PACKAGING AWAY THE PLANET U.S. GROCERY RETAILERS AND THE PLASTIC POLLUTION CRISIS

GREENPEACE

Greenpeace is a global network of independent national and regional Greenpeace organizations that uses peaceful protest and creative communication to expose global environmental problems and to promote solutions that are essential to a green and peaceful future.

Published June 2019 by **Greenpeace USA**[†] 702 H Street NW Suite 300 Washington, DC 20001 Tel: 202.462.1177



Printed on processed, chlorinefree, 100% post-consumer waste recycled paper on a windpowered press.

Written by: David Pinsky & James Mitchell Designed by: Samantha Garner Edited by: Joan O'Callaghan

Cover © Nandakumar S. Haridas / Greenpeace

An unregulated waste-processing facility in Jenjarom, Malaysia. See Greenpeace Southeast Asia. The Recycling Myth. 27 Nov. 2018. www.greenpeace.org/southeastasia/ publication/549/the-recycling-myth.

Acknowledgments

Special thanks to: James Mitchell, Samantha Garner, Joan O'Callaghan, Jacob Hardbower, Kelly Horigan, Maggie Ellinger-Locke, Tim Aubry, Kate Melges, Ivy Schlegel, John Hocevar, Graham Forbes, Perry Wheeler, Linda Rodriguez, Anna Wagner, Isabelle Geczy, Jeremiah Lowery, Jill Pape, Kaitlyn Trent, Chris Eaton, Maggie Mullen, and Myra Valenzuela.

greenpeace.org

¹Greenpeace Inc. is a registered Internal Revenue Service 501(c)(4) nonprofit entity that operates in the United States of America.



TABLE OF CONTENTS

SCORECARD

3

1085

- INTRODUCTION
- **12 THREE WAYS RETAILERS MUST ACT**
- **14 SOLUTIONS AND DISTRACTIONS**
- **17 COMPANIES EVALUATED AND METHODOLOGY**
 - 8 RETAILER PROFILES
- 40 GLOSSARY
- **42 ENDNOTES**

© Justin Hofman / Greenpeace Plastic bottle found drifting in the Great Pacific Garbage Patch. Living on the bottle were bryozoans, nudibranchs, crabs, and barnacles.

2019 SUPERMARKET PLASTICS SCORECARD



INTRODUCTION

The entire lifecycle of plastic production, use, and disposal is destroying our communities and environment.1 "[A]t every stage of its lifecycle, plastic poses distinct risks to human health, arising from both exposure to plastic particles themselves and associated chemicals," and most people worldwide are exposed at multiple stages of this toxic lifecycle.² Major oil companies profit from sending their raw material to plastics manufacturers, that in turn pollute (generally lower-income)ⁱⁱ communities in the U.S. and abroad.³ As plastics continue to overwhelm landfills and oceansand even invade our food, water, and air-plastics producers are seeking to increase plastic production by an additional 40% over the next decade,⁴ and guadruple production by 2050.⁵ The impending (and unforeseen) consequences of such a greedy, irresponsible growth model are chilling.

Many plastics are designed for single-useⁱⁱⁱ purposes, where customers have a product for mere seconds or minutes before the plastic is removed and disposed of. Most single-use plastics are not or cannot be recycled properly, and thereby end up polluting our oceans, waterways, and communities, negatively impacting our health directly, as well as the health of land- and marinebased ecosystems.

One of the key places where billions of people interact with plastic on a daily basis is their local supermarket. As grocery retailers^{iv} worldwide start to address their plastic footprints, it is time for U.S. retailers, including behemoths like **Walmart**, **Kroger**, **Costco**, **Albertsons Companies**, and **Ahold Delhaize**, to take demonstrable action to markedly and immediately reduce their plastic footprints. Greenpeace has more than a decade of experience evaluating U.S. retailers on seafood sustainability.^v And while more recent Greenpeace evaluations have increasingly focused on single-use plastics, this report is the first of its kind to evaluate how major U.S. retailers are working to address the global plastic pollution crisis. This assessment should serve as a baseline measurement of U.S. retailers' sustainability performance on single-use plastics. All retailers profiled in this report received failing scores, indicating how much work is needed to urgently address the plastic pollution crisis. Current initiatives range from painfully inadequate to small steps in the right direction. While a few companies have invested effort in reforming some areas of their overreliance on plastic, not one has done enough to tackle the growing plastic pollution crisis. Unfortunately, most retailers do not even know the extent of their plastic footprints, as they fail to track the plastic packaging of their suppliers or even their own private label products. As the public demands action and companies sign on to initiatives like the Ellen MacArthur Foundation's New Plastics Economy Global Commitment to eliminate plastic pollution at its source,⁶ the days of no transparency and limited action are at an end.

This is a wake-up call. This is the moment for retailers to envision their future. Will U.S. retailers lead in developing innovative alternatives to wasteful single-use packaging, or continue to make current and future generations pay the price for their complacency?

Neither policy makers nor customers are likely to wait long.



^{II} Low-income communities face more health impacts near plastic production sites, have greater exposure to toxins and waste, and bear the brunt of the impacts of improper plastic disposal and incineration. See Jones, Van. "The Economic Injustice of Plastic." *TED*, Nov. 2010, www.ted.com/talks/van_jones_the_economic_injustice_of_plastic#t-257079. ^{III} Single-use refers to any product or packaging that is intended or designed for one-time use, regardless of the recyclability of any component materials.

^{iv} Referred to henceforth as retailers.

^v Similar to Greenpeace's findings when it first started evaluating retailers on seafood sustainability, retailers nationwide are doing next to nothing to address the plastic pollution crisis. See Greenpeace USA. *Carting Away the Oceans 10*. 15 Aug. 2018, www.greenpeace.org/usa/reports/carting-away-the-oceans-10.

Significant Findings

This report assesses 20 U.S. retailers with a significant national or regional presence. None of the 20 profiled retailers achieved a passing score and **none of the profiled retailers has ambitious, comprehensive commitments commensurate with the scale of the plastic pollution crisis**. Very few retailers have plastic reduction targets at all,^{vi} and not one appears to have absolute reduction targets (i.e., reducing the total number of plastic packaging units instead of merely lightweighting^{vii} them). Most retailers have limited data about their plastic footprints, and even fewer seem willing to report with the level of transparency needed to assure the public that they are indeed reducing their plastic footprints. Given the urgency of the problem, the scale of these retailers' operations, and their customers' rapidly growing concerns about plastic pollution, Greenpeace expects to see considerable change over the next year.

- While falling just short of a passing score, **ALDI** is the highest-ranked retailer. **ALDI** has several initiatives that most other retailers do not: a specific plastic reduction target, a more comprehensive plastic reduction plan, greater transparency, and a commitment to implement reuse and refill delivery systems.
- The Kroger Co. ("Kroger," ranked 2nd) is the only top-five retailer (by revenue) that has committed to ban single-use plastic checkout bags; however, it does not have a comprehensive plastic reduction plan. Like Albertsons Companies (3rd) and Walmart (6th), Kroger is largely focused on recycling and lacks transparency. However, its recent partnership with Loop could signal promising change if Kroger invests more heavily in reuse models.
- Albertsons Companies ("Albertsons," ranked 3rd) is narrowly behind Kroger (2nd) and ahead of Walmart (6th). While Albertsons has a public commitment to "decrease plastic usage, with an emphasis on singleuse plastics,"⁷ it lacks a specific reduction target.
- Trader Joe's (ranked 4th) responded to customer feedback and has begun eliminating unnecessary packaging in stores nationwide. While plastic this is a start, it is unclear whether the retailer will announce ambitious plan to reduce an and ultimately phase single-use plastics. out
- Sprouts Market ("Sprouts," ranked **Farmers** performed poorly across most categories. 5th) However, its passing transparency score markedly its overall performance. **Sprouts** improved is engaging its suppliers and experts as it develops a more comprehensive single-use plastics policy.

- While they are far from the scale needed to tackle the plastic pollution crisis, each of the following retailers has various public commitments and/or plans:viii ALDI (ranked 1st), Kroger (2nd), Albertsons (3rd), Trader Joe's (4th), Walmart (6th), Target (8th), Costco (9th), Wegmans (10th), Whole Foods (11th), and Ahold Delhaize (13th).
- Especially given their brand recognition and/or sheer size, it is troubling that Publix (ranked 15th), Meijer (18th), Wakefern (19th), and H-E-B (20th) had so little to offer.^{ix} In addition to very little public information about their initiatives, many of these retailers appear to be stuck in the 1990s, with a large focus on recycling.
- Too many retailers, including Kroger (ranked 2nd), Walmart (6th), and Target (8th), are prioritizing recycling strategies at the expense of more ambitious, specific reduction targets for single-use plastics. And, even worse, retailers like Albertsons (2nd), Hy-Vee (7th), and Target (8th) support incineration and/or pyrolysis of plastics.^x Retailers must stand up to the petrochemical industry and avoid these dangerous practices that pollute our air, water, and soil.
- Walmart (ranked 6th), Target (8th), and Ahold Delhaize (13th) are signatories of the Ellen MacArthur Foundation's New Plastics Economy Global Commitment (EMF Global Commitment) to eradicate plastic waste and pollution at the source. But a commitment is just the first step; each of these retailers must detail how it will significantly reduce its plastic footprint.
- Meijer (ranked 18th), Wakefern (19th), and H-E-B (20th) were the three worst performers, with zero comprehensive public commitments to meaningfully tackle their role in the plastic pollution crisis.

*Read about the Hefty EnergyBag Program on page 8.

vi Only ALDI, Kroger, and Wegmans have specific, publicly available, plastic reduction targets.

^{vii} A design process used to reduce the overall amount of plastics required (by weight) to produce packaging, though *it does not reduce the number of packaging units*. Rather than lightweighting, Greenpeace recommends a complete phase-out of single-use plastic packaging, and that retailers focus on reducing the *total number* of single-use plastic units.
^{viii} Which do not rely exclusively on commonplace initiatives (e.g., recycling, plastic bag reduction strategies).

^{ix} Greenpeace was unable to identify any form of more comprehensive public commitments or policies for these retailers. While these retailers may have or may be developing more comprehensive policies, because of a significant lack of transparency from many U.S. retailers on their goals, strategies, and processes to reduce their plastic footprints, Greenpeace is unable to more fully report on their initiatives.

The Plastic Pollution Crisis

We can no longer ignore the growing public health and environmental crises perpetuated by plastics, nor plastics' contribution to catastrophic climate change. Many retailers that tout their climate goals neglect to talk about the massive amounts of single-use plastic products they sell every day that are produced from oil and gas.

Fracking is a highly destructive method of natural gas extraction that is poisoning communities and has led to a surplus of natural gas in the U.S.⁸ That same natural gas from fracking is a cheap feedstock that has incentivized major oil companies to turn excess fossil fuels and chemicals into plastic. Oil companies like Shell and ExxonMobil have invested more than \$180 billion in new plastic production facilities,^{9 10 11} which is grim news when scientists already caution plastic production is creating "near-permanent contamination of the natural environment."¹²

Plastic production releases carcinogenic and other highly toxic substances into the air. The effects of exposure to these substances include **"impairment** of the nervous system, reproductive and developmental problems, cancer, leukemia, and genetic impacts like low birth weight."¹³

Workers and communities near refining facilities can "face both chronic exposures and acute exposures due to uncontrolled releases during emergencies."¹⁴ And the destructive life of plastics has just begun.

Single-use plastics are used for moments and then last lifetimes. Plastic never goes away; it fragments into smaller pieces that disperse throughout the natural environment.¹⁵ Fragmented plastic particles, including microplastics,^{xi} are found in the food we eat,¹⁶ the water we drink,¹⁷ and the air we breathe.¹⁸ Toxic microplastics are eaten by marine animals,¹⁹ which are then consumed by people all over the world as seafood. And plastic is literally everywhere-from the deepest points in our oceans²⁰ to remote mountain peaks.²¹ Scientists have documented nearly 700 marine species-including seabirds, turtles, and whales-impacted by ocean plastics.²² Up to 9 in 10 seabirds,²³ 1 in 3 sea turtles,²⁴ and more than half of whale and dolphin species have ingested plastic.²⁵ A dead whale that washed up on a Philippine beach in March 2019 was found to have ingested an incredible 88 pounds of plastic.²⁶ In April, an emaciated baby dolphin died after being stranded on a Florida beach—it had eaten plastic bags.²⁷

As plastics enter the food chain, a growing body of research is looking into their pervasiveness and health impacts. Microplastics have been found in human stools,²⁸ indicating that we may be routinely exposed to them through the food we eat. Microplastics can also act as carriers for toxic pollutants and additives, perhaps delivering such chemicals more directly to the body tissues of animals that have consumed them.²⁹ And even the simplest plastics, including those mass-produced single-use plastics for food packaging, can act as sponges in the environment, absorbing and building up a burden of persistent organic pollutants over many years.³⁰ Synthetic microfibers are even smaller than microplastics (smaller than a human cell) and shed off of clothing. Some scientists estimate that the average person's body contains 3-5 million synthetic microfibers, which exhibit toxin-absorbing capabilities that may exceed those of microplastics.³¹

We are only beginning to fully appreciate the full scale of the human health impacts associated with this grand, destructive experiment. If the impact of plastics on animal health is any sign, humans may also be headed toward a public health crisis.³²

All food providers, including retailers, should be concerned about the potential health impacts of toxic additives and food packaging chemicals that are in direct contact with food, since few of these chemicals have had health risk evaluations.³³ Per- and polyfluoroalkyl substances (PFAS) are chemicals of particular concern.^{xii}

They have been linked to damage of the liver and immune system, as well as cancer,³⁴ and are frequently used as a lining on paper food containers, such as those used at self-serve salad and hot bars.³⁵ Concerns are growing about the impacts on reproductive health of several endocrine-disrupting chemicals, such as phthalates, bisphenols, and styrene, which are commonly used in single-use plastics. The American Academy of Pediatrics has urged the U.S. Food and Drug Administration to review these chemicals, and has recommended that people avoid heating food in plastic containers and use alternatives to plastic whenever possible.³⁶

We are entering a new era of culpability and liability when it comes to the harm that plastics can have on human health. According to Greenpeace USA Oceans Director John Hocevar, "it may be just a matter of time before companies using plastic packaging have their own 'Big Tobacco moment,' where executives are called to testify in court as to what they knew about the health impacts of plastic packaging, when they knew it, and what they did about [it]."³⁷ When studies showed preliminary evidence that plastic harms human health, the scientists involved reported industry intimidation when they attempted to speak publicly about their findings.³⁸ The harm that discarded plastic products produce in our shared environment, as well as potential harm from the direct transfer of toxic substances from what was formerly believed to have been food-safe plastic onto the food that we eat, may soon be an area ripe for litigation, particularly if it can be established that the plastics industry was aware of these harms.

Throughout its entire lifecycle, the threats of plastics persist from production to use and disposal. Plastics remain in our environment and continue to release toxins even after their temporary utility is long gone.³⁹ When considering the true cost of plastic, paying such a heavy price for its often frivolous and fleeting uses is ludicrous.



^{xi} Microplastics are pieces of plastic smaller than 5 millimeters.

^{aii} While Whole Foods and Trader Joe's have taken initial steps to eliminate PFAS from their packaging, many retailers—including Kroger, Albertsons, Ahold Delhaize—still need to act. See Schade, Mike, and Laurie Valeriano. "Whole Foods, Trader Joe's, Pledge Initial Action on Toxic PFAS." *Safer Chemicals, Healthy Familes*, 12 Dec. 2018, **saferchemicals.org/2018/12/12/** whole-foods-trader-joes-pledge-initial-action-on-toxic-pfas.

Why We Cannot Recycle Our Way Out of the Problem

The companies that stand to financially profit from this broken system are also the same actors that promote recycling as the solution.^{40 41} Many consumer goods companies,^{xiii} such as Nestlé, PepsiCo, and Procter & Gamble, have corporate social responsibility (CSR) initiatives that place responsibility on the end consumer.^{42 43 44 45 46} Most of these initiatives focus on recycled content, "optimizing" packaging (i.e., lightweighting),^{xiv} and better labeling of items for (potential) municipal recycling.

In a consumer goods company survey conducted by Greenpeace International in late 2018, none of the profiled companies, including Nestlé, Coca-Cola, PepsiCo, Unilever, and Danone, had commitments to substantially move away from, or reduce their dependence on, single-use plastic packaging.⁴⁷ Every corporate commitment made by these companies endorses a business as usual approach, allowing the total amount of single-use plastic packaging units to continue to grow.⁴⁸ Unfortunately, several of the profiled retailers in this report have also sought to over-emphasize the consumer's responsibility in curbing the plastic pollution crisis. Even countries with more robust recycling infrastructure fail to effectively recycle plastic. In 2015, the U.S. recycled only 9.1% of its plastic waste,⁴⁹ which is usually downcycled.^{xv} U.S plastic recycling rates could even drop to as low as 2.9% in 2019.⁵⁰ Globally, more than 90% of all plastic ever produced has not been recycled.⁵¹ The staggering amount of plastics in our oceans alone estimated to be more than 5 trillion pieces, weighing more than 250,000 tons⁵²—is testament to the worldwide failure of recycling.^{xvi}

China recently halted imports of nearly all foreign trash and recyclable waste, including from many U.S. cities, which resulted in an increase in waste exports to Southeast Asia.⁵³ Many U.S. cities now resort to landfilling formerly recycled items⁵⁴ or disposal practices typically associated with developing countries—burning trash.⁵⁵ Incredibly, six times more plastic waste is burned in the U.S. than is recycled,⁵⁶ and globally, of all the plastic ever produced, more has been burned than recycled.⁵⁷ Burning plastic is known to release carcinogenic pollutants, which lead to a wide array of debilitating human health impacts.⁵⁸



^{xiii} The consumer packaged goods sector represents one of the largest industries worldwide. It is mainly comprised of companies that supply low-cost products that are in constant high demand, such as food, drinks, personal hygiene, and household cleaning products. These "fast-moving" items, purchased on a regular basis by households, are nondurable with a short shelf life, and are mostly sold at a low profit margin in high volumes.

*** Greenpeace recommends a complete phase-out of single-use plastic packaging, and that retailers focus on reducing the *total number* of single-use plastic units instead of lightweighting. Regardless of whether it is conventional or lightweight plastic, if that plastic enters the environment it will still have detrimental effects.

^w When the resulting material after the recycling process is of a lower quality and/or functionality than the original material, and cannot be used to make the original product again. This is contrasted to an aluminum can, which can be recycled and made into another identical aluminum can.

