



ENVIRONMENTAL
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GREENPEACE

Checking Out on Plastics II:

Breakthroughs and backtracking
from supermarkets





ABOUT EIA

We investigate and campaign against environmental crime and abuse. Our undercover investigations expose transnational wildlife crime, with a focus on elephants, pangolins and tigers, and forest crimes such as illegal logging and deforestation for cash crops like palm oil. We work to safeguard global marine ecosystems by addressing the threats posed by plastic pollution, bycatch and commercial exploitation of whales, dolphins and porpoises. Finally, we reduce the impact of climate change by campaigning to eliminate powerful refrigerant greenhouse gases, exposing related illicit trade and improving energy efficiency in the cooling sector.

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ABOUT GREENPEACE

Greenpeace defends the natural world and promotes peace by investigating, exposing and confronting environmental abuse and championing responsible solutions for our fragile environment.

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Executive Summary

Our throwaway convenience culture costs the earth. Resources are being extracted, manufactured and transported to be used just once. Ever-growing mountains of mixed plastic waste are impossible to recycle and are usually dumped in landfill sites, incinerated or leaked into the natural environment. There has been an unprecedented level of public and political focus on the plastic pollution crisis in recent years. Despite this, the second survey conducted by the Environmental Investigation Agency (EIA) and Greenpeace UK reveals that little tangible progress has been made in the past year by the UK's largest supermarkets towards reducing their use of throwaway plastics.

It is time for supermarkets to accelerate commitments and scale up actions, moving from small-scale trials to support a truly circular and zero-waste economy. Supermarkets have a vital role to play as a catalyst for change, given their pivotal location in the grocery value chain between customers and suppliers. This report is a wake-up call for faster action, providing a series of recommendations and best practice case studies.

In 2018, EIA and Greenpeace UK undertook the first comprehensive study to gain a better understanding of how UK supermarkets are planning to address the plastic pollution crisis. This report summarises action taken since then, with the following key findings:

- Total plastic packaging used by the UK's biggest supermarkets has risen from an estimated 886,000 tonnes in 2017 to 903,000 tonnes in 2018*.¹ This increase was driven by sales of branded products; plastic packaging associated with these items increased by nearly 20,000 tonnes.
- Companies at the top of the 2019 league table, Waitrose and Morrisons, performed best in reducing their overall plastic footprint and making commitments to scale-up packaging-free and reuse solutions. Those at the bottom have achieved the least tangible progress over the past 12 months. As with last year, there remains scope for considerable progress even among the top performers.
- A growing number of companies are trialling reusable and refillable ranges. These initiatives need scaling up nationwide and across a full range of product lines if they are to significantly reduce throwaway packaging in the UK.
- The number of plastic reduction targets has doubled from five to 10, with all the major grocery retailers now committed, at least in principle, to reducing plastic use. However, almost all of these targets are set relative to sales – meaning that a company can increase its overall plastic footprint but still achieve the target. Moreover, many companies intend to meet targets through 'light-weighting' and swapping plastic with other single-use materials, meaning that a shift away from single-use is not guaranteed.
- Soaring sales of so-called 'bags for life' demonstrate that these are now used by many customers as a single-use option. In 2018, eight companies reported they were using 960 million bags for life; in 2019, the same eight companies reported 1.24 billion, with an additional 271 million sold by two further supermarkets. Tesco's annual sales represent almost 11 bags for life for every person in the UK, while Iceland increased sales nearly tenfold from 2017-18.
- Despite recyclability being the main focus of industry efforts, the percentage of own-brand plastic packaging classed as 'widely recycled' has dropped from 64.7% in 2017 to 63.8% in 2018, on a weight basis. On a per-item basis, it is likely that less than a third of own-brand plastic packaging items are classed as 'widely recycled', due to the presence of more numerous but lighter materials such as films. This suggests that about two-thirds of supermarkets' own-brand plastic packaging items cannot be widely recycled.
- Some progress has been made by supermarkets in the past year towards addressing plastics along the grocery supply chain. Best practices must now be enforced through introducing criteria based upon these into fisheries and agricultural supplier policies.

* N.B. In 2018, our report noted that the 10 largest supermarkets reported to have put 810,000 tonnes of single-use plastic packaging on the market; however, this figure did not include branded sales by Asda, which had not been reported. The 886,000 tonne figure reported here includes an estimate provided by Asda for these sales (~65,000 tonnes) in order to make a more accurate comparison to this year's complete dataset. Co-op and Lidl provided updated data from the previous year, which increased the total by another 11,000 tonnes.

