#SustainabilityGoals: Shrinking Food Waste to Zero

The Zero Waste movement is a global effort to wipe out food waste in retail by 2030.

By Lia Vidot

In 2015, 193 countries adopted the United Nation's 2030 Agenda for Sustainable Development. [Sustainable Development Goal 12.3](#), which seeks to "halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains", has propelled the food retail sustainability movement. With this goal in mind, the [United States](#), [Canada](#), and [European Union](#) developed detailed food policies and are [working with the UN to standardize how to measure and track food waste and loss](#) across the supply chain.

The two segments identified with the largest addressable food waste are customer-facing businesses and residential consumers. Nearly 80% of food waste comes from perishable foods, primarily produce, dairy, and grain products. In response, many food retailers are committed to becoming zero waste companies, diverting 90% or more of their waste from the landfill. In Canada, the zero-waste movement progressed quickly because of the country's consolidated marketplace with five grocers controlling 80% of the market, all committed to aggressive waste reduction targets. Even with sustainability and food waste a growing concern among shoppers, only [three of the ten largest American food retailers](#) have rolled out zero waste programs.

As the Zero Waste movement gains a global effort to radically reduce food waste, are these incremental improvements enough to wipe out food waste in retail by 2030? The massive disruptions to daily life from the coronavirus pandemic have changed consumers' behaviors to re-evaluate their priorities to limit food waste in the home as a top concern, ranking above

shopping health- or cost-conscious, [an Accenture survey found](#). Nearly 70 percent of shoppers in the study will continue to limit food waste post-outbreak.

To win consumers' loyalty today, brands have to do more than simply prove their ethical credentials by supporting environmental causes, and instead embrace a holistic approach that creates social, environmental, and economic value, a recent [Euromonitor International whitepaper said](#).

On the macro-level, slashing food waste addresses climate change by reducing greenhouse gas emissions and ensures food security amidst rising food costs and populations.

For food retailers, the benefits are even greater. On average, the value of food waste is equal to double the profits from food sales. With an overwhelming array of options, what is the best way to recover this lost revenue? Ugly produce programs, consumer education programs, food bank donations, and upcycling ingredients are common methods but do not provide the highest return on value. Using the U.S. Environmental Protection Agency's Food Recovery Hierarchy to prioritize actions and technology that targets the topmost layer, [Source Reduction](#), supermarkets can prevent and divert the most food waste.
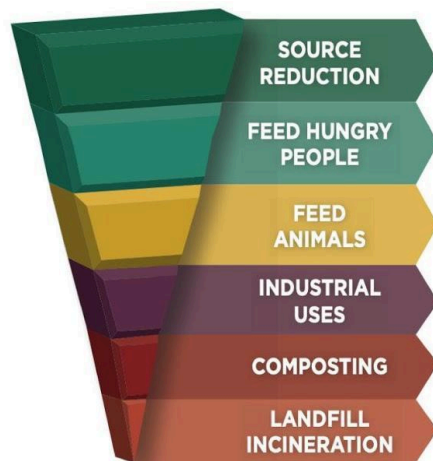
ACTIONS AND TECHNOLOGY THAT TARGET PREVENTION ARE THE MOST EFFECTIVE WAYS TO REDUCE FOOD WASTE

Cost of Food Waste to Food Retailers

Poor waste management practices can negatively impact a retailer's corporate reputation, employee engagement, carbon footprint, energy, waste hauling expenses, and cost of goods. The financial cost of food waste is expected to grow over the next five years due to increasing demand, fuel price fluctuations, weather volatility, and labor costs.

Studies that calculate the cost of food waste by averaging wholesale or retail costs don't show the true cost to businesses. Again, and again, researchers, consultants, and government agencies argue the case that supporting prevention is the strongest because it saves grocers

from not only paying to purchase product but also paying to discard or recover it. In Canada, a survey of food retailers found 45% of food waste is donated and 25% is discarded in landfills. A similar American survey demonstrated slightly better practices, with waste being fairly distributed between donation, animal feed, and composting.

Whatever food recovery model you adhere to, the Zero Waste Hierarchy, or the EPA's Food Recovery Hierarchy, it looks the same. An inverted triangle made up of stacked actions with the best and most beneficial prevention options at the top, cascading down to least environmentally responsible diversion options at the tip. The purpose is to aid organizations in prioritizing management strategies for effectively handling their inevitable food waste.

"The Food Loss and Waste that occurs in the industry is commonly a symptom of inefficiency," Second Harvest wrote. A food technology solution that targets the most-often reported inefficiencies of spoilage and inaccurate forecasts will prevent food waste, narrowing the top of the funnel. The amount of edible and inedible food waste that must be recovered and disposed of is lessened for each of the following actions, together with the accompanying sorting, handling, storage, disposal (tipping fees), and transportation costs.

In its Retail Food Waste Action Guide, ReFED analyzed potential prevention, recovery, and recycling solutions. They found that "prevention solutions offer the highest returns to retailers" and "create three times the societal net economic value of recovery and recycling solutions combined." Specifically, enhanced demand forecasting and improved inventory management were rated as having high potential profit, diversion potential, and economic value. To achieve a high potential profit valuation, a solution must offer retailers a net annual profit greater than 2.5% of total food costs.