^{xxi} Additionally, agriplastics (plastic sheeting that is used as crop cover, greenhouse covers, and drip tape) from farming are difficult to dispose of and are often burned or abandoned, thereby ending up in local waterways. Similarly, abandoned fishing gear pollutes beaches and our oceans, and can entangle and kill marine life.

Unbelievably, retailers like **Albertsons**, **Target**, and **Hy-Vee** participate in the Hefty EnergyBag Program,⁵⁹ which is marketed as a "solution" to reclaiming non-recyclable plastics. The Hefty EnergyBag Program misleads consumers and distracts from real solutions like plastic reduction and reuse.^{60 61} Well-intentioned customers purchase these bags and place their non-recycled plastics in them, and then those plastics are incinerated or turned back into fossil fuels which are later burned.^{xvii} This program has been linked to burning plastics in a Missouri-based cement kiln that violated the Clean Air Act.^{62 63}

Between the strong likelihood that the plastic destined for "recycling" is actually being burned, and the reality that even recycled plastic is actually downcycled and has little economic value, **recycling alone is not the answer**: we cannot recycle our way out of this problem (for more, see page 15). The only way to reverse this trend is to completely reimagine the way products are produced, shipped, consumed, and disposed of. We need an entire redesign and immediate focus on reusable products and closed-loop systems—not more corporate greenwashing.

The only way to reverse this trend is to completely reimagine the way products are produced, shipped, consumed, and disposed of.

STOP SINGLE-USE PLASTIC!

© Arnaud Vittet / Greenpeace

x^{wii} Via pyrolysis. See Wilson, Monica. "The Answer to Plastic Pollution is to Not Create Waste in the First Place." *The Guardian*, 26 Dec. 2018, www.theguardian.com/commentisfree/2018/ dec/26/pollution-plastic-waste-environment-china.

Legislative Efforts and Changing Consumer Attitudes

Legislation and rapidly changing consumer attitudes are creating yet another incentive for retailers to move quickly. As concerns about plastic pollution grow, municipalities, countries, businesses, and people worldwide are taking action. Many governments are banning different types of single-use plastics-most commonly, plastic bags. Morocco used to be the secondlargest plastic bag consumer after the U.S., using about 3 billion plastic bags a year; in 2016, it banned plastic bags nationwide.⁶⁴ China, India, Italy, and France, and more than a dozen African countries have some form of plastic bag ban.65 66 In 2018, the EU adopted the European Strategy for Plastics in a Circular Economy⁶⁷ to help "transform the way plastic products are designed, used, produced, and recycled."68 Then, the European Commission proposed new rules to target the 10 singleuse plastics most commonly found on Europe's beaches and in its seas, employing both ban and reduction strategies,⁶⁹ which were further amended in January 2019.70

Plastic bag bans have been successful in dramatically reducing plastic bag litter in Washington, D.C., California, Texas, New York, South Carolina, Ireland, and the UK.⁷¹ Several U.S. states have plastic bag bans (California, Hawaii, and New York) or are actively considering proposals in state legislatures.^{72 73 74} Seattle's plastic straw and utensil ban took effect in 2018,⁷⁵ and just north of the border Vancouver, B.C. has voted to ban the distribution of plastic straws and polystyrene take-out containers and cups, to take effect in June 2019.⁷⁶ As of this writing, Berkeley, California's citywide ordinance to eliminate restaurant waste made of single-use food packaging by 2020 is the most forward-thinking approach in the U.S.⁷⁷

Unfortunately, as communities increasingly take action on the worsening plastic pollution crisis, the chemical and plastics industries and front groups like the American Legislative Exchange Council (ALEC) have responded with efforts to protect corporate profits via mass-produced preemption bills meant to "ban plastic bans" in several U.S. states.^{78 79} But the tide of preemptive single-use plastic bans may be turning. Florida's governor recently vetoed a preemptive ban on plastic straws.⁸⁰ And even industry spokespeople sometimes forget to stick to their pro-plastic propaganda. An American Chemistry Council staff member, while attempting to defend polystyrene foam products in Colorado and avoid their replacement, admitted that *recyclable* products do not necessarily mean that they will actually be *recycled*.⁸¹ Some consumer goods companies have resisted proposed legislation on plastic pollution. For example, in October 2018, Nestlé, Coca-Cola, PepsiCo, and Danone lobbied EU member states to scrap a proposal that would force beverage companies to attach plastic bottle caps to bottles (to reduce marine plastic pollution).^{82 83} Note that these are among the same beverage companies that produce roughly 500 billion single-use plastic bottles annually.⁸⁴

While segments of the oil, plastics, and chemical industries and some consumer goods brands may be opposing efforts to reduce plastic use, other large players in the private sector—namely, retailers—are starting to take responsibility for addressing the plastic crisis. UK retailer Iceland's managing director has stated, "The onus is on retailers, as leading contributors to plastic packaging pollution and waste, to take a stand and deliver meaningful change."⁸⁵ In April 2019, Metro Inc. ("Metro"), the third-largest supermarket chain in Canada, took a significant step toward reuse and refill options by permitting customers in Quebec to use their own reusable containers for ready-to-eat meals, meat, seafood, and pastries.⁸⁶

Many smaller grocers have opened zero-waste grocery stores that eliminate single-use plastics from all transactions and incorporate reuse and refill systems. The Wally Shop in Brooklyn relies on a closed-loop delivery system: staff members fulfill customer orders with items from local farmers markets and bulk food stores, bike couriers deliver those orders in reusable packaging, and during the next delivery, that same packaging is picked up for reuse.^{87 88} The company plans to expand across New York City and in other cities nationwide. Similar store formats also exist in Vancouver, Berlin, Vienna, Barcelona, Hong Kong, Kuala Lumpur, Bangkok, Italy, and South Africa.^{89 90 91 92 93 94 95} Further examples of closed-loop systems can be found in the *Solutions and Distractions* section (see pages 14 and 15).

Among American millennials, plastic pollution is now perceived to be a threat on par with oil spills, which has long been their top concern. Further, millennials expect action: 64% surveyed believe that we are likely to make progress in reducing the flow of plastic pollution into our oceans in the next five years.⁹⁶ U.S. retailers would be wise to get ahead of changing laws and consumer attitudes—now.



Retailers Must Raise the Bar for Private Label & National Brands

Retailers are massive contributors to plastic pollution and will play a pivotal role in either exacerbating or solving the global plastic pollution crisis. Retailers are gatekeepers of which products appear on shelves or online, and can determine which national brand products to buy.^{xviii} This is a critical element in reducing waste further up the supply chain, especially among consumer goods companies.

In October 2018, the Break Free from Plastic movement revealed the results of 239 cleanupsxix and brand audits spanning 42 countries and six continents, which included surveying more than 187,000 pieces of plastic trash. The most frequently found polluted items came from Coca-Cola, PepsiCo, and Nestlé products.⁹⁷ As one of the largest food companies in the world, Nestlé sells more than 1 billion products a day, 98% of which come in single-use packaging.⁹⁸ In 2018 alone, the company produced 1.7 million metric tons of plastic packaging.99 Greenpeace urges consumer goods companies to move away from their polluting packaging models and for retailers to leverage their buying power to expedite this transition. If retailers require reuse and refill options from Nestlé and other consumer goods companies, Nestlé and others will have no option but to innovate in order to remain relevant.

To counter the recent decline in market share among large consumer goods companies,^{100 101} and an erosion of brand loyalty and brand shifting by consumers, one industry expert has advised consumer goods companies to "invest in innovation that meets a constant need for change," as "lifetime consumer loyalty is no longer a valid goal."¹⁰² Many people surveyed across

60 countries view private label brands as equivalent to multinational/national brands.¹⁰³ Furthermore, millennials "are very value conscious, they do a lot more product investigation before buying, and they will buy private-label brands if they think they are as good as multinational brands."¹⁰⁴

In addition to raising packaging standards among national brands, retailers can shift how they source and sell private label products, from produce, seafood, meats, baked goods, shelf-stable products, and readyto-eat meals. Minimizing food waste and ensuring food safety are a focus for both retailers and consumer goods companies. However, as single-use plastics continue to flood our environment, kill marine life, and threaten our health, food waste and food safety cannot be used as excuses to delay moving away from single-use plastics. Companies must eliminate unnecessary packaging and employ alternative delivery systems and new business models that preserve food without sacrificing safety or longevity. They can even realize benefits with this approach.^{xx}

Highly vertically integrated retailers with a heavy emphasis on their own brands—such as **ALDI**, **Trader Joe's**, and **Costco**—could make immediate and significant reductions to their overall plastic footprints. Based on the aforementioned consumer trends, retailers should be more optimistic in providing reuse and refill delivery systems for their private label products. Many of today's more value-conscious shoppers may favor these more sensibly-packaged private label alternatives, and possibly drop national brands that fail to keep up.

x^{wiii} Consumer goods companies are responsible for astounding amounts of plastic waste, including Nestlé, Procter & Gamble, Unilever, Mars, Danone, Coca-Cola, and PepsiCo. For more, see Greenpeace International. A Crisis of Convenience.

xix Cleanups of coasts, shorelines, parks, and streets.

^{**} A supermarket chain in New Zealand found that its sales of produce increased by 300% once it eliminated plastic wrapping and foam trays. See Martinko, Katherine. "'Nude Shopping' Boosts Vegetable and Fruit Sales Dramatically." *TreeHugger*, 16 Apr. 2019, www.treehugger.com/plastic/nude-shopping-boosts-vegetable-and-fruit-sales-drastically.html.

Nestlé Needlessly Nestles 98% of Its Products in Single-Use Packaging

In the Global South, especially Southeast Asia, Nestlé promotes and profits off of a sachet economy.xxi Given the widespread poverty in several parts of this region, lower-income customers typically can only afford to buy smaller amounts of food or personal care products. Instead of selling smaller amounts of products (like instant coffee or soap) in a bulk system where customers can bring their own reusable containers to purchase the right amount, Nestlé and other companies have prepackaged virtually everything in disposable, single-use plastic sachets. These small, flexible packages are unrecyclable and of little to no value to waste pickers, so they end up overwhelming landfills, clogging streets and waterways, and are frequently burned, emitting toxins into the air.

According to a recent report by the Global Alliance for Incinerator Alternatives, Nestlé and Unilever are responsible for a quarter of the branded throwaway plastics driving the plastic pollution crisis in the Philippines.¹⁰⁵ The companies were named the top polluters based on a series of brand and waste audits conducted in conjunction with a university's research center in six cities and one province in the country.¹⁰⁶ So what is a viable alternative? Read about innovative startup Algramo in the box to the right and about other alternative delivery systems in the *Solutions and Distractions* section on pages 14 and 15.

Algramo Leads the Way on Accessible, Refillable Dispensing

With more than 2,000 vending machines across Santiago, Chile,¹⁰⁷ and expanding into neighboring countries, startup company Algramo ("by the gram") found a way to "replace sachets and other single-use plastic packaging by dispensing products into small reusable containers."¹⁰⁸ The company's founder launched the vending machine concept to tie in directly with neighborhood shops in the poorer outskirts of Santiago. He noticed that accessibility to food was lacking, and most staples were priced too high for those who could not afford bulk purchases. Algramo vending machines feature reusable containers that fill 500-gram portions of common staples like rice, beans, and lentils.^{109 110}

As a result of the enormous success of these machines, the company has now launched detergent containers with smart chips that allow users to receive money back each time they refill the bottle at a touch-screen kiosk (and they are also informed on how much plastic they prevented from entering the environment).¹¹¹ Algramo designed a convenient and affordable reuse and refill system that can meet the needs of the developing world. If a startup can do it, then there is no excuse for a multibillion-dollar company like Nestlé to delay and in the process continue polluting our planet with single-use plastic sachets.





xed The sachet economy refers to the practice, especially in poorer communities, where companies sell consumer products—such as detergent, shampoo, powdered milk, and beverages—in small, single-use disposable plastic packages that cannot be recycled.

1. Be Transparent

Retailers must track and annually disclose their use of plastic, including the number, composition, and weight of items containing single-use plastics. Without a baseline, retailers cannot measure subsequent reductions (or growth) in their plastic footprints. In addition, retailers must ask for their suppliers' plastic usage data and about their suppliers' initiatives to reduce their reliance on single-use plastics.

2. Prioritize Reduction

Retailers must publicly commit to phase out singleuse plastics immediately, and achieve absolute reductions in the total number of single-use plastic packaging units (not simply lightweighting existing products). Retailers should prioritize eliminating the most problematic and unnecessary plastics that are harmful to human health; that regularly enter the environment; that are not recyclable, or often end up in landfills or incinerators despite recyclability claims; and that have existing alternatives. Problematic and unnecessary plastics include, but are not limited to, polyvinyl chloride (PVC), bags, black plastic, expanded polystyrene, cups, and multilayered packaging. Retailers must transition to alternative delivery systems that promote reuse, not simply switch from one throwaway material for another. Finally, retailers must establish supplier standards for packaging and engage large national brands^{xxii} to rethink their polluting packaging models and pilot alternative delivery systems.



xxii Such as Nestlé, Procter & Gamble, Unilever, Mars, Danone, Coca-Cola, and PepsiCo.

3. Invest in Innovation

It is hard for some to imagine a supermarket without single-use plastics. Yet for many readers, their parents or grandparents spent most of their lives shopping for food that was not wrapped in single-use plastics, and reusing containers was the norm. Combining the less wasteful practices of prior generations along with modern-day technologies presents exciting opportunities to turn things around. **Retailers must implement currently available technologies, innovate new solutions for reusable and refillable delivery systems, and engage consumer goods companies to design scalable alternative delivery models.** For examples of sensible alternative delivery systems and precautions to avoid common pitfalls, read the *Solutions and Distractions* section on pages 14 and 15.



Packaging Away the Planet 12

CLEAR TARGETS, NOT GREENWASH!

#Bre reeFrom

Solutions

Greenpeace encourages retailers to innovate by adopting solutions that address the root of the problem instead of replacing one throwaway material with another. While Greenpeace does not endorse particular companies or products, the following are examples of reuse^{xxiii} and refill strategies to reduce reliance on single-use plastics.

Reuse and Refill

Reusable packaging—either customer provided or via retailer take-back schemes, or coupled with in-store or at-home refill techniques—can drastically reduce singleuse plastics. Refill strategies can be broken up into four categories:

- Refill at home: Where customers purchase a concentrated form of a product (either in store or via mail) and use their own water at home to mix it at the correct concentration (e.g., Blueland¹¹² or Splosh¹¹³ cleaning products).
- **Refill in store:** Where customers can bring in their own containers to refill common foods and household cleaning products. In addition to reforming preexisting bulk dry goods sections to allow reusable containers, retailers can consider other examples of bulk dispensing (e.g., olive oil, coffee, honey, Ecopod kiosks where customers can refill one-time purchased and reusable branded containers with household soap, detergent, and cleansers).¹¹⁴
- **Return from home:** Where customers can either ship back used packaging or return it to participating stores for cleaning and refilling (e.g., Loop, where reusable containers of food or personal care products from about 20 national brands are shipped to customers in reusable tote bags).¹¹⁵
- **Return in store:** Where customers bring back the reusable container and purchase another of the same product. The customer does not necessarily receive the same exact container, because of either safety or practicality reasons, but that returned container is cleaned, inspected, and/or refilled (e.g., reusable glass milk bottles).

Transforming Cafés

As retailers like **Whole Foods**, **Wegmans**, and **Kroger** invest in in-store bars, customers may now spend more time in stores and be more willing to forgo disposables for reusable foodware. Foodservice management companies have employed cost-saving measures that reduce waste by piloting Clean Water Action's ReThink Disposable program.¹¹⁶ These measures are directly relevant to profiled retailers in this report, as most have in-store hot meals, cafés, and delis.

Pharmaceutical company Genentech piloted the ReThink Disposable program at one of its corporate campus cafés, which is operated by Bon Appétit Management Company. Over one year, Genentech reduced one million pieces of disposable packaging and saved \$12,000.¹¹⁷ The University of San Francisco campus dining^{xxiv} reduced more than 2.6 million pieces of disposable packaging with ReThink Disposable, saving more than \$157,000 annually.¹¹⁸

In addition to this program, there are other ways to implement reuse and refill systems in stores. Initially geared toward the to-go coffee industry, CupClub is a reusable cup subscription service where used cups can be dropped off at any participating store.¹¹⁹ GO Box offers a similar system for take-out meals.¹²⁰ Vessel offers reusable, insulated stainless steel mugs from participating cafés, which can be returned either to the cafés or to a deposit kiosk after use.¹²¹ As larger retailers pilot programs where customers can bring their own reusable containers for fresh food,¹²² retailers could eventually forgo offering disposable to-go containers in the first place.

Full Spectrum

A comprehensive approach to reducing single-use plastics also requires alternative food provision systems. Retailers should prioritize sourcing local food that is fresher for customers and does not rely on distant transport and excessive packaging to protect the food on its long journey to the store. In addition to buying from local farmers, retailers can partner with local hydroponic and aquaponic farms to source items, such as lettuce and other leafy greens, to reduce plastic waste, and provide fresher food for customers. For foods that need to be shipped long distance, package-free delivery systems are a viable option.

Distractions

Any serious efforts to address plastic pollution must include source reduction. Unfortunately, the urge to maintain the status quo is perpetuating a variety of "solutions." Retailers must avoid these distractions and opt for leadership, not greenwashing.

Retailers Can No Longer Hide Behind Recycling

The plastics industry has long argued that recycling is the way to address the plastic pollution crisis, in an effort to shift the blame to consumers and thereby sidestep its own massive role in creating this crisis. This approach cleverly allows plastics producers to expand their plastic footprints (and revenue) while attention is focused on the culpability of the end users of their products. Dr. Marcus Eriksen^{xxv} has noted that spinning public narratives about litter to focus on recycling has "been a way to deflect attention and responsibility for product design away from industry, and [it] has been very effective."123 The same argument that places blame on the individual also empowers that same person with an exaggerated sense of being a good steward—that by making a choice to toss a plastic bottle in the recycling bin, consumers are doing their part to protect the planet. Nothing could be further from the truth.

Globally, only 9% of the plastics ever made has actually been recycled,¹²⁴ and some experts project 2019 U.S. plastics recycling rates could drop below 3%.¹²⁵ Plastic bags and dirty plastic to-go containers are both examples of non-recyclable items that people nonetheless attempt to recycle—a phenomenon waste managers refer to as "aspirational recycling." These items regularly jam and clog automated recycling machines,¹²⁶ or contaminate a batch of recycling.¹²⁷ Clearly, recycling and consumer education alone will not fix this mess.