Background

Our planet faces a biodiversity and climate emergency. Without a significant turnaround in resource consumption and a shift towards circular and zero-waste economies, these problems cannot be addressed. Plastic pollution is the ugly and unacceptable face of a crisis that goes deeper. It has raised unprecedented public awareness of the scale and impact of over-consumption and our throwaway culture.

The grocery retail sector is currently highly dependent on packaging designed to be used just once and thrown away; adding fuel to the pollution and waste crisis that is evident around the world. Of the five million tonnes of plastic used in the UK every year, half is plastic packaging.²

Supermarkets are well-positioned to catalyse a fundamental shift in the systems that deliver products to people, through significantly reducing all but the most essential single-use packaging and supporting a wholesale shift into packaging-free and reusable solutions.

To date, most Government and industry attention has focused on recycling, which has an important role to play but cannot solve the problem alone. In order to close the gap between rising plastic consumption and limited recycling capacity, a focus on reduction is required. Without a significant turnaround in industry trends, UK plastic packaging waste will increase by 22% between 2018 and 2030.³ Currently, only about a third of UK consumer plastic packaging is officially reported as 'recycled' and about half of this is exported. This calls into question the amount ultimately recycled, given the lack of waste management infrastructure in many recipient countries, including those in South-East Asia where there are high levels of plastic pollution leakage into the marine environment.⁴

Plastic production and consumption affects human health; we are exposed to a large variety of toxic chemicals and harmful pollutants throughout the plastic lifecycle.⁵ Plastic poses significant threats to marine, freshwater and terrestrial fauna; it harms soil ecosystems and emits toxic chemicals when burnt. Simply substituting single-use plastic with other single-use materials is no solution either.⁶ All materials have environmental and social costs, including resource consumption concerns associated with pulp, paper^{7,8} and glass,⁹ and pollution and health risks regarding bauxite ore mining for aluminium production.¹⁰

Addressing the plastic problem requires a fundamental rethink of modern consumerism, not just fast-fix solutions. It requires us to challenge branding and marketing practices that encourage us to buy more than we need. It requires a shift to seasonal and local diets, shortening supply chains that otherwise result in huge amounts of air miles and packaging. It requires us to challenge the prevailing convenience culture and over-consumption that drive so many of the world's environmental challenges. Grocery retailers are in a prime position to help inspire the transformational changes we need.



Methodology

In May 2019, EIA and Greenpeace UK sent a survey to 16 UK grocery retailers to gain insight into how the sector is working to tackle plastic pollution, and to track progress towards targets and policies reported in our 2018 Checking Out on Plastics survey.¹¹ The survey was sent to the UK's 10 largest supermarkets (see Table 1) and online grocery giant Ocado, as well as five other grocery retailers with more than 1,000 stores in 2018, namely Bestway (2,000 stores), Booker Group (5,556 stores), Costcutter (1,776 stores), McColl's (1,242 stores) and SPAR UK (2,555 stores).¹² Themes covered were consistent with the 2018 survey, with additional questions to track progress towards commitments and targets.

