circular systems, and reduce the likelihood of trips with the sole purpose of returning containers.<sup>13</sup> AI-enabled, engaging waste sort and tracking technology such as OSCAR Sort and Winnow can educate and assist participants at corporate food facilities in making the right choices when disposing of containers, while also acting as another visible representation of the organization's commitment.

As mentioned earlier, incentives or penalties tied to money may also drive participation. Discounts given for either returning reusable containers or bringing one's own container; deposits, surcharges, or "rents" for reusable containers; and recognition and rewards for certain behaviors can inspire. Gathering feedback after an adjustment period will help refine sustainability programs so they optimally function for specific environments and cultures.

## Leveraging Commitments

Most younger workers already understand and embrace sustainable practices, so that cohort should not need a sustained level of change management to act responsibly. And everyone likes the idea of being part of a solution, so tying sustainable behavior to rewards or positive recognition may prove a driver for many others, regardless of their personal beliefs on the environment.

Strategic, publicly-declared commitments to sustainability and measurable results testify to the value an organization places on people, community, and the planet. They also boost reputation and brand — and can act as a deciding factor in attracting and retaining talent, investors, customers, and clients with similar philosophies on environmental justice in today's competitive business climate.

**Who knew choosing to use sustainable take-out containers in an on-site corporate cafeteria could have such an impact on a business' overall success?**

# Making it Happen

Implementing sustainable practices and initiatives that manage resource consumption, waste, and behaviors should be a priority for most workplaces. For those that offer on-site food services and have yet to accelerate their commitments, a few strategic actions regarding environmentally friendly food packaging and containers can move things in the right direction.

## Research

Research the options available in the area. Do facilities or specialty providers exist locally for recycling, composting, or management of reusables? What have organizations of comparable size or sector chosen? How do other employees feel about potential programs? How much could such a significant change cost?

## Plan

With assistance from like-minded individuals, lobby the appropriate leaders for an update to the organization's sustainability commitment that implements the right kind of containers for take-out food from on-site facilities. Be prepared with facts, relevant examples, various options, and information on how a seemingly minor move can have outsized benefits. Emphasize that the program chosen is a system that requires constant feedback and maintenance to remain effective and easy to use.

## Implement

Encourage colleagues, clients, and customers to expand the impact of workplace initiatives by taking those sustainability practices and applying them to personal life. Serve meals on reusable ceramic or china instead of paper and plastic plates; drink from glass instead of plastic cups; and eat with stainless steel rather than plastic cutlery. Invest in quality, reusable corningware, glass, or stainless steel food and beverage containers. Be conscientious about properly cleaning and separating recyclables from other trash.

## Sustainability at Scale

### Maximizing Reusables with Re:Dish

Connecticut-based Re:Dish delivers exceptional reuse solutions that empower organizations to adopt circular practices, meet their sustainability targets, and drive positive change at scale.

For an ISS client in the New York Region that cycles through thousands of take-out containers every week, Re:Dish's Reusable Dishware program is furthering an already strong sustainability commitment.

Re:Dish delivers and collects the reusables — made of FDA-approved, food-grade polypropylene free from BPA and PFAS chemicals — from several client cafés; cleans and sanitizes them at its own industrial washing facility; and then returns them to the client's locations for future meals. By providing the product, logistics, and support necessary for management of the client's reusables initiative, Re:Dish is helping tackle single-use waste and produce measurably impressive results toward the client's goals.



# Celebrate the Results

Regardless of whether the chosen program involves recyclable, compostable, or reusable containers, proper implementation, training, communication, and commitment will yield results relatively quickly.

Sites will be able to measure a reduction in container waste sent to landfills — especially the non-degradable and toxic materials that can also end up polluting waterways, the air, and the environment. With the right tools, organizations can understand how their actions toward a circular eco-system scale back the greenhouse gas emissions associated with excessive energy use, fossil fuel use, unnecessary waste, and in the case of reusables, the constant production and disposal of used containers. People, animals, and plants will see better health as contaminants lessen, which translates financially to less money spent on healthcare and more productivity and well-being in the workplace.



## ABOUT ISS

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