Labels Will Not Solve the Plastic Pollution Crisis

As more and more retailers make pledges to add the How2Recycle label¹²⁸ on plastic packaging, it begs the question: What do they hope to accomplish? No amount of labeling will solve broken recycling systems, nor stop the petrochemical industry's plans to significantly ramp up plastics production. Rather than label plastic packaging, retailers should stop single-use plastics from being made in the first place. That means prioritizing reduction, reuse, and refill systems.

Where Is Our Plastic Waste Going?

Until recently, a majority of the exported plastic waste from the U.S. went to China and Hong Kong.¹²⁹ Then, overwhelmed by the sheer volume, China banned importation of most foreign waste. In 2016. 760 million tons of plastic waste were shipped from the U.S. to China-that figure dropped by 95% in 2018 after China imposed these strict standards.¹³⁰ In search of a quick solution, exports to other Asian countries skyrocketed. Field investigations in Indonesia, Malaysia, and Thailand detailed illegal recycling operations and crime syndicates, open burning, water contamination, crop death, and a rise of illness tied to environmental pollution, spurring many to follow China and impose import bans.¹³¹ Since late 2018, Thailand, Vietnam, and Malaysia have all banned plastic waste imports.¹³² In May 2019, the United Nations voted to amend the Basel Convention to now require exporting countries to obtain the consent from an importing country's government before sending contaminated, mixed, or non-recyclable waste.¹³³

A system that relies on U.S. cities to ship barges of plastic waste to the other side of the world in the hope that they can recycle a fraction of the contents is severely broken. This loss of an overseas release valve also has direct impacts on the health of Americans. As U.S. communities are forced to take more responsibility for their own waste, a startling 81% of all domestic plastic waste is landfilled, and six times more plastic waste is being burned in the U.S. than recycled.¹³⁴ A Guardian investigation in early 2019 found that "this new reality risks an increase of plumes of toxic pollution that threaten the largely black and Latino communities who live near heavy industry and dumping sites in the US."135 Retailers cannot remain on the sidelines while their operations contribute to the increasing public health and environmental threats from plastic pollution.

x^{xiii} Reusable products and packaging are constructed of durable materials and designed to achieve multiple uses in their existing form without any physical or chemical modification. To qualify as reusable, there needs to be a reuse system in place that ensures the item is reused where it is placed on the market, and is able to prove a significant actual reuse rate.

^{xxx} Dr. Eriksen is co-founder of the 5 Gyres Institute. He co-published the first global estimate of plastic pollution in the world's oceans and led the team that discovered microbeads in the Great Lakes, which resulted in the Microbead-Free Waters Act of 2015. See www.5gyres.org/team.



Bioplastics, Biodegradable, and Compostable Materials Miss the Mark

In response to growing public concern over conventional single-use plastics, many companies are swapping single-use plastics derived from fossil fuels for other throwaway items. Bioplastic (or bio-based plastic) refers to plastics made from biomass resources, such as sugar, starch, vegetable oils, and plant matter.^{xxvi} Bioplastics may be either biodegradable or non-biodegradable. Several companies—for example, Coca-Cola,¹³⁶ Danone,¹³⁷ and Nestlé¹³⁸—are using bioplastics to replace some portion of conventional fossil-derived plastics in their beverage bottles. Several profiled retailers are engaging in material substitution, such as **Wegmans** shifting to bioplastic produce bags,¹³⁹ **Trader Joe's** replacing expanded polystyrene with compostable trays,¹⁴⁰ and several retailers switching to paper straws.

While often promoted as sustainable alternatives to conventional plastics, biodegradable plastics can pollute as much as their fossil-based equivalents.¹⁴¹ The heat and humidity conditions required for specific microorganisms to biodegrade these materials are rarely, if ever, met in the natural environment—whether at land or at sea.¹⁴² ¹⁴³ ¹⁴⁴ Biodegradable bioplastics are readily mixed with non-biodegradable bioplastics and conventional plastics, and enter the current plastic recycling processes where they can lower the quality of recycled materials.¹⁴⁵ ¹⁴⁵

Using readily biodegradable materials to package food items may also be a part of the transition from single-use plastics if effective biodegradable waste collection existed at a national scale, beginning with major U.S cities. Unfortunately, this is currently not available.

Although new technologies and alternative materials are under development to derive plastic from materials such as algae, methane, or seaweed,¹⁴⁷ the majority of bioplastics are currently made from agricultural crops.¹⁴⁸ In 2018, more than half of global production of bioplastics occurred in Asia.¹⁴⁹ Production impacts of bio-based plastics can include threatened biodiversity and food security, degraded water quality, land conflicts, and increased greenhouse gas emissions from land use change.¹⁵⁰ Paper is not a more responsible option. Consumption of paper-based packaging is increasing¹⁵¹ and the pulp industry is booming, which is impacting already-limited forest resources.¹⁵² Thus, there is a risk that an increased demand for paper or bio-based plastics for packaging or other single-use applications would exacerbate these negative impacts.

While in some cases there may be some mitigative benefits to using alternative materials instead of conventional plastics, raw material substitution, especially without reduction targets, clear sourcing guidelines, or transparency of origin, can inadvertently shift negative impacts from one area of the environment to another. To truly tackle the problems associated with overconsumption of single-use products and packaging, we need a systemic shift away from today's throwaway culture.¹⁵³

xxvi In this report, the terms " bio-based" and "bioplastics" are used on the basis of composition and origin of source materials only, not on the basis of their biodegradability.

COMPANIES EVALUATED AND METHODOLOGY

This report is the first of its kind to evaluate the overall plastic footprints of major U.S. retailers, and whether they are adequately responding to this global crisis. In many respects, it serves as a baseline for measuring future reforms. Greenpeace evaluated 20 U.S. retailers^{xxvii} in four key areas: policy, reduction, innovation and initiatives, and transparency. Each company received an identical survey reflective of the four scoring criteria, along with advance notice of the survey and context about this assessment, and was given approximately seven weeks to complete it. ALDI, Kroger, Albertsons, Trader Joe's, Sprouts, Walmart, Hy-Vee, Target, Southeastern Grocers, and Giant Eagle fully participated in the survey process. Costco, Whole Foods, and The Save Mart Companies provided some additional information. Wegmans, Ahold Delhaize, Publix, WinCo Foods, Meijer, Wakefern, and H-E-B did not participate in the survey process.

Scoring Criteria

Policy: The policy score evaluates a retailer's standards to mitigate its plastic footprint and transition to more sustainable product delivery systems. To lead in this category, a retailer would have a comprehensive public policy with rigorous, enforceable standards (e.g., supplier requirements, absolute reduction targets, no problematic or non-recyclable packaging).

Reduction: The reduction score evaluates whether a retailer has a time-bound commitment to reduce—and ultimately phase out—single-use plastics. To lead in this category, a retailer would have a comprehensive public commitment to reduce its total number of units packaged in single-use plastics.

Innovation and Initiatives: This score evaluates whether a retailer is implementing alternatives to single-use plastics, supporting plastic reduction initiatives, and engaging multiple stakeholders to develop solutions. To lead in this category, a retailer would deliver scalable solutions in collaboration with its own brand and national brand suppliers, and not simply replace one single-use material for another or merely use greenwashing to continue business as usual. Greenpeace also used publicly available information (e.g., websites, annual reports, industry press) to evaluate companies.^{xxviii} While some profiled companies may have internal initiatives, Greenpeace is unable to assess initiatives for which it has no data.

Surveys were scored independently and consistently. After extensive review of independent findings among the scoring team, companies received a score for each criterion and an overall score (a weighted average of all four criteria). Each company profile features its score for each of the four criteria and its overall score (on a 100-point scale). Retailers are ranked based on their overall score, where below 40 is failing (red), 40 to 69.9 is passing (yellow), and above 70 is leading (green). Each company is encouraged to meet with Greenpeace to discuss its results and Greenpeace's recommendations.

Transparency: The transparency score evaluates whether a retailer publicly communicates its policies and initiatives and whether it makes comprehensive data available regarding its single-use plastic footprint. To lead in this category, a retailer would communicate about its initiatives, publicly report its annual plastic footprint (e.g., number, weight, and types of plastics used), and include progress toward reduction goals, not just progress on recycling or recyclability.



xvvii While several profiled companies have international operations (e.g., Walmart, Costco, Ahold Delhaize), this report evaluates U.S. operations only, including how a retailer applies its single-use plastic policies across its brick-and-mortar (this includes convenience stores) and online operations.

xxxiii For a majority of retailers, the information on stores, banners, and revenue is primarily based on data available in the *Supermarket News* "Top 75 Retailers & Wholesalers" report. See www.supermarketnews.com/top-75-retailers-wholesalers/meet-2019-top-75.

RETAILER PROFILES

NT2

10



#1 ALDI



Headquarters: Batavia, IL

Stores and Banners: 1,864 stores operating as ALDI

Background: ALDI US ("ALDI") is a rapidly expanding discount chain that sells mostly private label products, and is owned by German parent company ALDI Süd. Its FY 2018 revenue was \$18.43 billion.

Greenpeace Comments: ALDI is the top-ranked retailer in Greenpeace's first evaluation of U.S. retailers on single-use plastics. While ALDI still failed, it appears headed in the right direction. ALDI is one of three profiled retailers with a specific public reduction target and one of only two profiled retailers to receive a passing score in the transparency category. Greenpeace looks forward to working with ALDI in reducing its reliance on single-use plastics in light of its recent momentum and openness to collaboration.

Policy: ALDI aims by 2025 to reduce its private label packaging material by 15% (by sales weight) as well as use 100% reusable, recyclable, or compostable packaging for its private label products.¹⁵⁴ While it is promising that ALDI has a specific reduction target, the downside is that this goal includes relative reductions (i.e., lightweighting) instead of actually reducing the number of items with plastic packaging by a full 15%. Greenpeace urges ALDI to update its commitment to include absolute reduction targets that lead to a complete phase-out of single-use plastics.

Reduction: By virtue of not operating any in-store cafés, delis, or food or salad bars, ALDI avoids distributing single-use plastic foodware. The retailer does not sell plastic straws, and it is currently evaluating how to reduce straws and other single-use plastics in its beverage and baked goods categories. ALDI has never provided any lightweight single-use plastic bags at checkout. Unfortunately, the retailer still has plastic checkout bags available for purchase.^{xxix} ALDI must join retailers like Whole Foods that stopped offering plastic checkout bags years ago.

Innovation and Initiatives: Because ALDI is a vertically integrated company with more than 90% private label products,¹⁵⁵ it has the opportunity to swiftly shift to less wasteful and more innovative reuse and refill systems when compared with most other retailers. ALDI has publicly committed to implement a project by 2020 that makes it easier for customers to reuse its private label product packaging. The retailer has created a "Packaging Working Group to enhance internal exchange" between its CSR and buying teams.¹⁵⁶ While the efficacy of this internal initiative is unknown, its presence, along with ALDI's International Position Statement on Sustainable Product Packaging,¹⁵⁷ suggests that the retailer is beginning to take this issue seriously. ALDI is also an active member of the Sustainable Packaging Coalition.

Transparency: ALDI tied Sprouts as the highest-performing retailer in this category, largely because of its high level of transparency with Greenpeace on its overall plastic footprint. Like many retailers, ALDI is working to establish a baseline in order to measure progress toward its commitments. While ALDI will provide updates on its progress toward its 2025 goals, it must go much further. ALDI and all U.S. retailers need to be significantly more transparent with the public about their overall plastic footprints.

xxixWhile these heavier plastic bags are designed to be reused and can be recycled, it does not mean they will be.

#2 The Kroger Co.



Headquarters: Cincinnati, OH

Stores and Banners: 2,764 supermarkets and multi-department stores operating as Kroger, Ralphs, Dillons, Smith's, Roundy's, King Soopers, Fry's, QFC, City Market, Owen's, Jay C, Pay Less, Baker's, Gerbes, Harris Teeter, Pick 'n Save, Copps, Metro Market, Mariano's, Food 4 Less, Foods Co, and Fred Meyer^{xxx}

Background: The Kroger Co. ("Kroger") is the second-largest U.S. retailer, behind Walmart. Kroger's FY 2018 revenue (for consumables) was \$117.15 billion.

Greenpeace Comments: Kroger is the only U.S. retailer of its size that has committed to phase out single-use plastic checkout bags (although not until 2025), and its recent partnership with Loop is encouraging. However, given its size and influence on its supply chain, Kroger must take markedly greater action to reduce its enormous plastic footprint, including implementing reuse and refill systems nationwide. Bag bans, pilots, and recycling alone will not cut it; the second-largest U.S. retailer needs to act boldly to address its contribution to the plastic pollution crisis.

Policy: Kroger has sustainable packaging guidelines for its suppliers and a series of 2020 goals for its private label products, including increasing post-consumer recycled content, supporting improved recycling efforts, and providing customer education about the recyclability of its products.¹⁵⁸ These initiatives might have been noteworthy decades ago, but given the sheer size of Kroger's operations and the scale of the problem, Kroger must significantly increase its ambition in order reduce its plastic footprint.

Reduction: Kroger will phase out single-use plastic checkout bags by 2025, which, despite the slow implementation timeline, makes it the only retailer of its size with such a commitment. Kroger is making progress: as of April 2019, its QFC banner no longer offers single-use plastic checkout bags. While this commitment could ultimately prevent the distribution of 6 billion single-use plastic bags across all stores annually,¹⁵⁹ it does not address other single-use bags (e.g., produce) offered in stores. As Kroger develops its post-2020 goals, it must announce more sweeping commitments to eliminate other types of single-use plastics, and announce absolute reduction targets (i.e., reducing the total number of plastic packaging units in stores, not just lightweighting existing units) to reduce its massive plastic footprint.^{xxxi}

Innovation and Initiatives: Kroger is a member of the Sustainable Packaging Coalition and seems poised to share its lessons learned with relevant stakeholders as it phases out single-use plastic checkout bags. Kroger is actively working with its own brand suppliers to implement its 2020 goals, and, in an encouraging development, is beginning to pilot reuse and refill with Loop.¹⁶⁰ Kroger must implement reuse and refill systems nationwide and leverage its massive buying power with national brands. Kroger should build on its initial work with Procter & Gamble via Loop to markedly expand its reuse and refill options nationwide. These initiatives are the antidote to the failure of recycling to stave off the plastic pollution crisis (see page 15).

Transparency: Like several other retailers, Kroger is assessing its plastic footprint and will be able to use this information to report on its single-use plastics goals. However, for such a large retailer, it is troubling that Kroger is not currently reporting publicly on its plastic footprint. Kroger must be more transparent and not just report on improvements for which the public has no baseline.

*** For a complete list of Kroger's retail operations, visit: www.thekrogerco.com/about-kroger/our-business. Prior to its large 2018 sale of its convenience store business, Kroger operated many convenience stores nationwide. Retailers must also apply their single-use plastic policies to their convenience store operations.

^{xxxi} Kroger aims to reduce plastic resin used by its own brands by 10 million pounds by 2020; however, because it does not provide more information about its plastic footprint, it is unclear whether these reductions are because of lightweighting, absolute reductions, or a combination of the two. Given the widespread use of lightweighting among U.S. retailers, it would not be surprising if Kroger elected to largely take this approach. Lightweighting alone will not solve the plastic pollution crisis (see page 15).

#3 Albertsons Companies





Headquarters: Boise, ID

Stores and Banners: 2,294 stores operating as Albertsons, Safeway, Vons, Jewel-Osco, Shaw's, ACME Markets, Tom Thumb, Randalls, United Supermarkets, Pavilions, Star Market, Carrs, and Haggen^{xxxii}

Background: Albertsons Companies ("Albertsons") is the fourth-largest U.S. retailer by annual sales. Its FY 2018 revenue was \$60.25 billion.

Greenpeace Comments: Albertsons is far behind frontrunner ALDI and just behind Kroger. Albertsons carries an enormous number of products across its many banners and brands. Similar to other large retailers, given its size, it has an increased responsibility to urgently and dramatically reduce its massive plastic footprint. While Albertsons has a public policy and commitments on single-use plastics, it fails to include specific reduction targets or a commitment to transparently report its plastic footprint.

Policy: In April 2019, Albertsons joined the growing number of retailers releasing commitments and plans to tackle singleuse plastics.¹⁶¹ Albertsons' pledge is similar to the EMF Global Commitment, begging the question if Albertsons will sign on. Unfortunately, Albertsons missed its opportunity to match or exceed other retailers' commitments. Albertsons' commitment falls short of ALDI's because it lacks an absolute reduction target and, unlike Kroger, does not commit to phase out single-use plastic checkout bags. While Albertsons stated that supplier compliance is required with the company's packaging guidelines, it did not clarify what sort of enforcement mechanisms exist to ensure compliance. **Reduction:** Albertsons has initiatives to increase recycled content in some of its private label products and is exploring how to reduce single-use plastic bag use at checkout, though it is failing on the latter initiative, especially when compared with Kroger's goal to ban single-use plastic checkout bags. Albertsons is one of the few profiled retailers that is working to reduce single-use plastics and plastic waste in seafood procurement. While Albertsons also has initiatives to phase out non-recyclable plastics in some of its in-store foodservice operations,^{xoxiii} it is unclear how many stores are involved. This is why Albertsons and other retailers must have comprehensive data on their plastic footprints.

Innovation and Initiatives: Like ALDI, Albertsons has companywide engagement on single-use plastics, though its scope and effectiveness are unclear. Albertsons is working with stakeholders like the Sustainable Packaging Coalition and with its suppliers to address plastic pollution across its various brands and in the produce category. Unfortunately, it remains unclear if and how Albertsons will leverage its massive purchasing power with consumer goods companies, like Unilever, and how it plans to implement reuse and refill systems. Albertsons participates in the Hefty EnergyBag Program, which leads to the incineration or pyrolysis of nonrecyclable plastics (see page 8). Plastic incineration in any form threatens human health and the climate. Albertsons must immediately stop participating in this program.

Transparency: While Albertsons has publicly committed to "decrease plastic usage, with an emphasis on singleuse plastics,"¹⁶² it is unclear by how much and whether it will lead by setting absolute plastic reduction targets, rather than lightweighting. For such a large retailer, it is troubling that Albertsons is not reporting its plastic footprint. Albertsons must be more transparent and not just report on improvements for which the public has no baseline.

#4 Trader Joe's

TRADER JOE'S



Headquarters: Monrovia, CA

Stores and Banners: 496 stores operating as Trader Joe's

Background: Trader Joe's is a nationwide chain known for its unique private label products. Its FY 2018 revenue was \$14.12 billion.