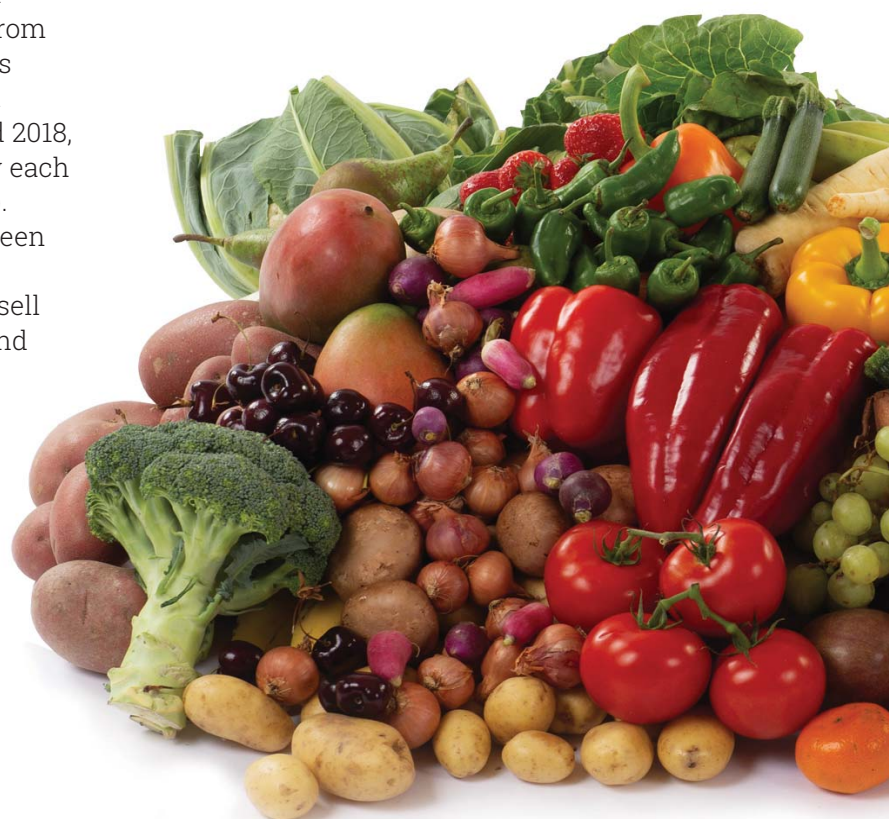
Of the leading UK grocery retailers, the only non-respondent was Ocado, which also failed to respond to the 2018 survey. The response rate for convenience chain stores was poor again this year; only Costcutter and McColl's provided a full response to the survey while SPAR UK submitted a partial response. A large data gap therefore remains among the UK's leading convenience chains, including those owned by Booker Group (such as Premier, Londis and Budgens) and Best-One.

Most of the data collected in this year's survey covers the 2018 calendar year; however, some supermarkets provided data covering slightly different timeframes, namely Aldi (April 2018-19) and Morrisons (February 2018-19).

In order to analyse the data provided by supermarkets in the 2018 and 2019 surveys in relation to their market share, we used data from Nielsen Total Till and Nielsen Homescan. This depicts the value-based market share of each company during a 12-week period in 2017 and 2018, as well as the change in sales experienced by each company in the same timeframe (see Table 1). We note that a direct linear relationship between market share and packaging volume is not necessarily expected, given that discounters sell a greater number of (packaged) units per pound sterling than other supermarkets.

The survey contained 20 questions aimed at understanding the performance of retailers according to the following categories:

- 1. Reduction in plastic footprint and use of reusables:** Progress made since the last survey to reduce single-use items and packaging and expand packaging-free and reusable ranges, assessed where relevant against targets and milestones reported in the 2018 survey
- 2. Forward-looking commitments on reduction and reuse:** Level of ambition regarding future-looking reduction and reuse commitments and targets
- 3. Recyclability and recycled content:** Targets, commitments and progress made on removing non-recyclable plastics and increasing recycled content levels
- 4. Supply chain and stakeholder engagement:** Engagement with suppliers (including branded suppliers, agricultural and fisheries suppliers and regarding pre-production plastic pellets), interactions with staff and customers about reducing plastic use, and public policy positions on Government proposals such as Deposit Return Schemes
- 5. Transparency:** Provision of full data regarding plastic items and packaging, as well as information on recyclability and recycled content and public policy positions.



	% market share, measured over 12 weeks to 11 August 2018	% market share, measured over 12 weeks to 12 August 2017	% increase or decrease in sales vs same 12 weeks in previous year
Tesco	27.1%	27.4%	2.2%
Asda	13.7%	13.7%	3.5%
Sainsbury's	14.5%	14.9%	0.9%
Morrisons	9.8%	9.9%	2.2%
Co-op	5.3%	5.2%	6.6%
Waitrose	4.2%	4.3%	3.0%
M&S	3.3%	3.3%	1.2%
Iceland	2.2%	2.2%	5.0%
Aldi	8.7%	8.1%	12.1%
Lidl	5.6%	5.4%	8.1%

Table 1: Market share information and sales change of supermarket respondents¹³

Scoring methodology

Supermarket responses were reviewed against objective criteria to determine a numerical score based on the ambition level of the response, with questions grouped into the five categories. A combined score was then determined for each category. Questions that were not relevant to a particular retailer were removed from their scoring criteria (e.g. if the retailer did not offer online shopping). The categories were weighted to place a greater emphasis on achieved reductions of single-use plastic and expansion of reusable and refillable ranges, as well as forward-looking commitments on these areas. This year, points were subtracted to penalise a lack of progress towards targets, as well as for absolute increases in plastic packaging and items over the past 12 months. Total scores were calculated for each retailer and ranked from highest to lowest to produce an overall league table. A third-party organisation, 3Keel, was consulted in the development of the scorecard.