Waste Not, Want Not

Food waste risks exist throughout the food value chain and can be controlled at each stage. This diagram shows potential mitigation points for prepared foods, including deli, meat, bakery, value-add produce, or foodservice.
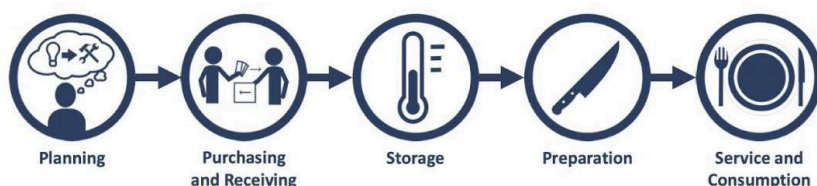
FOOD WASTE RISKS CAN BE MITIGATED AT EVERY STAGE OF THE PRODUCTION PROCESS

Diagram from BC Ministry of Environment and Climate Change Strategy,"Foodservice Food Waste Prevention, Toolkit Report for Restaurants, Drinking Places and Specialty Foodservice Operators"

The foundation for effective waste management is a food technology solution, based on a centralized demand forecasting engine, to manage each stage of the transformation process, from ordering to merchandising. These specialized solutions monitor all incoming and outgoing goods, especially known loss (sometimes referred to as shrink) and they provide recommendations regarding the quantity of goods needed to meet demand and how much prepared food stores should make to maximize their sales.

Many reports blame oversupply and inadequate on-site storage for spoilage that could have been prevented with continuous cold storage, and fewer inventory touches and movements. Automated replenishment prevents food waste in two different ways: ensuring that order quantities are data-driven to order the right product at the right time, thus minimizing spoilage and improving poor inventory management processes. Automated ordering calculates supplier order volumes based on forecasted demand, retailer merchandising strategies, production plans, product yield from recipes, inventory levels, and historical sales. With this sophisticated level of data integration, grocers are assured their orders are right-sized for both sellable products and backroom ingredients. Retailers using automated replenishment operate in a just-in-time model, continuously moving smaller volumes of fresh food faster, with minimal touching, ensuring adequate storage space for inbound inventory.

Deli and foodservice are especially inefficient; overproduction is the most common source of food waste in these departments with well over 8% shrink. Production planning automatically generates an itemized list of all the food store associates are required to make that shift, deducting existing on-shelf inventory and mapping production to the day's forecasted demand, thereby minimizing overproduction.

Another source of waste is production errors when the wrong item is made, or it is made incorrectly. Store associates can refer to a company's set of standard recipes using recipe management for step-by-step preparation instructions and ingredient quantities, ensuring proper yields and consistent, high-quality food. In-store printers generate customized nutritional labels with 'sell-by' or 'prepared on' dates so associates can track and maintain product freshness. Production planning ensures associates prepare the correct items, while recipe management provides guidelines for quality. Employed together, they reduce production errors.

A food technology solution maximizes product freshness and quality at every stage, so food retailers attain the highest possible sell-through rate. After all, consumers will not purchase low quality food that does not meet their fresh expectations, leading to more food waste.

The [Climate Collaborative released a more detailed version of the EPA's Food Waste Recovery Hierarchy](#), applying it to food retailers' operations.
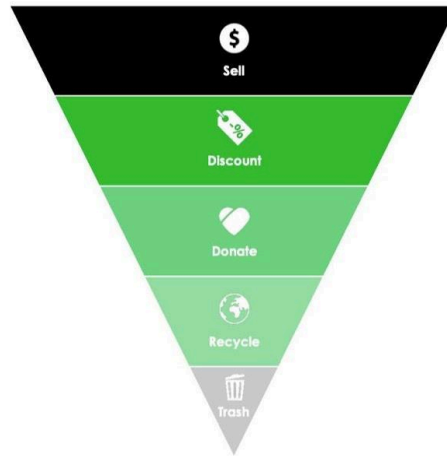
THE RETAILER'S FOOD RECOVERY HIERARCHY

Diagram from The Climate Collaborative's webinar, "[Tackling Food Waste Amid Disruptions & Demand Shifts](...)"

Measuring and tracking waste is the first step in understanding and addressing the problem. Measuring allows the establishment of zero waste benchmarks, against which food retailers can compare their progress and evaluate the success of new practices. A food technology solution enables store associates to quickly conduct a daily waste audit by scanning UPCs and recording the reason for the stock-out. Shrink tracking corrects real-time inventory levels, informing replenishment and production recommendations. The daily waste audit helps controls overstocks and allows store associates to identify goods that are approaching their date labels for markdown (discount), to encourage a quick sale. Random weight items and their markdowns are tracked through the POS system, giving food retailers visibility into the effectiveness of their markdown program. It's better to sell an item at a lower margin or a slight loss than incur costs to recover or throw it away.

Conclusion

Grocers are leading the way when it comes to tackling food waste, but they will come under harsher scrutiny by consumers and governments as the 2030 deadline approaches. "Consumers' attitudes towards sustainability topics are changing and corporations are responding to the pandemic by putting purpose first, while protecting the triple bottom line," [Euromonitor International said](...). Consumers still struggle with greenwashing with 80% feeling confused about which products are actually better for the environment. To build trust, sustainability initiatives must be transparent, visible, and engaging.

A fresh food technology solution offers food retailers the most impactful financial and waste savings by preventing and minimizing waste at every stage of a retailer's operations, empowering them to achieve zero waste. The measurement and tracking capabilities

incorporated into routine workflows gives organizations the information they need to benchmark, improve, and impress.