Greenpeace Comments: Trader Joe's appears to be shifting the way it approaches plastics, which, until recently, had been little to nonexistent. In response to customer concerns and a Greenpeace campaign, Trader Joe's announced a series of single-use plastic initiatives on the last day of 2018.¹⁶³ Greenpeace commends Trader Joe's for starting this important work. However, the retailer should markedly expand the scope of its commitments, employ reuse and refill systems, and increase its transparency.

Policy: As with its other sustainability initiatives, in place of a more detailed policy, Trader Joe's has shared an update with the public on its plastic reduction progress so far. The retailer has also informed its suppliers which types of plastics to avoid, which is a first step toward a more comprehensive set of supplier requirements. While it is encouraging that Trader Joe's is working to reduce and remove packaging, the retailer must develop a comprehensive, time-bound policy to reduce and ultimately phase out single-use plastics. According to some reports, another announcement may be forthcoming.¹⁶⁴

Reduction: As a result of its recent commitments, Trader Joe's has stopped offering plastic bags at checkout, and has replaced plastic bags in the produce department with compostable alternatives. The retailer is also working to eliminate polystyrene foam from all of its products. By the end of 2019, Trader Joe's expects to have eliminated 1 million pounds of plastic from its stores. However, celebrating this milestone is difficult without a transparent baseline detailing the retailer's overall plastic footprint. Trader Joe's has a unique opportunity based on its highly vertically integrated supply chain. Since Trader Joe's has more direct control over its expansive private label portfolio, it can and should move swiftly to implement sweeping reforms.

Innovation and Initiatives: Trader Joe's acknowledges that transitioning fossil-based plastics to bioplastics is not the answer, and while its recent transition to compostable bags for produce is a step away from fossil fuel-based materials, it is merely substituting one single-use material for another (see page 16). Trader Joe's needs to markedly invest in alternative delivery systems, including reuse and refill. The retailer had bulk foods in its stores years ago. It is time to redeploy this basic strategy and permit customers to bring in their own reusable containers.

Transparency: Trader Joe's is working this year to establish a baseline, so it can measure progress toward its commitments. While Trader Joe's has publicly committed to provide updates on its progress, it must also be transparent with the public about its overall plastic footprint.



Headquarters: Phoenix, AZ

Stores and Banners: 320 stores operating as Sprouts Farmers Market

Background: Sprouts Farmers Market ("Sprouts") is a rapidly growing national retailer, with its highest concentration of stores in California, Texas, and Arizona. Its FY 2018 revenue was \$5.22 billion.

Greenpeace Comments: Sprouts performed poorly across most categories, indicating its low level of ambition to date. However, it achieved a passing score in the transparency category, which markedly increased its overall score. Sprouts seems poised to take a leadership role in reducing its plastic footprint and is among the many retailers working to release more comprehensive public plans. As it develops its singleuse plastic reduction policy, Sprouts has an opportunity to set an even higher bar than existing commitments from other retailers.

Policy: Sprouts does not yet have a public policy or commitment on single-use plastics. The retailer is building on its existing initiatives to establish sustainable packaging guidelines across its categories, engage suppliers, and develop reduction targets.

Reduction: Roughly half of its stores (primarily those in California, which has a statewide plastic bag ban) have already phased out single-use plastic bags at checkout. If a retailer the size of Kroger can commit to phase out single-use plastic checkout bags nationwide, Sprouts should easily be able to do the same. Sprouts has some recycling initiatives, is working to phase out all non-recyclable plastics for its own brands, and is exploring compostable alternatives. Sprouts is one of the few profiled retailers that reported working to reduce single-use plastics and plastic waste in seafood procurement. The retailer must significantly raise its level of ambition by setting absolute reduction targets and avoiding distractions such as lightweighting and material substitution (see page 16).

Innovation and Initiatives: Sprouts is engaging its suppliers and experts to develop a more robust strategy. The retailer provides some reuse and refill options in stores (e.g., reusable produce and bulk bags, milk bottle take-back program, and, in some stores, bulk honey, vinegar, and oil). Sprouts should ensure its private label and national brand suppliers, like Coca-Cola, shift to reuse and refill systems that altogether avoid single-use plastics or any other single-use materials.

Transparency: Sprouts was tied with ALDI as the highestperforming retailer in this category, largely because of its high level of transparency with Greenpeace on its overall plastic footprint. Greenpeace urges Sprouts to publicly share its plastic footprint, and to provide updates on its progress to reduce its reliance on single-use plastics (see page 12).



Headquarters: Bentonville, AR

Stores and Banners: 5,764 stores operating as Walmart, Walmart Supercenter, Neighborhood Market, and Sam's Club^{xxxiv}

Background: Walmart is the largest U.S. retailer. Its FY 2018 revenue (for consumables) was \$270.12 billion.

Greenpeace Comments: Walmart came in sixth place, and its score is nothing to celebrate. But if Walmart were ready to lead, things would dramatically change. It is hard to overstate the power that Walmart has in retail: Walmart can use its size and influence to shape future trends, for the benefit or ill of society. For example, if Walmart required major brands like Nestlé to shift to reuse and refill systems to qualify to be sold in its stores, these companies would immediately do so to remain relevant. Walmart can and must take bolder action to reverse the current trajectory of turning our planet into a hazardous plastic dumpsite.

Policy: Walmart does not have a comprehensive single-use plastic reduction policy. Walmart is a signatory of the EMF Global Commitment; however, it remains unclear how Walmart will operationalize its pledge to the commitment. While it has various goals and commitments, a Sustainable Packaging Playbook,¹⁶⁵ and a Recycling Playbook for suppliers,¹⁶⁶ it is unclear whether Walmart ensures supplier compliance. While far from the impactful public commitments a retailer of its size should have, Walmart Canada has set a higher bar than its U.S. counterpart.¹⁶⁷ Walmart U.S. must move beyond recycling and create a time-bound policy based on absolute reduction targets and reuse and refill systems.

Reduction: It is troubling that the largest U.S. retailer is currently doing so little to reduce its plastic footprint. Walmart has "an ambitious 2025 recycled content target"¹⁶⁸ and plans to eliminate PVC and polystyrene in its own brands by 2025 as well. However, its "ambitious" goal of 20% recycled content and protracted six-year implementation timeline are painfully inadequate. Unlike Kroger, Walmart seems determined to keep plastic bags at checkout. In response to a ban on single-use plastic bags in Charleston, South Carolina, a local paper noted that Walmart "has beefed up its giveaway plastic bags to make them reusable and emblazoned them with feel-good messages. But let's face it: plastic is plastic."¹⁶⁹ Walmart must commit to ambitious reduction targets coupled with alternative product delivery models to single-use packaging.

Innovation and Initiatives: Walmart is a member of the Sustainable Packaging Coalition and the Trash Free Seas Alliance. Walmart appears to be open to collaborating with suppliers to replace single-use plastic wrap and other materials with reusable packaging containers (RPCs).^{XXXV} This suggests that it will reform how goods are transported to retail stores, but it is unclear how. Part of Walmart's global strategy to address plastics in its supply chain is to "engage with innovators to help support development of environmentally preferable options to plastics and promote reuse...."¹⁷⁰ Greenpeace urges Walmart to follow through on this strategy, engage large national brands like Nestlé, and significantly expand its implementation of reuse and refill systems.

Transparency: Walmart, like several other retailers, is collecting data on its plastic footprint. While Walmart will report publicly on its progress toward its goals, it is unclear if the retailer will report on its overall footprint. Especially as a signatory of the EMF Global Commitment, it is time for Walmart and other retailers to own up to their massive contribution to the plastic pollution crisis—and that includes being transparent with the public.

xxxx/Walmart also operates convenience stores. Retailers must also apply their single-use plastic policies to their convenience store operations.

^{xxxx} When Walmart suppliers switched to RPCs to deliver eggs, 37 million eggs were prevented from being thrown out because of breakage in the first year of implementation alone. This is just one instance where elimination of single-use plastics can reduce food waste. See Walmart's Sustainable Packaging Playbook.







Headquarters: West Des Moines, IA

Stores and Banners: 255 stores operating as Hy-Vee, Hy-Vee Drugstore, Fast & Fresh, Mainstreet, HealthMarket, and DollarFresh^{xxxvi}

Background: Hy-Vee is an employee-owned company with stores located in the Midwest. Its FY 2018 revenue was \$10.2 billion.

Greenpeace Comments: Hy-Vee has performed well in Greenpeace seafood sustainability evaluations, but when it comes to single-use plastics it must significantly increase the scale and impact of its initiatives. Hy-Vee is one of the few retailers in the top 10 without a public single-use plastic commitment. Fortunately, Hy-Vee appears to recognize the problems with single-use plastics and is developing a more ambitious strategy to reduce, and hopefully phase out, its reliance on single-use plastics.

Policy: Hy-Vee does not have a public policy or commitments to reduce its plastic footprint; however, it has indicated that it is developing a more comprehensive policy. Because far too many commitments from other retailers are misguided (e.g., lightweighting, focusing mainly on recycling, swapping one throwaway material for another), Hy-Vee has the opportunity to announce a bold, absolute reduction target that could set the bar for U.S. retail. **Reduction:** Hy-Vee is working to replace many single-use plastic items with compostable alternatives, ^{xxxxvii} and it has recently replaced plastic to-go containers in its foodservice operations with a compostable alternative. While none of these initiatives is insignificant, Greenpeace cautions Hy-Vee from swapping one single-use material to another (see page 16). To date, the retailer's efforts have largely focused on recycling, which is not a viable solution, particularly when so little plastic is actually recycled in most U.S. municipal systems (see page 15). Hy-Vee is working with suppliers to reduce or eliminate non-recyclable plastic packaging. Hy-Vee must engage its private label and national brand suppliers, like Coca-Cola, to phase out single-use plastics and switch to reuse and refill systems.

Innovation and Initiatives: Hy-Vee was one of the few retailers that reported working to mitigate agriwaste from its suppliers' farms. Unfortunately, in response to an Omaha proposal to ban plastic bags at grocery stores, Hy-Vee neither supported nor opposed the initiative, stating only that it promotes reusable bags and encourages plastic bag recycling at its stores.¹⁷¹ Hy-Vee participates in the Hefty EnergyBag Program, which leads to the incineration or pyrolysis of non-recyclable plastics (see page 8). Plastic incineration in any form threatens human health and the climate. Hy-Vee must immediately stop participating in this program.

Transparency: While Hy-Vee plans to provide annual updates on the amount of plastics that it removes from its stores, it is unclear if the retailer will also be transparent about its overall plastic footprint. As Hy-Vee and other retailers assess their plastic footprints, they must markedly increase their transparency; otherwise, future reforms will be difficult to assess.

xxxvi Hy-Vee also operates convenience stores, including at its Hy-Vee Gas locations. Retailers must also apply their single-use plastic policies to their convenience store operations. xxxvii In its bulk foods sections, foodservice operations, and convenience stores.



Headquarters: Minneapolis, MN

Stores and Banners: 1,850 stores operating as Target

Background: Target is the seventh-largest U.S. retailer based on revenue. Its FY 2018 revenue (for consumables) was \$32.43 billion.

Greenpeace Comments: Target's performance in this assessment is dismal, particularly given its size. While Target is one of the few U.S. retailers to sign on to the EMF Global Commitment, it remains unclear whether the retailer will set a specific, timebound single-use plastic reduction target or if it is simply going to switch from one throwaway material to another. Target must leverage its brand and purchasing power with its suppliers, including Nestlé, to prioritize the reduction of single-use plastics, as well as implement reuse and refill systems.

Policy: As many other retailers publicly announce their commitments and plans to tackle single-use plastics, Target's current plan (and its progress on its 2017 commitments) is buried in its CSR website.¹⁷² To date, it remains unclear how Target will operationalize its pledge to the EMF Global Commitment. To address the flood of single-use plastic checkout bags in Target stores, a customer started an online petition in April 2019 for Target to eliminate these bags; as of this writing, more than 300,000 people have signed the petition.¹⁷³

Reduction: Target has a commitment to eliminate expanded polystyrene from its own brand packaging by 2022. The retailer has switched to reusable foodware at its corporate office but has yet to implement this common-sense reuse system across its in-store cafés. Target is working to expand recycling and drive demand for post-consumer recycled content; however, when only 9% of all plastic ever produced has been recycled, it is time to consider a new strategy (see page 15). Target needs a specific, absolute reduction target to bolster its current commitments on single-use plastics.

Innovation and Initiatives: Target is a member of the Sustainable Packaging Coalition and the Bioplastic Feedstock Alliance, which explores the potential of bio-based products. However, not all bio-based alternatives to fossil-based plastics are the same, and fundamental problems will remain in a single-use throwaway model (see page 16). Target works with suppliers to provide sustainable packaging guidance; however, it is unclear how Target is engaging its private label and national brand suppliers, like Nestlé, to phase out singleuse plastics and switch to reuse and refill systems. Target participates in the Hefty EnergyBag Program, which leads to the incineration or pyrolysis of non-recyclable plastics (see page 8). Plastic incineration in any form threatens human health and the climate. Target must immediately stop participating in this program.

Transparency: Time will determine whether Target achieves the goals outlined in the EMF Global Commitment by 2025. However, it is unclear by how much and whether it will lead by setting absolute plastic reduction targets. Focusing on distractions like bioplastics or lightweighting will not solve the plastic pollution crisis. For such a large retailer, it is troubling that Target is not reporting its plastic footprint. Target must be more transparent, and not just report on improvements for which the public has no baseline.

#9 Costco IS.6 Overall Score 16.6 Policy 16.3 Reduction 16.2 Initiatives 16.9 Transparency 17.7

Headquarters: Issaquah, WA

Stores and Banners: 627 stores operating as Costco

Background: Costco is the third-largest U.S. retailer by revenue, and the largest membership warehouse club nationwide. Its FY 2018 revenue (for consumables) was \$72.15 billion.

Greenpeace Comments: While it is working to eliminate the worst forms of plastic packaging, Costco fails to demonstrate publicly how it will measurably reduce its overall plastic footprint and implement reuse and refill systems. This is a problem and a squandered opportunity. Costco is so large that it could significantly reform product delivery for national brands and its expansive private label, thereby creating positive ripple effects in the retail and consumer goods sectors. Greenpeace is cautiously optimistic that Costco will release an updated policy in the future; this is an opportunity to outshine rivals like Walmart.

Policy: Costco does not have a time-bound policy with absolute reduction targets (i.e., reducing the total number of plastic units, not just lightweighting) to ultimately end its reliance on single-use plastics. Instead, the retailer mostly has generalized aspirations to increase the recyclability of its packaging via material substitution and consumer labeling.¹⁷⁴ However, change may be coming. Costco is considering improvements in its single-use plastic strategies and implementing new policies.

Reduction: Costco has some initiatives to replace expanded polystyrene with recyclable or compostable fiber. The retailer has never provided checkout bags. Instead, Costco customers can use the same boxes that products were shipped in to stores. Costco is working to replace single-use plastics with compostable options in its in-store cafés. While Costco is actively transitioning away from the least recyclable forms of plastic packaging to other forms that are more recyclable (or to paper-based packaging),¹⁷⁵ this misses the larger point: retailers should not simply replace one throwaway material with another (see page 16).

Innovation and Initiatives: Costco is a member of the Sustainable Packaging Coalition and has global packaging guidelines. Costco must leverage its purchasing power and focus on its private label to fundamentally shift how its products are delivered to customers. Costco should be investing in reuse and refill systems; however, it remains unclear to what degree Costco is engaging its suppliers in these initiatives, including national brands like PepsiCo. In 2018, Costco sent 21,914 tons of trash in the U.S to "waste-to-energy" facilities.^{176 177} "Waste-to-energy" is often greenwashing for incineration of trash, where facilities burn a range of materials, including plastics, to produce energy. Plastic incineration in any form threatens human health and the climate (see page 7). Costco should disclose the specific method(s) of "waste-to-energy" that it employs. If it is incineration, Costco should abolish this dangerous practice.

Transparency: Costco is not transparent with its overall plastic footprint, and its aspirations on its sustainability website do not feature any reduction targets or timelines. As Costco launches new policies, it has the opportunity to communicate them online, in stores, and in the press. Additionally, Costco should be much more transparent with its progress toward meeting its existing and future goals.

#10 Wegmans Difference Overall Score 14.6 DID NOT RESPOND Policy 16.3 Reduction 14.5 Initiatives 13.8 Transparency 12.9

Headquarters: Rochester, NY

Stores and Banners: 98 stores operating as Wegmans

Background: Wegmans is a family-owned and -operated retailer operating in the U.S. Northeast and Mid-Atlantic regions. Its FY 2018 revenue was \$9 billion.

Greenpeace Comments: Wegmans performed poorly in this assessment. While it features some "sustainable packaging" initiatives on its sustainability website, and recently released new plastic reduction targets, Wegmans' commitments fall short. Our planet is far past the point where recyclability, lightweighting, and material substitution are anywhere near what is required to tackle the plastic pollution crisis.

Policy: Wegmans does not have a comprehensive public policy seeking to phase out single-use plastics. In April 2019, Wegmans committed to reduce its in-store plastic packaging from fossil fuels by 2 million pounds in 2019 and by 10 million pounds by 2024,¹⁷⁸ making Wegmans one of the few retailers to actually set a reduction target. If this were an absolute reduction target to ultimately end its reliance on single-use plastics, Wegmans' commitment would be industry-leading. Unfortunately, Wegmans will attain this goal "to a large extent"¹⁷⁹ through material substitution, which is problematic, as this approach usually shifts ecological harms from one area to another (see page 16).

Reduction: Wegmans has replaced a variety of single-use plastics (e.g., polystyrene foam and PVC, xxxviii where alternatives exist, produce and bulk food bags, coffee stir sticks, plastic straws). The retailer claims that since 2016, it has "avoided the use of more than 6 million pounds of virgin fossil-based plastic [...] by increasing the use of renewable plant-based material, mineral fillers, and post-consumer recycled plastic in [its] packaging."¹⁸⁰ While increasing the use of post-consumer recycled plastic is a modest step in the right direction, swapping one throwaway material for another is not a longterm sustainable solution. What the world really needs is a mass reduction of fossil-based and bio-based plastics, not shifts that merely reallocate problems (see page 16). And despite Wegmans' media fanfare about removing single-use plastic checkout bags from its New York stores (it is merely removing bags before the 2020 state law goes into effect), there is no indication that it will remove plastic checkout bags at its stores in other states.

Innovation and Initiatives: Wegmans states that it has a unique partnership with the Rochester Institute of Technology's Center for Sustainable Packaging and American Packaging Corporation, but there is no indication that this partnership prioritizes absolute reduction targets. Wegmans has not publicly communicated whether it is investing in alternative delivery systems like reuse and refill, nor how it is engaging its private label and national brand suppliers, like Unilever, to launch these initiatives.