Convenience chains were not included in the league table, given the limited data and different circumstances faced by these companies (e.g. lack of direct control over franchise stores).





Results of supermarket ranking

The 2019 ranking reflects progress made over the past year to deliver tangible reductions in single-use plastic and move towards packaging-free and reuse solutions. As with last year, the scoring is very close between companies, with few achieving high marks under any of the categories. Even among leading companies there are areas where significant progress is needed.

This year's leader, Waitrose, was one of the few companies that reduced its overall plastic footprint and is making progress in scaling-up packaging-free and refill solutions. Morrisons has also shown initiative in this area; we applaud its introduction of the first quantified target to increase sales through reuse and refill ranges.

Looking at last year's survey ranking, we see good progress made by Sainsbury's in introducing ambitious plastic reduction targets and committing to scale up reuse ranges. Iceland has slipped from first place as other companies increase the ambition of commitments on reduction and reuse. In order for the company to reclaim the lead, further progress will be needed on scaling up packaging-

free and reuse solutions, in addition to engaging with branded suppliers about reducing their plastic footprints.

Companies at the bottom of the league table had increased their overall plastic footprint since last year and had generally made the least progress to date on trialling and expanding packaging-free and reusable solutions. These companies had experienced sales growth and noted challenges in reducing their overall plastic footprint. With the right systems and approach in place it will be possible to increase sales while reducing throwaway packaging.

As with last year, the scoring is very close between companies, with few achieving high marks under any of the categories.

2018 league table

Below are the results of last year's survey for comparison:

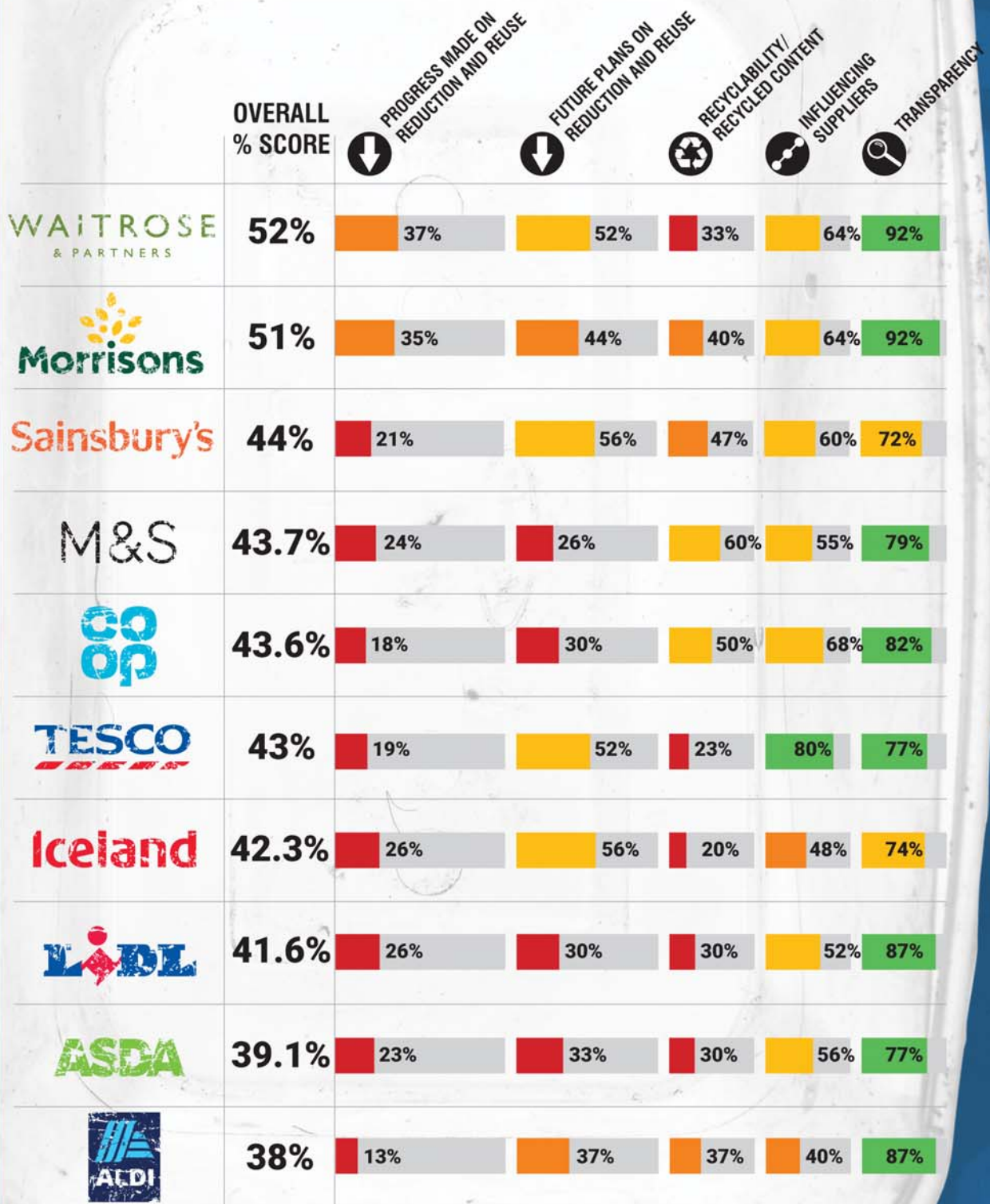
1. Iceland
2. Morrisons
3. Waitrose
4. M&S
5. Tesco
6. Asda
7. Co-op
8. Aldi
9. Lidl
10. Sainsbury's

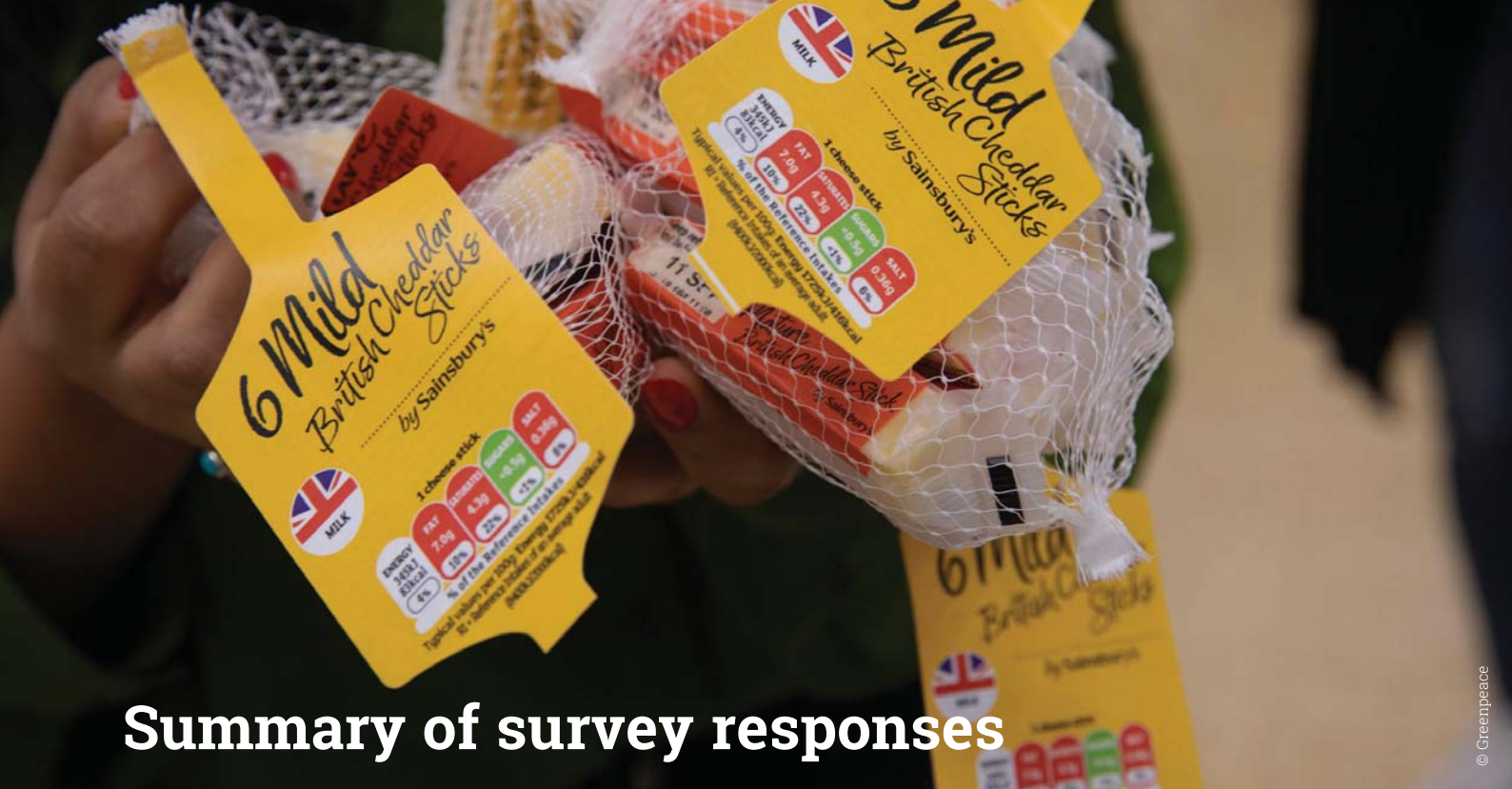
GOOD

SUPERMARKETS' 2019 PLASTIC POLICIES REVEALED

NEEDS TO DO BETTER

POOR





Summary of survey responses

Amount of single-use plastic packaging put on the market

Absolute packaging footprint

Single-use plastic packaging used by the 10 UK supermarket giants increased from 886,000 tonnes in 2017 to 903,000 tonnes in 2018. Of this, 536,000 tonnes was from own-brand goods, a very slight decrease from last year's figure of 537,000 tonnes. Packaging from branded items amounted to 367,000 tonnes, a rise from last year's estimate of 349,000 tonnes.

Seven out of 10 supermarkets reported a higher plastic packaging tonnage in 2019 than in the previous survey.

Seven out of 10 supermarkets reported a higher plastic packaging tonnage in 2019 than in the previous survey (see Figures 1 and 2). Only Waitrose, Tesco and Sainsbury's reported slight decreases in their overall plastic packaging footprint. The amount of packaging companies place on the market is proportionate to their market share, with year-on-year growth in packaging generally correlated to increases in sales. The companies reporting the largest absolute growth include Aldi (up by more than 8,000 tonnes, sales up 12.1%), Asda (5,300 tonnes, sales up 3.5%) and Lidl (3,000 tonnes, sales up 8.1%). Tesco occupies more than a quarter of the UK market (27.1%) and accounts for the