Transparency: Wegmans' various claims about overall reductions cannot be verified, since it does not provide any information on its overall plastic footprint.

^{xxxxiii} Interestingly, on Wegmans' sustainable packaging website, there is no update regarding the retailer's 2017 commitment to avoid PVC "where possible and where alternatives exist." Also, this statement creates a loophole for continued use of PVC. See Wegmans. "Sustainable Packaging: When Less Is More at Wegmans." 13 Apr. 2017, www.wegmans.com/news-media/ press-releases/2017/sustainable-packaging--when-less-is-more-at-wegmans.html.





Headquarters: Austin, TX

Stores and Banners: 479 stores operating as Whole Foods Market and Whole Foods Market 365

Background: Whole Foods, known for its natural and organic products, accounted for 60% of Amazon's consumables revenue—\$16.86 billion in FY 2018. For the purposes of this report, Greenpeace evaluated Whole Foods' operations.^{xxxix}

Greenpeace Comments: Given Whole Foods' reputation as being more ecologically aware than other retailers, and its solid performance in Greenpeace seafood sustainability evaluations, it is inexcusable that the retailer is so far behind on single-use plastics. While Whole Foods may have more ambitious internal initiatives, Greenpeace is unable to assess those initiatives given the limited information it received from the retailer. Unfortunately, Whole Foods appears to be stuck in the 1990s, as many of its initiatives include lightweighting packaging and increasing the post-consumer recycled plastic content in some of its single-use plastic items.

Policy: Whole Foods does not have a comprehensive public policy to addresses single-use plastic waste generated by its operations. Instead, it has mostly worked on initiatives that do little to address its large plastic footprint. While Whole Foods will likely release a more comprehensive policy, the questions are when and how ambitious it will it be. Greenpeace urges Whole Foods to pursue a policy that requires year-over-year absolute reductions in single-use plastics and to incorporate reuse and refill strategies.

Reduction: Whole Foods stopped providing single-use plastic checkout bags in 2008. The retailer banned microbeads in its products before national law took effect, and recently announced it will remove plastic straws in its stores nationwide. Whole Foods has focused on some lightweighting (e.g., produce bags, rotisserie chicken packaging) and increasing recycled content in some items. While Whole Foods has adopted plastic waste mitigation measures ahead of most other retailers, even with its recent straws announcement, it has so far failed to take bold action commensurate with the urgency of the plastic pollution crisis.

Innovation and Initiatives: Apart from standard bulk sections (e.g., dried foods, coffee), Whole Foods does not have any innovative systems regarding reuse and refill. Whole Foods should engage its private label and national like Danone, to develop and implement systems.

Transparency: In 2008, when Whole Foods made headlines for its single-use plastic checkout bag ban, it also had extensive blogs discussing its plastic initiatives, and even had a Responsible Packaging Task Force.¹⁸¹ However, aside from its recent straws announcement, Whole Foods has largely been quiet on its website regarding single-use plastics. Whole Foods did not provide any information on its overall plastic footprint, and it is unclear if it will do so in the future. This is unfortunate, and does not bode well when seeking to measure the impact of any possible future reforms.

xxxx Amazon's FY 2018 consumable sales were \$28.1 billion. Whole Foods' brick-and-mortar stores account for \$16.86 billion of these sales. Amazon also plans to dramatically increase the footprint of its Amazon Go cashierless convenience stores. As Amazon's market share in brick-and-mortar and online consumables grows, it has an increased responsibility to address its plastics footprint.

#12 The Save Mart Companies



Headquarters: Modesto, CA

Stores and Banners: 208 stores operating as Save Mart, S-Mart, Lucky, Lucky California, FoodMaxx, and MaxxValue Foods

Background: The Save Mart Companies ("Save Mart") operates stores in California and Nevada. Its FY 2018 revenue was \$4 billion.

Greenpeace Comments: Save Mart missed the mark on singleuse plastics. While Save Mart has some initiatives under way, it lacks a comprehensive strategy or policy to substantially reduce and ultimately phase out single-use plastics. While the retailer appears open to working on this issue, it remains unclear to what degree and how quickly Save Mart will act and whether it will engage its supply chain to make much-needed reforms.

Policy: Save Mart does not have a comprehensive public policy to reduce and ultimately phase out single-use plastics. In addition to aligning internal resources to develop a policy, Save Mart, like every retailer, should be gathering data from suppliers in order to establish a single-use plastics baseline, and then create a policy based on absolute plastic reduction targets (i.e., reducing the total number of plastic units, not just lightweighting).

Reduction: Save Mart does not offer plastic bags at checkout in 96% of its stores, largely because most of its stores are located in California. Save Mart should make this a companywide policy, so its Nevada stores (the remaining 4%) would no longer distribute single-use plastic checkout bags. Save Mart's plastic reduction initiatives focus largely on recycling or switching from one kind of single-use material to another (see page 16). Save Mart has removed polystyrene from its meat and deli departments in some stores. The retailer should remove polystyrene from all of its stores, and engage its private label and national brand suppliers, like Procter & Gamble, to reduce single-use plastics and invest in reuse and refill systems.

The

Innovation and Initiatives: Save Mart indicated very few innovative practices. The retailer offers one brand of milk that comes in a glass container that can be returned for a bottle deposit. Save Mart is also piloting a program for bulk freezer goods, where customers can use compostable/recyclable boxes. Save Mart should take note of how Metro is implementing its pilot program in Quebec,¹⁸² and identify how to implement a similar program in its stores. Surely Save Mart can figure out a way for its customers to fill their own containers while still respecting local and statewide regulations.

Transparency: Like many other retailers, Save Mart needs to analyze and report its plastic footprint. This requires engaging its private label and national brands; there should be no excuse for failure to do so. Data collection and reporting are going to become the norm, as the public and organizations like the Ellen MacArthur Foundation usher in calls for transparency.

#13 Ahold Delhaize





Headquarters: Quincy, MA, and Salisbury, NC

Stores and Banners: 1,959 stores operating as Stop & Shop, Giant, Martin's, Food Lion, and Hannaford

Background: Ahold Delhaize USA ("Ahold Delhaize) is the fifth-largest U.S. retailer, and is the largest division of its Dutch-owned parent company. Its FY 2018 revenue was \$44.2 billion.

Greenpeace Comments: Ahold Delhaize's performance was especially awful given its massive size. However, it should improve in the near future, as the retailer has begun to engage more deeply on this issue. Ahold Delhaize has identified plastics as a key issue through a listening process with a variety of stakeholders.¹⁸³ In late 2018, Ahold Delhaize signed on to the EMF Global Commitment. Going forward, Ahold Delhaize must "dramatically reduce"^{xt} its massive plastic footprint to counter its role in the plastic pollution crisis.

Policy: Ahold Delhaize is one of the few U.S. retailers to sign on to the EMF Global Commitment. However, it remains unclear whether the retailer will set specific, time-bound single-use plastic reduction targets, or if it will resort to either lightweighting its existing product line or switching from one throwaway material to another (see page 16). **Reduction:** Publicly, aside from its purported numbers of single-use checkout bags avoided,¹⁸⁴ Ahold Delhaize has nothing significant to offer for reduction. The retailer still provides single-use plastic bags to customers at checkout. It is unacceptable for Ahold Delhaize to continue churning out single-use plastic packaged products without any plans for absolute reductions. And focusing efforts on the recyclability of plastics is insufficient, especially when U.S. plastics recycling rates are so low (see page 15).

Innovation and Initiatives: Ahold Delhaize is a member of the Sustainable Packaging Coalition. However, it is unclear how the retailer is leveraging its buying power with its private label and national brand suppliers, including behemoths like Coca-Cola,^{xli} to reduce its reliance on single-use plastics and transition to reuse and refill systems. The European division of Ahold Delhaize features "natural branding" of produce^{xlii} in one of its Belgian-based supermarkets; its U.S. store operations have no similar known innovations.

Transparency: Time will determine whether Ahold Delhaize achieves the goals outlined in the EMF Global Commitment by 2025. While the retailer should provide public updates in line with the EMF Global Commitment, it remains unclear whether Ahold Delhaize will also report more detailed information on its plastic footprint.

¹⁴ As noted in a Supermarket News interview, Ahold Delhaize seeks to "dramatically reduce' plastic and packaging waste." Redman, Russell. "Ahold Delhaize USA Eyes 'Cleaner' Private Brands." Supermarket News, 18 Oct. 2018, www.supermarketnews.com/private-label/ahold-delhaize-usa-eyes-cleaner-private-brands.

xⁱⁱ Coca-Cola produces roughly 200,000 bottles per minute. See Laville, Sandra. "Coca-Cola Admits it Produces 3m Tonnes of Plastic Packaging a Year." *The Guardian*, 14 Mar. 2019, www. theguardian.com/business/2019/mar/14/coca-cola-admits-it-produces-3m-tonnes-of-plastic-packaging-a-year.

xiii Using a laser to apply a label directly onto produce, thereby eliminating the use of single-use plastic in the first place.

#14 Southeastern Grocers



Headquarters: Jacksonville, FL

Stores and Banners: 552 stores operating as BI-LO, Harveys Supermarket, Winn-Dixie, and Fresco y Más

Background: As its name implies, Southeastern Grocers is regionally located in the U.S. Southeast. Its FY 2018 revenue was \$8.35 billion.

Greenpeace Comments: Southeastern Grocers' poor performance reflects its past initiatives (or lack thereof) to tackle single-use plastics. However, it seems that the retailer may be prepared to more strategically engage on the issue. Southeastern Grocers exhibited more transparency than all of its peers in the bottom half of the rankings regarding its plastic footprint. This is noteworthy, because transparency is the first step needed to measure future reforms. Greenpeace remains cautiously optimistic and prepared to engage Southeastern Grocers on meaningful improvements.

Policy: Southeastern Grocers does not have a comprehensive public policy to address its role in the plastic pollution crisis, and must immediately formulate a plan that addresses both its private label and national brand products (see page 12).

Reduction: Southeastern Grocers has virtually nothing to show for plastic reduction in its stores. Like several other retailers, Southeastern Grocers has a community bag reward program that encourages recycling and charitable giving in local communities. The impact of this program is not documented.

Innovation and Initiatives: Southeastern Grocers has neither piloted nor implemented any innovative reuse or refill systems. As it develops a comprehensive program, Southeastern Grocers must engage its private label and national brand suppliers, like Danone, to phase out single-use plastics and switch to reuse and refill systems.

Transparency: While it is still gathering data, Southeastern Grocers scored higher than its peers in this category, largely because of its high level of transparency with Greenpeace on its overall plastic footprint. Southeastern Grocers should provide public updates regarding its plastic footprint and progress on reduction initiatives.



Headquarters: Lakeland, FL

Stores and Banners: 1,218 stores operating as Publix, Publix Sabor, and GreenWise Market

Background: Publix is the sixth-largest retailer by revenue, operating in the U.S. South, Southeast, and Mid-Atlantic regions. Its FY 2018 revenue was \$36.38 billion.

Greenpeace Comments: Publix failed big time, thanks to its almost singular focus on recycling and lack of transparency. While recycling has some role to play, this strategy alone is failing and will not curb the tidal wave of plastics into our environment (see page 15). Publix touts a strange assortment of tepid "achievements" for a retailer of its size: a bags-saved counter, removing plastic sleeves from mops, and recycling 4,600 used plastic buckets in its bakeries each week (instead of finding a way to reduce the number in the first place).¹⁸⁵ Publix has utterly failed to take responsibility for its massive role in the plastic pollution crisis, and concerned customers are taking note.

Policy: Publix does not have a comprehensive public single-use plastic reduction policy. One is left with the impression that Publix's leadership is unaware that it should immediately address the thousands upon thousands of its products that are packaged in single-use plastics.

Reduction: Perhaps the retailer's most noteworthy reported achievement is its effort to reduce the amount of polystyrene foam used in transporting seafood.^{xliii} Oddly, in the same sustainability report, Publix celebrates saving on packaging tonnage by switching its deli tuna from readily recyclable cans to hard-to-recycle plastic laminate pouches. Publix's seafood team should be concerned with this approach, as more and more fish ingest microplastics that enter our food supply chains (see page 6). While Publix claims to have plastic bag reduction goals, it appears to have not trained all staff on these goals.¹⁸⁶ Some shoppers have complained that most cashiers readily hand out single-use plastic checkout bags, even when only one item is being purchased.¹⁸⁷

Innovation and Initiatives: Publix is a member of the Sustainable Packaging Coalition. Aside from that, Greenpeace could find nothing noteworthy or innovative about the retailer's approach to reducing single-use plastics. Quite the contrary. In April, Publix was criticized by lawmakers and the public for lobbying against single-use plastic bag bans in Florida.¹⁸⁸¹⁸⁹ Publix must turn a corner: it can start by leveraging its purchasing power with its private label and national brand suppliers, like Procter & Gamble, to phase out single-use plastics and switch to reuse and refill systems. These would be initiatives worth boasting about on its sustainability website.

Transparency: There is no information on Publix's overall plastic footprint or any kind of comprehensive commitments that have a transparency or accountability component. Interestingly, the public is offered one tidbit on the amount of plastic waste generated by Publix retail bakeries: 4,600 high-density polyethylene plastic buckets per week. Instead of reducing this waste or developing a reuse system, the buckets are sent for recycling.

^{xiii} More than 190,000 containers eliminated in 2015 by switching to returnable plastic totes for the retailer's seafood shipments. See Publix Sustainability Report 2019. sustainability. publix.com/wp-content/uploads/sustainability-report.pdf.

#16 Giant Eagle



Headquarters: Pittsburgh, PA

Stores and Banners: 216 stores operating as Giant Eagle, Giant Eagle Express, Market District, and Market District Express^{xliv}

Background: Giant Eagle is a privately owned, regional retailer, with its largest presence in Pennsylvania and Ohio. Its FY 2018 revenue was \$8.9 billion.

Greenpeace Comments: Giant Eagle has some recycling initiatives and small-scale pilot programs to reduce singleuse plastics. However, the scale of these pilots is far too small to match the urgency and sheer size of the plastic pollution crisis. Giant Eagle and other retailers must act now as plastic continues to flood our environment and enter our food, water, and air.

Policy: Giant Eagle does not have a time-bound policy with specific reduction targets to ultimately end its reliance on single-use plastics. This is a significant oversight.

Reduction: Giant Eagle's ambition level in reducing single-use plastics can be best described as timid. While the retailer is planning pilot programs and is considering alternatives to single-use plastics (e.g., removing checkout bags; evaluating compostable alternatives to hot- and cold-food bar packaging, straws, cutlery), its initiatives are lacking in both scale and urgency to address the incessant flow of plastics into our environment. To its credit, Giant Eagle will be incentivizing customers to bring reusable bags through its customer loyalty program. Giant Eagle is also investigating ways to reduce single-use plastics and plastic waste in seafood procurement.

Innovation and Initiatives: Giant Eagle has replaced some single-use plastics with compostable alternatives in its prepared foods department, and is evaluating how to expand this initiative. While it is encouraging that Giant Eagle is considering the unintended consequences of this initiative, replacing one throwaway material with another is not the solution (see page 16). The retailer should instead refocus its efforts on alternative delivery systems. As Giant Eagle engages its private label and national brand suppliers on plastics, it must urge large national brand suppliers, like Nestlé, to phase out single-use plastics and switch to reuse and refill systems.

Transparency: Giant Eagle did not report on its overall plastic footprint. Giant Eagle and other retailers must be more transparent, especially as the public is becoming increasingly concerned about the plastic pollution crisis.

xiiv Giant Eagle also operates 203 GetGo convenience stores and fuel stations and recently acquired 56 Ricker's locations, which will be rebranded as GetGo. Retailers must also apply their single-use plastic policies to their convenience store operations.

WinCo #17 WinCo Foods FOODS **Overall Score** 4.0 **DID NOT RESPOND** Policy 3.3 Reduction 4.3 Initiatives 4.6 Transparency

Headquarters: Boise, ID

Stores and Banners: 126 stores operating as WinCo Foods and Waremart by WinCo

Background: WinCo Foods ("WinCo") is an employeeowned, warehouse-style retailer with stores in the U.S. West, Oklahoma, and Texas. Its FY 2018 revenue was \$7.72 billion.

Greenpeace Comments: WinCo is among the lowest-ranked retailers, leaving questions about its focus on single-use plastics and the plastic pollution crisis. Unsurprisingly, there is no hint of a policy or strategies toward absolute reductions of single-use plastics. As evidence of its ignorance, it even twisted the age-old adage of "reduce, reuse, recycle" into "recycle, recycle, recycle."xiv WinCo could make lightning-fast gains if it seized the opportunity to convert its 800-item bulk foods section into a reusable container paradise.

Policy: WinCo does not have a comprehensive public policy or commitments to reduce its plastic footprint.

Reduction: Unfortunately, WinCo "proudly" offers customers the option of paper or single-use plastic bags at checkout, unless it is otherwise prohibited by local law.¹⁹⁰ This pride is misplaced. WinCo heralds recycling as its golden ticket, stating: "What happens to the empty boxes and plastic wrap that protect our shipments? Recycle, recycle, recycle."191 While recycling is not bad in and of itself, having cheapened the phrase "reduce, reuse, recycle" into simply repeating the word "recycle" three times is omitting the two far more effective strategies-preventing unnecessary waste from being created in the first place, and investing in reuse. WinCo must recognize that recycling alone will never solve the plastic pollution crisis (see page 15).

Innovation and Initiatives: WinCo has a massive bulk foods section, with more than 800 items for sale. However, this significant plastics reduction opportunity is squandered, as WinCo does not allow customers to bring in their own reusable containers, citing food safety concerns.¹⁹² This ignores the fact that other retailers have devised how to incorporate reusable containers while still allaying these concerns.¹⁹³ But WinCo does not need Greenpeace to point out this significant oversight, when several of its customers have repeatedly asked the retailer for the reusable option in comments responding to its bulk foods tutorial video.¹⁹⁴ WinCo must engage its private label and national brand suppliers, like PepsiCo, to phase out single-use plastics and switch to reuse and refill systems.

3.2

Transparency: WinCo is not remotely transparent about its overall plastic footprint, and has not publicly demonstrated that it is even aware that plastics are a problem.

xiv See "A Greener Store" section in "Green Initiatives." WinCo Foods, www.wincofoods.com/about/green-initiatives.

#18 Meijer meijer Overall Score 3.3 DID NOT RESPOND Policy 3.3 Reduction 3.4 Initiatives 3.1 Transparency 3.2

Headquarters: Grand Rapids, MI

Stores and Banners: More than 240 stores operating as Meijer and one as Bridge Street Market^{xlvi}

Background: Meijer is a family-owned and -operated retailer located in the U.S. Midwest and Kentucky. Its FY 2018 revenue was \$19.25 billion.

Greenpeace Comments: While Meijer may be involved in more comprehensive strategies to address its role in the plastic pollution crisis, its lack of transparency and limited information on its websites and in the press made it near impossible for Meijer to perform respectably in this assessment. Meijer must take responsibility for its massive plastic footprint and announce an ambitious plan to end its reliance on single-use plastics.

Policy: There is no indication that Meijer has a policy or commitments to address its plastic footprint. Meijer's sustainability program purportedly includes waste reduction, recycling, pollution prevention, and responsible growth.¹⁹⁵ It is time for Meijer to move beyond recycling and *invest in pollution prevention* by announcing a time-bound absolute reduction target to reduce its single-use plastic footprint.

Reduction: Aside from some basic recycling initiatives, there is no indication that Meijer is working on an absolute reduction of single-use plastics.

Innovation and Initiatives: Meijer has partnered with Colgate-Palmolive and TerraCycle on hard-to-recycle plastics, using a school competition to encourage recycling and then build a playground from recycled plastics for the winning school.¹⁹⁶ While it is fantastic to engage young people in environmental stewardship, Meijer would fare better by truly investing in the future of youth, and expanding its initiatives beyond recycling (see page 15). Meijer could start today by continuing its work with Colgate-Palmolive to markedly reduce its products packaged in single-use plastics and to shift toward reuse and refill options throughout Meijer stores.

Transparency: There is no indication of Meijer's plastic footprint and very little information besides recycling initiatives on its website. The biggest headlines Meijer made on plastics in 2019 were in April, when it recalled ground beef at risk of plastic contamination.¹⁹⁷

#19 Wakefern

Overall Score



DID NOT RESPOND

Policy

3.3 Reduction

2.6 Initiatives

3.1

Transparency

4.8

Headquarters: Keasbey, NJ

Stores and Banners: 352 stores operating as ShopRite, Price Rite Marketplace, The Fresh Grocer, and Dearborn Market

Background: Wakefern is the largest retailer-owned cooperative nationwide, supplying all Price Rite and ShopRite banners and owning several stores outright. Its FY 2018 revenue was \$16.53 billion.

Greenpeace Comments: Wakefern is yet another large retailer with influence over its supply chain that appears to be doing next to nothing to take responsibility for its role in the plastic pollution crisis. Wakefern is the second-worst ranked retailer in this report.

Policy: Wakefern does not have a comprehensive public policy or commitments to reduce its plastic footprint.

Reduction: Wakefern staff participates in beach cleanups, but it remains unclear if the retailer is doing anything to reduce the production of the very single-use plastics that could end up on those beaches. Additionally, Wakefern does not appear ready to join Kroger or Whole Foods in a single-use plastic checkout bag ban. Wakefern's reason for keeping single-use plastic checkout bags is it wants to offer customers a choice. Oddly, this policy is featured in the Grocery Bag Reduction section of ShopRite's sustainability website.¹⁹⁸ Innovation and Initiatives: While not groundbreaking, Wakefern was engaged in the How2Recycle labeling program as of 2015. It is unclear if, and to what level, Wakefern is still involved in this initiative. Wakefern operates its own recycling center for recycling materials, including its plastic deli pails and bags, and participates in the same recycling partnership as Meijer.^{xlvii} Because recycling alone has not and will not stop the tidal wave of plastics into our environment (see page 15), Wakefern needs to wake up and invest in reduction strategies. Wakefern must leverage its buying power with its private label and national brand suppliers, including Unilever, to prioritize plastic reduction and invest in reuse and refill systems.

3.1

Transparency: Practically no useful public information is available on Wakefern's policies, initiatives, or plastic footprint.

#20 H-E-B Image: Constraint of the con

Headquarters: San Antonio, TX

Stores and Banners: 344 stores operating as H-E-B, H-E-B Plus!, Mi Tienda, Joe V's Smart Shop, and Central Market^{xlviii}

Background: H-E-B is a privately held retailer with a large presence in Texas. Its FY 2018 revenue was \$23.38 billion.

Greenpeace Comments: H-E-B is the worst-ranked retailer on single-use plastics. Given H-E-B's size and influence on its supply chain, it is disturbing that it is the worst performer in this assessment. With no response from the company and a paltry amount of information on its website, Greenpeace has zero indication that H-E-B's leadership is aware of the massive scale of the plastic pollution crisis, growing concerns from the public, or the inevitable tide of legislation that is sweeping local and state governing bodies.

Policy: H-E-B does not have a comprehensive public policy or commitments to reduce its plastic footprint.

Reduction: H-E-B appears stuck in the 1990s, focusing on recycling and beach cleanups. H-E-B failed to do the right thing on plastic bags by actually *reintroducing* them at several stores in Texas after a three-year hiatus, simply because the state supreme court ruled a local bag ban to be incompatible with state law.^{199 xlix} H-E-B could have simply chosen to not reintroduce them.¹

Innovation and Initiatives: Greenpeace could not find any innovative efforts undertaken or planned by H-E-B. Nor is it known if H-E-B is leveraging its sizable buying power with its private label and national brand suppliers, including PepsiCo, to prioritize plastic reduction and invest in reuse and refill systems.

Transparency: Aside from outdated recycling rates on H-E-B's sustainability website,²⁰⁰ Greenpeace was unable to find any meaningful information about H-E-B's plastic footprint or comprehensive efforts to reduce its reliance on single-use plastics.

x^{wiii}H-E-B also operates convenience stores. Retailers must also apply their single-use plastic policies to their convenience store operations.

¹Like ALDI, H-E-B has heavier plastic bags for sale. While these bags are designed to be reused and can be recycled, it does not mean they will be. H-E-B needs to join retailers like Whole Foods that do not offer any plastic checkout bags.

 $^{^{}m xiix}$ For more details on corporate-funded legal efforts to block plastic bag bans at the state level, see ALEC on page 9.

GLOSSARY

Absolute reduction: Reducing the total number of single-use plastic packaging units, which reduces a retailer's plastic footprint. Greenpeace urges retailers to set absolute reduction targets to begin reducing and ultimately phasing out their reliance on single-use plastics. Absolute reduction is more effective than relative reduction (see definition on page 41).

Agriplastics: Plastic products and packaging used in agricultural production and sales. Agriplastics include mulch and greenhouse film, silage covers and bags, irrigation systems, tunnels, and covers. Inappropriate disposal of agriplastics is common, with low recycling rates, and they are often burned, abandoned in fields or watercourses, buried in the soil, or disposed of in landfills. Inappropriate disposal can degrade soil, reduce crop productivity, and harm marine species if the plastics enter the ocean.

Bio-based plastics: Materials that are partly or largely derived from bio-based feedstocks.

Biodegradable plastics: Plastics may be labeled "biodegradable" if they meet specific industrial standards.

Bioplastics: May refer to either "bio-based" or "biodegradable" plastics. A bioplastic could be both biobased and biodegradable.

Compostable plastics: A subset of biodegradable plastics that biodegrade within the conditions and timeframe of the composting process. There is no consistently used global standard for compostability, and industrial facilities for handling the materials are not widely available and accessible to customers.

Ecodesign: An approach to designing products with special consideration for the environmental impacts of the product during its whole life cycle. While this approach offers some encouraging and innovative practices, it alone will not prevent plastic pollution from entering our environment. Companies must prioritize reusable delivery systems.

Ellen MacArthur Foundation (EMF): The Ellen MacArthur Foundation's New Plastics Economy Global Commitment includes 2025 targets for signatories to employ to help eradicate plastic pollution at its source. As of this writing, U.S. retail signatories include Walmart, Target, and Ahold Delhaize.

Hefty EnergyBag Program: A collaboration among Dow Chemical, Keep America Beautiful, Reynolds Consumer Products, and waste management operators in select U.S. cities. Well-intentioned customers who receive or purchase these bags place non-recyclable plastics into the Hefty EnergyBag. These plastics are then incinerated or sent to pyrolysis plants, which convert plastics into a fossil fuel that is then burned.²⁰¹ The program has been linked to burning plastics in a Missouri-based cement kiln that violated the Clean Air Act.²⁰² Burning plastic is known to release carcinogenic pollutants, which lead to a wide array of debilitating human health impacts.²⁰³ Albertsons, Target, and Hy-Vee are among retailers that sell the Hefty EnergyBag.

Lightweighting: A design process used to reduce the overall amount of plastics required (by weight) to produce packaging, though *it does not reduce the number of packaging units* (see relative reduction on page 41). Rather than lightweighting, Greenpeace recommends a complete phase-out of single-use plastic packaging, and that retailers focus on reducing the *total number* of single-use plastic units (see absolute reduction).

Microfibers: "[T]iny fragment[s] of the type of plastic used to make synthetic fabrics. These fibers are shed from synthetic clothing during a washing machine cycle. Because they are so small, microfibers aren't all caught by wastewater treatment plants; instead, many are released into the environment."²⁰⁴

Microplastics: Pieces of plastic smaller than 5 millimeters.

Packaging unit: A single packaging container in which a standard quantity of product will fit (e.g., a single bottle of milk or water, a single ready-to-eat meal tray). For example, a 24-pack of bottled water would count as 24 units.

Plastic footprint: The total amount of plastic, by units and weight, used or sold throughout a company's operations.

Plastic sachet: A small, flexible package that is unrecyclable and has little or no value to waste pickers, typically a laminate of plastic and another material, such as foil containing a single serving of a product. Sachets end up overwhelming landfills, clogging streets and waterways, and are frequently burned, emitting toxins into the air. Consumer goods companies like Nestlé, Unilever, and Procter & Gamble produce and distribute large numbers of products packaged in sachets, particularly in Southeast Asia.

Polystyrene: A resin that has many applications, commonly as an expanded foam, such as that found in take-out food containers. What is commonly called Styrofoam is actually a trademarked product frequently used in building materials.

Primary packaging: Packaging that contains the finished or final products, also referred to as retail or consumer packaging. It includes all packaging at the point of sale that is ultimately disposed of by the end user via reuse, recycling, landfill, or other disposal route.

Pyrolysis: See Hefty EnergyBag Program on page 40.

Recyclable packaging: Packaging that is widely recyclable within current infrastructure across the U.S. Where possible, packaging should be recycled into applications with the same level of quality.

Recycled content: The portion of materials used in a product that have been diverted from the solid waste stream.

Relative reduction: Reducing the amount of plastic used for packaging units via lightweighting or material substitution. While this indeed reduces a retailer's plastic footprint, it fails to reduce the total number of packaging units (see absolute reduction on page 40). Greenpeace urges retailers to move beyond these unambitious strategies and to set time-bound absolute reduction targets that markedly reduce and ultimately phase out their reliance on single-use plastics.

Reusable packaging: Packaging that has been designed to be refilled or used for the same purpose within a system for reuse.

Single-use plastic: Any plastic that is intended for onetime use—such as plastic bags, sachets, bottles, and food, drink, and non-food packaging, designed to be used only once and then disposed of. This includes recyclable packaging.

"Waste-to-energy": This is often greenwashing for incineration, which can "involve processes such as combustion, pyrolysis, gasification, or plasma arc. But they all have the same claim—'burning waste will make our waste problems disappear."²⁰⁵

Widely recyclable: Plastic packaging that is accepted in residential curbside recycling programs and available to at least 60% of customers²⁰⁶ in a given location.





ENDNOTES

¹ Center for International Environmental Law. *Plastic & Health: The Hidden Costs of a Plastic Planet*. Washington, DC, 19 Feb. 2019. www.ciel.org/plasticandhealth.

² Ibid.

³ Ibid.

⁴ Taylor, Matthew. "\$180bn Investment in Plastic Factories Feeds Global Packaging Binge." *The Guardian*, 26 Dec. 2017, **www.theguardian.com/environment/2017**/ **dec/26/180bn-investment-in-plastic-factories-feeds-global-packaging-binge**.

⁵ World Economic Forum & Ellen MacArthur Foundation. *The New Plastics Economy: Rethinking the Future of Plastics*. Cologny-Geneva, 19 Jan. 2016. www3. weforum.org/docs/WEF_The_New_Plastics_Economy.pdf.

⁶ Ellen MacArthur Foundation. "New Plastics Economy." www. ellenmacarthurfoundation.org/our-work/activities/new-plastics-economy.

⁷ Albertsons Companies. "Albertsons Companies Unveils New Pledge to Reduce Plastic Use in Packaging." 22 Apr. 2019, www.3blmedia.com/News/Albertsons-Companies-Unveils-New-Pledge-Reduce-Plastic-Use-Packaging.

⁸ Center for International Environmental Law. *Plastic & Health: The Hidden Costs of a Plastic Planet.*

⁹ Taylor. "\$180bn Investment in Plastic Factories Feeds Global Packaging Binge."

¹⁰ Center for International Environmental Law. Fueling Plastics: How Fracked Gas, Cheap Oil, and Unburnable Coal are Driving the Plastics Boom. Washington, DC, 21 Sept. 2017. https://www.ciel.org/wp-content/uploads/2017/09/Fueling-Plastics-How-Fracked-Gas-Cheap-Oil-and-Unburnable-Coal-are-Driving-the-Plastics-Boom.pdf.

¹¹ Gill, Julian. "Shell Sees New Role for Former Steel Region: Plastics." *The New York Times*, 26 Mar. 2019, www.nytimes.com/2019/03/26/business/shellpolyethylene-factory-pennsylvania.html.

¹² Geyer, Roland, Jenna R. Jambeck, and Kara L. Law. "Production, Use and Fate of All Plastics Ever Made." *Science Advances*, vol. 3 (2017), no. 7, **advances**. sciencemag.org/content/3/7/e1700782.

 $^{\rm 13}$ Center for International Environmental Law. Plastic & Health: The Hidden Costs of a Plastic Planet.

¹⁴ Ibid.

¹⁵ Eriksen, Marcus, et al. "Plastic Pollution in the World's Oceans: More than 5 Trillion Plastic Pieces Weighing over 250,000 Tons Afloat at Sea." *PLOS ONE*, 10 Dec. 2014, journals.plos.org/plosone/article?id=10.1371%2Fjournal. pone.0111913.

¹⁶ Greenpeace USA. "Over 90% of Sampled Salt Brands Globally Found to Contain Microplastics." 16 Oct. 2018, www.greenpeace.org/usa/news/over-90-ofsampled-salt-brands-globally-found-to-contain-microplastics.

¹⁷ Carrington, Damian. "Plastic Fibres Found in Tap Water around the World, Study Reveals." *The Guardian*, 5 Sept. 2017, **www.theguardian.com**/ **environment/2017/sep/06/plastic-fibres-found-tap-water-around-worldstudy-reveals**.

¹⁸ Thompson, Andrea. "From Fish to Humans, A Microplastic Invasion May Be Taking a Toll." Scientific American, 4 Sept. 2018, www.scientificamerican.com/ article/from-fish-to-humans-a-microplastic-invasion-may-be-taking-a-toll.

¹⁹ Gallo, Frederic, et al. "Marine Litter Plastics and Microplastics and Their Toxic Chemicals Components: The Need for Urgent Preventive Measures." *Environmental Sciences Europe*, 18 Apr. 2018, **enveurope.springeropen.com/ articles/10.1186/s12302-018-0139-z**.

²⁰ Jamieson, Alan J., et al. "Microplastics and Synthetic Particles Ingested by Deep-Sea Amphipods in Six of the Deepest Marine Ecosystems on Earth." *Royal Society Open Science*, 27 Feb. 2019, royalsocietypublishing.org/doi/10.1098/ rsos.180667.

²¹ Fox, Alex. "Airborne Microplastics Found atop France's Remote Pyrenees Mountains." Science, 15 Apr. 2019, www.sciencemag.org/news/2019/04/ airborne-microplastics-found-atop-france-s-remote-pyrenees-mountains.

²² Gall, S.C., and R.C. Thompson. "The Impact of Debris on Marine Life." Marine Pollution Bulletin, vol. 92 (2015), no. 1–2, pp. 170–179. ²³ Wilcox, Chris, Erik Van Sebille, and Britta Denise Hardisty. "Threat of Plastic Pollution to Seabirds Is Global, Pervasive, and Increasing." *PNAS*, 22 Sept. 2015, pp. 11899–11904.

²⁴ Dengate, Cayla. "University of Queensland Study Shows One In Three Turtles Have Eaten Marine Plastic." *HuffPost Australia*, 15 July 2016, www. huffingtonpost.com.au/2016/03/17/turtles-marine-plastic_n_9455496.html.

²⁵ Baulch, Sarah, and Clare Perry. "Evaluating the Impacts of Marine Debris on Cetaceans." *Marine Pollution Bulletin*, vol. 80 (2014), no. 1–2, pp. 210–221.

²⁶ Mortada, Dalia. "Stomach of Dead Whale Contained 'Nothing But Nonstop Plastic." NPR.org, 18 Mar. 2019, www.npr.org/2019/03/18/704471596/stomachof-dead-whale-contained-nothing-but-plastic.

²⁷ Fiallo, Josh. "Stranded Dolphin in Florida had Plastic Bags, Balloon in Stomach." *Tampa Bay Times*, 28 Apr. 2019, www.tampabay.com/florida/2019/04/28/ stranded-dolphin-in-florida-had-plastic-bags-balloon-in-stomach.

²⁸ United European Gastroenterology. "UEG Week: Microplastics Discovered in Human Stools Across the Globe in 'First Study of Its Kind." 23 Oct. 2018, www. ueg.eu/press/releases/ueg-press-release/article/ueg-week-microplasticsdiscovered-in-human-stools-across-the-globe-in-first-study-of-its-kind.

²⁹ University of California, Santa Barbara. "Microplastic Transfers Chemicals, Impacting Health: Plastic Ingestion Delivers Pollutants and Additives into Animal Tissue." *ScienceDaily*, 2 Dec. 2013, www.sciencedaily.com/ releases/2013/12/131202142735.htm.

³⁰ Rochman, Chelsea M., et al. "Long-Term Field Measurement of Sorption of Organic Contaminants to Five Types of Plastic Pellets: Implications for Plastic Marine Debris." *Environmental Science & Technology*, vol. 47 (2013), no. 3.

³¹ Seeker. "How Millions of Microscopic Fibers Are Ending Up in Our Bodies." Seeker, 5 Nov. 2018, www.seeker.com/videos/earth/how-millions-ofmicroscopic-fibers-are-ending-up-in-our-bodies.