largest amount of primary plastic packaging (259,000 tonnes). Sainsbury's, with a 14.5% market share, placed 119,000 tonnes of plastic packaging on the shelves, while Asda with a 13.7% market share distributed 135,000 tonnes.

Plastic packaging footprint per market share

Figure 3 shows the plastic footprint of supermarkets on a market share basis. This demonstrates that all companies, except Co-op, have marginally increased their packaging footprint per 1% market share between 2017 and 2018. We note that there is a potential bias in sales-based value data, given that discounters are likely to sell more items (and therefore packaging) than other companies per market share.

Number of single-use plastic packaging items

In addition to data on plastic packaging tonnage, eight companies representing 75.4% of the total market share¹⁴ reported to have distributed 58.3 billion pieces of single-use plastic packaging, compared to seven companies representing 65.6% of the market share reporting 51.1 billion pieces in the 2018 survey (see Figure 4).¹⁵ This suggests a slight (1%) decrease in units per market share since the last survey. Many companies reported challenges in collecting and defining these measurements, so we are cautious in drawing firm conclusions from this dataset. Nonetheless, it is disappointing that no significant downward trend in numbers can be seen.

Unit data gives a better understanding of the amount of packaging being distributed by supermarkets, since lightweight materials such as film and wrappers make up a smaller proportion