³² Center for International Environmental Law. *Plastic & Health: The Hidden Costs of a Plastic Planet*.

³³ Ibid.

³⁴ Schreder, Erika, and Jennifer Dickman. Take Out Toxics: PFAS Chemicals in Food Packaging. Washington, DC, and Seattle, WA: Safer Chemicals, Healthy Families and Toxic-Free Future, Jan. 2019. saferchemicals.org/wp-content/ uploads/2019/01/saferchemicals.org_take_out_toxics_pfas_chemicals_in_ food_packaging.pdf.

³⁵ Ibid.

³⁶ Trasande, Leonardo, Rachel M Shaffer, and Sheela Sathyanarayana. "Food Additives and Child Health." *Pediatrics*, Aug. 2018, pediatrics.aappublications. org/content/142/2/e20181408.

³⁷ Ethical Corporation. The Responsible Business Summit New York, 19 Mar. 2019. Comments from John Hocevar. ethicalcorp.com/content/responsiblebusiness-summit-new-york-2019.

³⁸ Cirino, Erica. "Plastic Pollution: Could We Have Solved the Problem Nearly 50 Years Ago?" *The Revelator*, 26 Mar. 2019, therevelator.org/plastic-pollutionwarnings.

³⁹ Center for International Environmental Law. *Plastic & Health: The Hidden Costs of a Plastic Planet*.

⁴⁰ Peters, Adele. "The World's Big Plastic Makers Want More Recycling So They Can Keep Pumping Out Plastic." *Fast Company*, 25 Jan. 2019, www.fastcompany. com/90295292/the-worlds-big-plastic-makers-want-more-recycling-so-theycan-keep-pumping-out-plastic.

⁴¹ Laville, Sandra. "Founders of Plastic Waste Alliance 'Investing Billions in New Plants." *The Guardian*, 21 Jan. 2019, www.theguardian.com/ environment/2019/jan/21/founders-of-plastic-waste-alliance-investingbillions-in-new-plants.

⁴² Chapman, Ben. "Coca Cola, Pepsi and Nestle Attempt to Water Down New Plastics Laws, Leaked Letter Reveals. *Independent*, 18 Oct. 2018, www. independent.co.uk/news/business/news/coca-cola-pepsi-nestle-plasticpollution-leaked-letter-water-down-laws-a8590916.html. ⁴³ Nestlé Waters. "Nestlé Waters North America Announces \$6 Million Investment in Closed Loop Fund." 22 May 2018, www.nestleusa.com/media/pressreleases/ nestle-waters-north-america-closed-loop-fund-investment.

⁴⁴ PepsiCo. "PepsiCo Recycling." www.pepsicorecycling.com.

⁴⁵ The Recycling Partnership. "P&G Celebrates World Oceans Day with Organizations, Including The Partnership to Reduce its Plastic Consumption & Advance Recycling." 7 Jun. 2018, **recyclingpartnership.org/pg-celebratesworld-oceans-day**.

⁴⁶ How2Recycle. "Becoming a Member is Easy." how2recycle.info/join.

⁴⁷ Greenpeace International. A Crisis of Convenience: The Corporations behind the Plastics Pollution Pandemic. Amsterdam, 23 Oct. 2018, www.greenpeace.org/ international/publication/19007/a-crisis-of-convenience-the-corporationsbehind-the-plastics-pollution-pandemic.

48 Ibid.

⁴⁹ Staub, Colin. "EPA: U.S. Plastics Recycling Rate Declines." *Plastics Recycling Update*, 1 Aug. 2018, **resource-recycling.com/plastics/2018/08/01/epa-u-s-plastics-recycling-rate-declines**.

⁵⁰ Dell, Jan. "U.S. Plastic Recycling Rate Projected to Drop to 4.4% in 2018." *Plastic Pollution Coalition*, 4 Oct. 2018, www.plasticpollutioncoalition.org/ pft/2018/10/4/us-plastic-recycling-rate-projected-to-drop-to-44-in-2018.

⁵¹ Geyer, Jambeck, and Law. "Production, Use and Fate of All Plastics Ever Made."

⁵² Eriksen, M., et al. "Plastic Pollution in the World's Oceans."

⁵³ Greenpeace East Asia. Data from the Global Plastics Waste Trade 2016–2018 and the Offshore Impact of China's Foreign Waste Import Ban. 23 Apr. 2019, www. greenpeace.org/eastasia/Global/eastasia/publications/campaigns/toxics/ GPEA%20Plastic%20waste%20trade%20-%20research%20briefing-v1.pdf.

⁵⁴ Ivanova, Irina. "American Cities Confront a 'Slow-Moving Recycling Crisis."" CBS News, 20 Mar. 2019, www.cbsnews.com/news/recycling-after-chinas-plasticban-american-cities-face-recycling-crisis.

⁵⁵ Milman, Oliver. "'Moment of Reckoning': US Cities Burn Recyclables after China Bans Imports." *The Guardian*, 21 Feb. 2019, www.theguardian.com/cities/2019/ feb/21/philadelphia-covanta-incinerator-recyclables-china-ban-imports.

⁵⁶ Dell, Jan. "Six Times More Plastic Waste Is Burned in U.S. Than Is Recycled." *Plastic Pollution Coalition*, 30 Apr. 2019, www.plasticpollutioncoalition.org/ pft/2019/4/29/six-times-more-plastic-waste-is-burned-in-us-than-isrecycled.

⁵⁷ Geyer, Jambeck, and Law. "Production, Use and Fate of All Plastics Ever Made."

⁵⁸ Center for International Environmental Law. *Plastic & Health: The Hidden Costs of a Plastic Planet.*

⁵⁹ See participating retailers, including Albertsons, Target, and Hy-Vee, in markets such as Boise, ID (www.hefty.com/hefty-energybag/boise-program) and Omaha, NE (www.hefty.com/hefty-energybag/omaha-area-program).

⁶⁰ Gedert, Bob. "Dow EnergyBag NRC Letter." Received by Dow Chemical Company, 23 Oct. 2017, Washington, DC. www.no-burn.org/wp-content/ uploads/Dow-Energy-Bag-NRC-Letter.pdf.

⁶¹ Davenport, Kate, et al. "ISRI Letter." Received by Institute of Scrap Recycling Industries, 6 Nov. 2017, Washington, DC. resource-recycling.com/recycling/wpcontent/uploads/sites/3/2017/11/ISRI-letter_final1.pdf.

⁶² Goldsberry, Clare. "Hefty Energy Bag Program Provokes Backlash from Environmental Organizations." *Plastics Today*, 25 Oct. 2017, www.plasticstoday. com/packaging/hefty-energy-bag-program-provokes-backlashenvironmental-organizations/204525452957706.

⁶³ United States Environmental Protection Agency. "Lafarge North America, Inc. Clean Air Act Settlement." 21 Jan. 2010, www.epa.gov/enforcement/lafargenorth-america-inc-clean-air-act-settlement.

⁶⁴ Alami, Aida. "Going Green: Morocco Bans Use of Plastic Bags." Al Jazeera, 2 Jul. 2016, www.aljazeera.com/news/2016/07/green-morocco-bans-plasticbags-160701141919913.html.

⁶⁵ ReuseThisBag.com. "Where Are Plastic Bags Banned Around the World?" 30 Aug. 2018, www.reusethisbag.com/articles/where-are-plastic-bags-bannedaround-the-world.

⁶⁶ Lober, Douglas. "Where Are Plastic Bags Banned Around the World?" *ReuseThisBag.com*, 27 Mar. 2018, **www.reusethisbag.com/articles/plastic-bag-bans-worldwide**. ⁶⁷ European Commission. A European Strategy for Plastics in a Circular Economy. Brussels, 16 Jan. 2018, eur-lex.europa.eu/legal-content/EN/ TXT/?qid=1516265440535&uri=COM:2018:28:FIN.

⁶⁸ European Commission. "European Strategy for Plastics." 10 Oct. 2018, ec.europa.eu/environment/waste/plastic_waste.htm.

⁶⁹ European Commission. "Single-use Plastics: New EU Rules to Reduce Marine Litter." 28 May 2018, europa.eu/rapid/press-release_IP-18-3927_en.htm.

⁷⁰ Council of the European Union. "Proposal for a Directive of the European Parliament and of the Council on the reduction of the impact of certain plastic products on the environment." 18 Jan. 2019, **data.consilium.europa.eu/doc/document/ST-5483-2019-INIT/en/pdf**.

⁷¹ Dell, Jan. "Six Times More Plastic Waste Is Burned in U.S. Than Is Recycled."

⁷²National Conference of State Legislatures. "State Plastic and Paper Bag Legislation." 30 Apr. 2019, www.ncsl.org/research/environment-and-naturalresources/plastic-bag-legislation.aspx.

⁷³ Wilson, Reid. "Plastic Bag Bans Gain Steam in Liberal States." The Hill, 3 Apr. 2019, thehill.com/homenews/state-watch/437183-plastic-bag-bans-gainsteam-in-liberal-states.

⁷⁴ "Maine House Votes to Ban Single-Use Plastic Bags." Associated Press, 4 Jun. 2019, www.usnews.com/news/best-states/maine/articles/2019-06-04/mainehouse-votes-to-ban-single-use-plastic-bags.

⁷⁵ Wu, Sarah. "Q&A: Seattle's Plastic Straw Ban Now in Effect; Here's What You Need to Know." *The Seattle Times*, 1 Jul. 2018, www.seattletimes.com/seattlenews/q-heres-what-you-need-to-know.

⁷⁶ Canadian Broadcasting Corporation. "Vancouver Votes to Ban Plastic Straws, Foam Cups and Containers by June 2019." *CBC News*, 17 May 2018, www.cbc. ca/news/canada/british-columbia/vancouver-plastic-straw-ban-foamcups-1.4666586.

⁷⁷ Raguso, Emilie. "Berkeley Says Good Riddance (Mostly) to Disposable Plastic Foodware." *Berkeleyside*, 23 Jan. 2019, www.berkeleyside.com/2019/01/23/ berkeley-says-good-riddance-mostly-to-disposable-plastic-foodware.

⁷⁸ Greenpeace USA. "Chemical and Plastics Industry and ALEC Conspiring to Block Communities from Acting on Plastic Pollution Crisis." 1 Mar. 2019, www. greenpeace.org/usa/news/chemical-and-plastics-industry-and-alecconspiring-to-block-communities-from-acting-on-plastic-pollution-crisis.

⁷⁹ ReuseThisBag.com. "Where Are Plastic Bags Banned Around the World?"

⁸⁰ Cordeiro, Monivette. "Florida Gov. Ron DeSantis Vetoes Bill That Would've Banned Cities from Banning Plastic Straws." *Creative Loafing: Tampa Bay*, 10 May 2019, www.cltampa.com/news-views/florida-news/article/21068270/floridagov-ron-desantis-vetoes-bill-that-wouldve-banned-cities-from-banningplastic-straws.

⁸¹ Chuang, Tamara. "Why Styrofoam—Amid All of Colorado's Recycling Struggles— Is Being Targeted for Extinction." *The Colorado Sun*, 24 Apr. 2019, **coloradosun**. **com/2019/04/24/as-colorado-struggles-to-recycle-styrofoam-cups-and-foodcontainers-may-soon-be-banned**.

⁸² The Coca-Cola Company, Danone, Nestlé, and PepsiCo. Letter to EU Ministers— "Subject: Single-Use Plastics—Alternative Proposal to Address Littering of Beverage Caps," 9 Oct. 2018. www.euractiv.com/wp-content/uploads/ sites/2/2018/10/Letter-on-tethered-cap-alternative-solution_Council.pdf.

⁸³ Chapman. "Coca Cola, Pepsi and Nestle Attempt to Water Down New Plastics Laws, Leaked Letter Reveals."

⁸⁴ Laville, Sandra, and Matthew Taylor. "A Million Bottles a Minute: World's Plastic Binge 'As Dangerous as Climate Change." *The Guardian*, 28 Jun. 2017, **www. theguardian.com/environment/2017/jun/28/a-million-a-minute-worldsplastic-bottle-binge-as-dangerous-as-climate-change**.

⁸⁵ Telegraph Reporters. "Iceland Supermarket Pledges to Go 'Plastic-Free.'" *The Telegraph*, 16 Jan. 2018, www.telegraph.co.uk/news/2018/01/16/iceland-pledges-go-plastic-free.

⁸⁶ Canadian Broadcasting Corporation. "Metro Grocery Stores in Quebec Will Allow Customers to Shop with Reusable Containers." *CBC News*, 15 Apr. 2019, www.cbc.ca/news/canada/montreal/metro-reusable-containers-grocerystore-1.5098655.

⁸⁷ Waste 360 Staff. "Zero Waste Grocery Delivery Service Comes to Brooklyn, N.Y." *Waste 360*, 22 Feb. 2019, www.waste 360.com/business-operations/zero-wastegrocery-delivery-service-comes-brooklyn-ny.

⁸⁸ Peters, Adele. "This Zero-waste Grocery Store Delivers by Bike." Fast Company, 31 Jan. 2019, www.fastcompany.com/90300151/this-zero-waste-grocerystore-delivers-by-bike. ⁸⁹ Che, Jenny. "A Whole New Kind Of Grocery Store Is Coming to the U.S." *HuffPost*, 6 July 2016, www.huffpost.com/entry/zero-waste-grocery-stores_n_577577e 2e4b09b4c43bf908e.

⁹⁰ The Hive. 7 May 2018, thehivebulkfoods.com.

⁹¹ Negozio Leggero. "Dove Siamo: Punti Vendita Negozio Leggero." www. negozioleggero.it/dove-siamo.

⁹² Ball, Aimee L. "The Anti-Packaging Movement." *The New York Times Style Magazine*, 14 Mar. 2016, www.nytimes.com/2016/03/14/t-magazine/food/precycling-food-packaging.html.

⁹³ BK. "Refill Station: This Bulk Store Will Refill Your Empty Shampoo, Shower Gel and Detergent Containers." *BK Magazine Online*, 17 May 2019, **bk.asia-city.com/** bangkok-places/shop/beauty/refill-station.

⁹⁴ Matchar, Emily. "The Rise of 'Zero-Waste' Grocery Stores." *Smithsonian*, 15 Feb. 2019, www.smithsonianmag.com/innovation/rise-zero-waste-grocerystores-180971495.

⁹⁵ ShopZero. "Zero Waste, Plastic-Free Lifestyle Store." shopzero.co.za.

⁹⁶ David & Lucile Packard Foundation. "American Millennials: Plastic Pollution As the Gateway to Engaging the Next Generation of Ocean Conservationists." 8 May 2017, www.packard.org/insights/resource/millennial-oceanplastics-research-plastics-gateway-engaging-next-generation-oceanconservationists.

⁹⁷ Break Free From Plastic. *Branded: In Search of the World's Top Corporate Plastic Polluters*, Vol 1. Manila, 9 Oct. 2018, www.breakfreefromplastic. org/2018/10/09/globalbrandauditreport.

⁹⁸ Nestlé Global. *Annual Report 2018*. Vevey, Switzerland, p. 1. www.nestle.com, www.nestle.com/investors/annual-report; also www.Nestle.com/assetlibrary/documents/library/documents/annual_reports/2018-annual-reviewen.pdf.

⁹⁹ Global Commitment and United Nations Environment Programme, *New Plastics Economy, Global Commitment, Spring 2019 Report*, p. 38. 13 Mar. 2019, **newplasticseconomy.org/news/spring-2019-report**.

¹⁰⁰ Levitt, Craig. "Catalina Mid-Year Performance Report Finds Challenging Market for Many of Top 100 CPG Brands." *Catalina*, 30 Sept. 2015, www.catalina. com/news/press-releases/catalina-mid-year-performance-report-findschallenging-market-for-many-of-top-100-cpg-brands.

¹⁰¹ Cheng, Andria. "Small CPG Brands Are Gaining Upper Hand On Giants—And Now The Big Want To Get Even Bigger." *Forbes*, 17 Oct. 2018, **www.forbes.com**/ **sites/andriacheng/2018/10/17/17-billion-this-is-how-much-sales-major-cpgbrands-have-lost-to-upstart-labels/#537233496d35**.

¹⁰² Kusek, Kathleen. "The Death of Brand Loyalty: Cultural Shifts Mean It's Gone Forever." *Forbes*, 15 Sept. 2016, www.forbes.com/sites/ kathleenkusek/2016/07/25/the-death-of-brand-loyalty-cultural-shifts-meanits-gone-forever.

¹⁰³ Greenwood, Chelsea. "Americans Are Starting to Shop More like Europeans and That Should Terrify Frito-Lay, Coca-Cola, and Kraft." *Business Insider*, 3 May 2018, www.businessinsider.sg/aldi-traderjoes-lidl-retail-revolution-brandnames-2018-3.

¹⁰⁴ The Nielsen Company. The Rise and Rise Again of Private Label. 28 Feb. 2018, www.nielsen.com/content/dam/nielsenglobal/ru/docs/2018.02%20 -%20Global%20-%20The%20Rise%20and%20Rise%20Again%20of%20 Private%20Label.pdf.

¹⁰⁵ Greenpeace International. "Nestlé and Unilever Named Top Plastic Polluters Following Philippines Brand and Waste Audits." 7 Mar. 2019, **www.greenpeace. org/international/press-release/21300/nestle-and-unilever-named-topplastic-polluters-following-philippines-brand-and-waste-audits.**

106 Ibid.

¹⁰⁷ Castillo, Luis. "¿Cansado de Botar Envases de Detergente a la Basura? Presentan Botellas Inteligentes Reutilizables." Ahora Noticias, 3 May 2019, www.ahoranoticias.cl/noticias/nacional/259773-envases-de-detergentepresentan-botellas-inteligentes-reutilizables-algramo-a-domicilio.html.

¹⁰⁸ New Plastics Economy. "Algramo." **newplasticseconomy.org/innovationprize/winners/algramo**.

¹⁰⁹ Banks, Grace. "This Chilean Startup Wants to Change the Way Latin America Shops for Food." *Forbes*, 5 Feb. 2016, **www.forbes.com/sites/** gracebanks/2016/02/05/this-chilean-startup-wants-to-change-the-waylatin-america-shops-for-food. ¹¹⁰ Bauer, Brian. "Innovative BoP Business Model Integrating IoT Connected Vending Machines with Reusable Containers for Low Waste/Cost Distribution." OpenIDEO, 17 Jul. 2017, challenges.openideo.com/challenge/circular-design/ ideas/innovative-business-model-integrating-iot-connected-vendingmachines-to-create-a-lowest-cost-sustainable-supply-chain/comments.

¹¹¹ Castillo. "¿Cansado de Botar Envases de Detergente a la Basura?"

¹¹² Segran, Elizabeth. "The Shockingly Simple Way to Make Packaging More Sustainable." *Fast Company*, 22 Apr. 2019, www.fastcompany.com/90336197/ the-shockingly-simple-way-to-make-packaging-more-sustainable.

¹¹³ "Ellen MacArthur Foundation. "Splosh—How Re-thinking the Business Model for Cleaning Products Can Influence Design." www.ellenmacarthurfoundation. org/case-studies/how-re-thinking-the-business-model-for-cleaningproducts-can-influence-design.

¹¹⁴ Environmental Solutions Group. "ecopod." ecopod.us.

¹¹⁵ Loop. loopstore.com.

¹¹⁶ Clean Water Action. "ReThink Disposable." www.cleanwater.org/campaign/ rethink-disposable.

¹¹⁷ Clean Water Action. "Institutional Case Study: Genentech's Café B33." 27 Sept. 2017, www.cleanwateraction.org/sites/default/files/ ReThinkDisposableCaseStudy_Genentech_2017.pdf.

¹¹⁸ Clean Water Action. "Institutional Case Study: University of San Francisco's Market Café." 27 Sept. 2017, **www.cleanwateraction.org/sites/default/files/ CS_USF_10.03.17_web%20%281%29.pdf**.

¹¹⁹ Eagle, Jenny. "Cup Club Returnable Cup Aspires to Be the 'City Bike Rental' Equivalent of the Coffee Scene." *Beveragedaily.com*, 25 Jan. 2018, www. beveragedaily.com/Article/2018/01/25/Cup-Club-returnable-cup-Ellen-MacArthur-Design-Challenge-winner.

¹²⁰ GOBOX. "GO Box." www.goboxpdx.com.

¹²¹ Breslouer, Lee. "This Startup Is Coming for Your Paper Coffee Cup." Thrillist, 6 Mar. 2019, www.thrillist.com/drink/nation/vessel-startup-mugs-eliminatespaper-cups-coffee-shops.

¹²² CBC."Metro Grocery Stores in Quebec Will Allow Customers to Shop with Reusable Containers."

 $^{\rm 123}$ Cirino. "Plastic Pollution: Could We Have Solved the Problem Nearly 50 Years Ago?"

¹²⁴ Geyer, Jambeck, and Law. "Production, Use, and Fate of All Plastics Ever Made."

¹²⁵ Dell, Jan. "U.S. Plastic Recycling Rate Projected to Drop to 4.4% in 2018."

¹²⁶ Peters, Adele. "All the Ways Recycling is Broken—and How to Fix Them." *Fast Company*, 4 Apr. 2019, **www.fastcompany.com/90321566/all-the-ways-recycling-is-broken-and-how-to-fix-them**.

¹²⁷ Albeck-Ripka, Livia. "6 Things You're Recycling Wrong." *The New York Times*, 29 May 2018, www.nytimes.com/2018/05/29/climate/recycling-wrong-mistakes. html.

¹²⁸ How2Recycle. how2recycle.info.

¹²⁹ Sandler Clarke, Joe, and Emma Howard. "US Plastic Waste is Causing Environmental Problems at Home and Abroad." *Unearthed*, 5 Oct. 2018, **unearthed.greenpeace.org/2018/10/05/plastic-waste-china-ban-unitedstates-america**.

¹³⁰ Ivanova, Irina. "American Cities Confront a 'Slow-Moving Recycling Crisis.'"

¹³¹ Greenpeace International. "New Research Exposes a Crisis in the Global Trade of 'Recyclable' Plastics." 23 Apr. 2019, **www.greenpeace.org/international/ press-release/21789/new-research-exposes-a-crisis-in-the-global-trade-of- recyclable-plastics.**

¹³² Ivanova, Irina. "American Cities Confront a 'Slow-Moving Recycling Crisis."

¹³³ Holden, Emily. "Nearly All Countries Agree to Stem Flow of Plastic Waste into Poor Nations." *The Guardian*, 10 May 2019, www.theguardian.com/ environment/2019/may/10/nearly-all-the-worlds-countries-sign-plasticwaste-deal-except-us.

¹³⁴ Dell, Jan. "Six Times More Plastic Waste Is Burned in U.S. Than Is Recycled."

¹³⁵ Milman, Oliver. "Moment of Reckoning': US Cities Burn Recyclables after China Bans Imports."

¹³⁶ Coca-Cola. "PlantBottle™ Packaging." www.coca-colaafrica.com/stories/ sustainability-packaging-plantbottle#. ¹³⁷ Barrett, Axel. "Danone Uses Bioplastics Bottle for So Delicious Brand." Bioplastics News, 27 Jun. 2018, bioplasticsnews.com/2018/06/27/danonewave-bioplastics-plantbased-bottle-packaging.

¹³⁸ Nestlé. "Danone and Nestlé Waters Launch NaturALL Bottle Alliance with California Startup to Develop 100% Bio-Based Bottles." 2 Mar. 2017, **www. nestleusa.com/media/pressreleases/nestle-waters-launch-alliance-naturallbio-based-bottles**.

¹³⁹ Wegmans. "Sustainable Packaging." **www.wegmans.com/about-us/makinga-difference/sustainability-at-wegmans/sustainable-packaging.html**.

¹⁴⁰ Trader Joe's. "Announcements." 31 Dec. 2018, www.traderjoes.com/ announcement/packaging-improvements.

¹⁴¹ For example, fragments of the biodegradable fossil-based polyester polycaprolactone have been found among more conventional plastics in surface water samples collected offshore in the Mediterranean Sea. See Suaria, G., et al. "The Mediterranean Plastic Soup: Synthetic Polymers in Mediterranean Surface Waters." *Scientific Reports*, 23 Nov. 2016, www.researchgate.net/ publication/310791676_The_Mediterranean_Plastic_Soup_Synthetic_ polymers_in_Mediterranean_surface_waters.

¹⁴² Kershaw, Peter John. Biodegradable Plastics and Marine Litter: Misconceptions, Concerns and Impacts on Marine Environments. Nairobi, Kenya: United Nations Environment Programme, 2015. wedocs.unep.org/bitstream/ handle/20.500.11822/7468/-Biodegradable_Plastics_and_Marine_Litter_ Misconceptions,_concerns_and_impacts_on_marine_environments-2015Bio degradablePlasticsAndMarineLitter.pdf.pdf?sequence=3.

¹⁴³ Napper, I.E., and R.C. Thompson. "Environmental Deterioration of Biodegradable, Oxo-biodegradable, Compostable, and Conventional Plastic Carrier Bags in the Sea, Soil, and Open-Air Over a 3-Year Period." *Environmental Science & Technology*, vol. 53 (2019), no. 9, pp. 4775–4783, doi.org/10.1021/acs. est.8b06984.

¹⁴⁴ Laville, Sandra. "'Biodegradable' Plastic Bags Survive Three Years in Soil and Sea." *The Guardian*, 29 Apr. 2019, www.theguardian.com/environment/2019/ apr/29/biodegradable-plastic-bags-survive-three-years-in-soil-and-sea.

¹⁴⁵ European Plastics Recyclers. How to Increase the Mechanical Recycling of Postconsumer Plastic. Brussels: EuPR, February 2010. www.plasticsrecyclers.eu/ sites/default/files/2018-05/PRE%20Strategy%20Paper%202012.pdf.

¹⁴⁶ "EuPC Calls on Legislator to Support Separate Collection of Degradable Plastic Materials and Ban Oxo Fragmentable Plastics." *Plasteurope.com*, 13 Sept. 2013, www.plasteurope.com/news/PLASTICS_AND_ENVIRONMENT_t226315.

¹⁴⁷ European Bioplastics. *Bioplastics Facts and Figures*. Berlin, Germany. docs. european-bioplastics.org/publications/EUBP_Facts_and_figures.pdf.

¹⁴⁸ Institute for Bioplastics and Biocomposites, *Biopolymers: Facts and Statistics*, Edition 4. Hannover, Germany: IfBB, 2017.

¹⁴⁹ Aeschelmann, Florence, and Michael Carus. *Bio-based Building Blocks and Polymers in the World*. Hürth, Germany: Nova-Institut GmbH, 2015, www.bio-based.eu/market_study/media/files/15-05-13_Bio-based_Polymers_and_Building_Blocks_in_the_World-nova_Booklet.pdf.

¹⁵⁰ Giljum, Stefan, et al. Land Under Pressure: Global Impacts of the EU Bioeconomy. Brussels: Friends of the Earth Europe, 2016. www.foeeurope.org/sites/default/ files/resource_use/2016/land-under-pressure-report-global-impacts-eubioeconomy.pdf.

¹⁵¹ Food and Agriculture Organization of the United Nations. FAOSTAT–Forestry database: Forestry Production and Trade. Rome: FAO, 20 Dec. 2017.

¹⁵² Baffin, Sergio. "The Paper and Packaging Boom: A Growing Wave Of Pulp Production Threatens The World's Forests And Climate." Environmental Paper Network, 1 Mar. 2019, environmentalpaper.org/2019/03/the-paper-andpackaging-boom-a-growing-wave-of-pulp-production-threatens-theworlds-forests-and-climate.

¹⁵³ Hellmann, Kai-Uwe, and Marius K. Luedicke. "The Throwaway Society: A Look in the Back Mirror." *Journal of Consumer Policy*, vol. 41, no. 1, pp. 83–87.

¹⁵⁴ Browne, Michael. "Aldi Steps Up Plastics Reduction." Supermarket News, 3 Apr. 2019, www.supermarketnews.com/sustainability/aldi-steps-plasticsreduction.

¹⁵⁵ ALDI. "About ALDI." www.aldi.us/en/about-aldi/faqs/about-aldi.

¹⁵⁶ ALDI SOUTH Group. "International Position Statement on Sustainable Product Packaging." Sattledt, Dec. 2017, cr.aldisouthgroup.com/sites/default/files/ downloads/ALDI%20SOUTH%20Group_International%20Position%20 Statement%20on%20Sustainable%20Product%20Packaging_May%202018. pdf.

¹⁵⁷ Ibid.

¹⁵⁸ The Kroger Co. "2020 Sustainability Goals Update." **sustainability.kroger.com**/ **about-this-report-2020-sustainability-goals-update.html**.

¹⁵⁹ Browne, Michael. "Kroger to Eliminate Plastic Bags by 2025." *Supermarket News*, 23 Aug. 2018, www.supermarketnews.com/sustainability/krogereliminate-plastic-bags-2025.

¹⁶⁰ Redman, Russell. "Kroger, Walgreens to Test Loop Reusable Packaging." Supermarket News, 21 May 2019, www.supermarketnews.com/sustainability/ kroger-walgreens-test-loop-reusable-packaging.

¹⁶¹ Albertsons Companies. "Albertsons Companies Unveils New Pledge to Reduce Plastic Use in Packaging."

162 Ibid.

¹⁶³ Trader Joe's. "Announcements."

¹⁶⁴ Garza, Mariel. "Hey Trader Joe's: Less Plastic with My Food, Please." Los Angeles Times, 11 Apr. 2019, www.latimes.com/opinion/enterthefray/la-ol-trader-joesplastic-packaging-20190411-story.html.

¹⁶⁵ Walmart. "Sustainable Packaging Playbook." www. walmartsustainabilityhub.com/media-library/document/sustainablepackaging-playbook/_proxyDocument?id=0000015b-5ef9-d62c-abfbfefd3ea60001.

¹⁶⁶ Walmart. "Recycling Playbook." **corporate.walmart.com/medialibrary/document/sustainable-packaging-playbook-deep-dive/_ proxyDocument?id=00000169-15fc-dd5e-a3eb-75fc34d80000**.

¹⁶⁷ Walmart Canada. "Sustainability." www.walmartcanada.ca/responsibility/ sustainability.

¹⁶⁸ Walmart. "Statement on Plastics." www.walmartsustainabilityhub.com/ project-gigaton/packaging/statement-on-plastics.

¹⁶⁹ Post and Courier—Opinion. "Editorial: Walmart Tries to Sidestep Single-Use Plastic Bans." *Post and Courier*, 3 May 2019, www.postandcourier.com/opinion/ editorials/editorial-walmart-tries-to-sidestep-single-use-plastic-bans/ article_f5097bf6-6dcc-11e9-82e8-537dc121690e.html.

¹⁷⁰ Walmart. "Statement on Plastics."

¹⁷¹ Stone, Alexandra. "Omaha City Council Members Put Forward Ordinance to Ban Plastic Bags at Grocery Stores." *KETV*, 10 Apr. 2019, **www.ketv.com/article/ omaha-city-council-members-put-forward-ordinance-to-ban-plastic-bagsat-grocery-stores/27106915**.

¹⁷² Target. "Sustainable Products." corporate.target.com/corporateresponsibility/planet/sustainable-products.

¹⁷³ Wilson, Lori. "Atlanta Woman Starts Petition to Stop Target from Using Plastic Bags." WSBTV, 20 Apr. 2019, www.wsbtv.com/news/local/atlanta-womanstarts-petition-to-stop-target-from-using-plastic-bags/942027746.

¹⁷⁴ Costco Wholesale Corporation. "Sustainability Packaging." www.costco.com/ sustainability-packaging.html.

¹⁷⁵ Ibid.

¹⁷⁶ Costco Wholesale Corporation. "2018 Global Sustainability Waste Report." www.costco.com/wcsstore/CostcoUSBCCatalogAssetStore/featurepages/2018-Global-Sustainability-Waste-Report.pdf.

¹⁷⁷ Costco Wholesale Corporation. "Waste Stream Management." www.costco. com/sustainability-waste-stream-management.html.

¹⁷⁸ Progressive Grocer. "Wegmans Pledges to Cut In-Store Plastic Packaging." 24 Apr. 2019, **progressivegrocer.com/wegmans-pledges-cut-store-plasticpackaging**.

¹⁷⁹ Ibid.

¹⁸⁰ Wegmans. "Sustainable Packaging."

¹⁸¹ Joerres, Rebecca. "Eco-Friendly Packaging Changes." Whole Foods Market, 9 Apr. 2011, www.wholefoodsmarket.com/blog/whole-story/eco-friendlypackaging-changes.

¹⁸² CBC. "Metro Grocery Stores in Quebec Will Allow Customers to Shop with Reusable Containers."

¹⁸³ Ahold Delhaize. "Material Topics." www.aholddelhaize.com/en/sustainableretailing/sustainability-strategy/material-topics.

¹⁸⁴ Food Lion. "About Us." www.foodlion.com/about-us/sustainability.

¹⁸⁵ Publix. "Publix Sustainability Report 2019." sustainability.publix.com/wpcontent/uploads/sustainability-report.pdf.

¹⁸⁶ Publix. "Customer Service Desk: Plastic Bag Reduction." sustainability.publix. com/customer-service-desk/plastic-bag-reduction.

¹⁸⁷ L., Matthew. "Recycling Your Plastic Bags at Publix." *The Publix Checkout*, 3 Oct. 2018, **blog.publix.com/publix/recycling-your-plastic-bags-at-publix**.

¹⁸⁸ Contorno, Steve. "Publix Embraces Plastic Bag Ban in South Carolina, So Why Not in Florida?" *Tampa Bay Times*, 9 Apr. 2019, www.tampabay.com/ florida-politics/buzz/2019/04/09/publix-embraces-plastic-bag-ban-in-southcarolina-so-why-not-in-florida.

¹⁸⁹ Carlton, Sue. "Carlton: We Want Publix for Cucumbers and Cupcakes, Not Controversy." *Tampa Bay Times*, 14 Apr. 2019, www.tampabay.com/opinion/ columns/carlton-we-want-publix-for-cucumbers-and-cupcakes-notcontroversy-20190414.

¹⁹⁰ WinCo Foods. "Frequently Asked Questions." www.wincofoods.com/ customer-service/faqs/##bags.

¹⁹¹ See WinCo Foods, "A Greener Store" section in "Green Initiatives." www. wincofoods.com/about/green-initiatives.

¹⁹² WinCo Foods. "Frequently Asked Questions." www.wincofoods.com/ customer-service/faqs/##bulktare.

¹⁹³ CBC. "Metro Grocery Stores in Quebec Will Allow Customers to Shop with Reusable Containers."

¹⁹⁴ "WinCo Bulk Foods 101." YouTube, 14 Sept. 2017, www.youtube.com/ watch?v=D_koBrsTRX0.

¹⁹⁵ Meijer. Environmental Footprint Report 2016. meijercommunity.com/wpcontent/uploads/2018/01/Meijer-Enviro-Report-2016-DIGITAL-LOW-RES.pdf. ¹⁹⁶ Sustainable Brands. "Waste Not: Colgate, TerraCycle Expand Annual Recycled Playground Challenge." 11 Apr. 2018, sustainablebrands.com/read/waste-not/ colgate-terracycle-expand-annual-recycled-playground-challenge.

¹⁹⁷ Burris, Alexandria. "Ground Beef Sold at Meijer Stores Recalled Because It May Contain Pieces of Plastic." USA Today, 9 Apr. 2019, www.usatoday.com/story/ money/2019/04/09/meijer-ground-beef-recall-contamination/3418055002.

¹⁹⁸ Wakefern Food Corp. "Sustainability." www.shoprite.com/sustainability.

¹⁹⁹ Wallace, Julia. "Single-Use Plastic Bags Return at Local HEB Stores." Laredo Morning Times, 21 Sept. 2018, www.lmtonline.com/local/article/Single-useplastic-bags-return-at-local-HEB-stores-13248490.php.

²⁰⁰ H-E-B. "Reduce, Reuse, Recycle." www.heb.com/static-page/article-template/Reduce-Reuse-Recycle.

²⁰¹ Wilson. "The Answer to Plastic Pollution is to Not Create Waste in the First Place."

²⁰² Goldsberry. "Hefty Energy Bag Program Provokes Backlash from Environmental Organizations."

²⁰³ Center for International Environmental Law. *Plastic & Health: The Hidden Costs of a Plastic Planet*.

²⁰⁴ Story of Stuff Project. "The Story of Microfibers—FAQs." **storyofstuff.org/ uncategorized/the-story-of-microfibers-faqs**.

²⁰⁵ Global Alliance for Incinerator Alternatives. *Facts About "Waste-to-Energy" Incinerators*. Quezon City, Jan. 2018, www.no-burn.org/facts-about-waste-to-energy-incinerators.

²⁰⁶ Federal Trade Commission. "FTC Issues Revised 'Green Guides." 1 Oct. 2012, www.ftc.gov/sites/default/files/attachments/press-releases/ftc-issuesrevised-green-guides/greenguides.pdf.