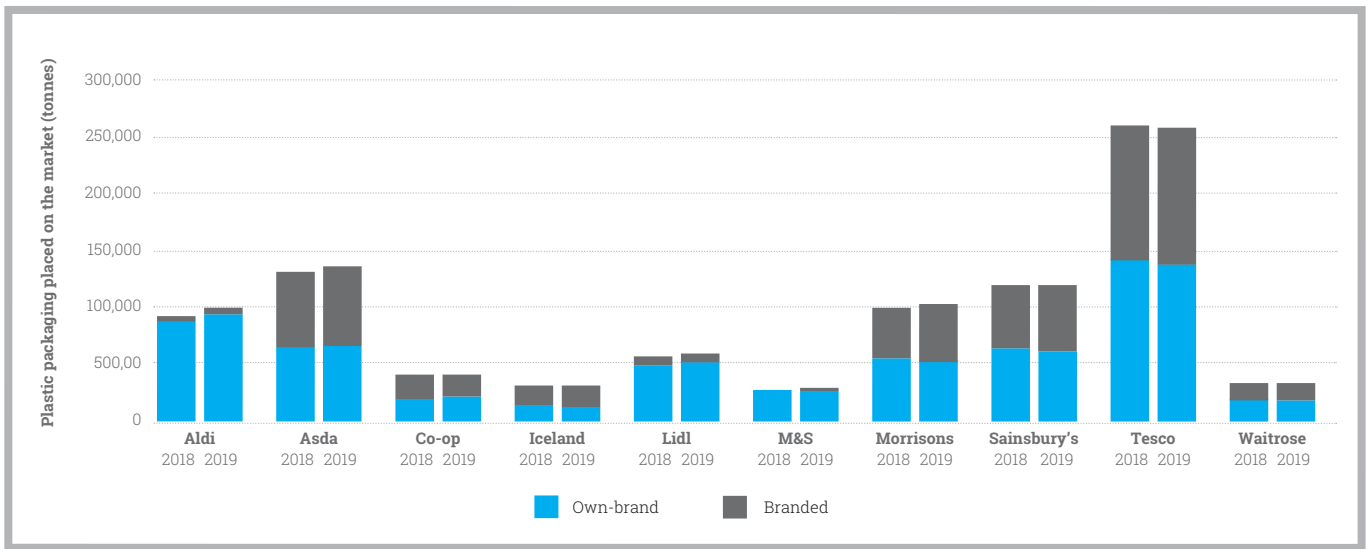


Figure 1
Plastic packaging tonnage (branded and own-brand) placed on the market reported in 2018 and 2019 surveys

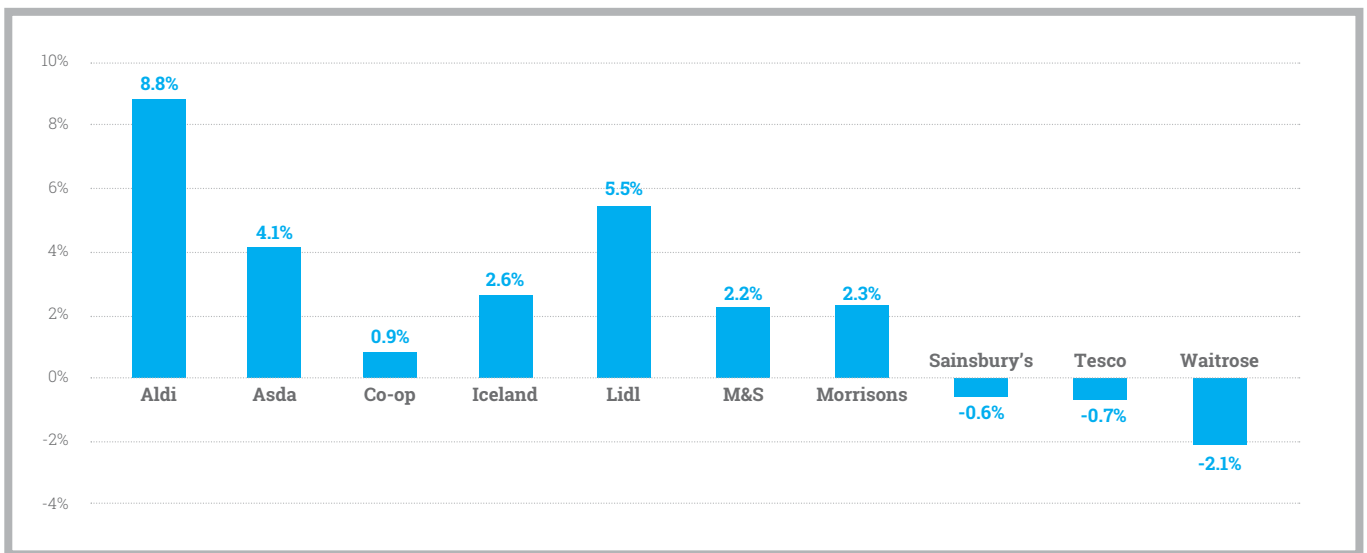


Figure 2
Change in total plastic packaging footprint (tonnes) reported in 2018 and 2019 surveys

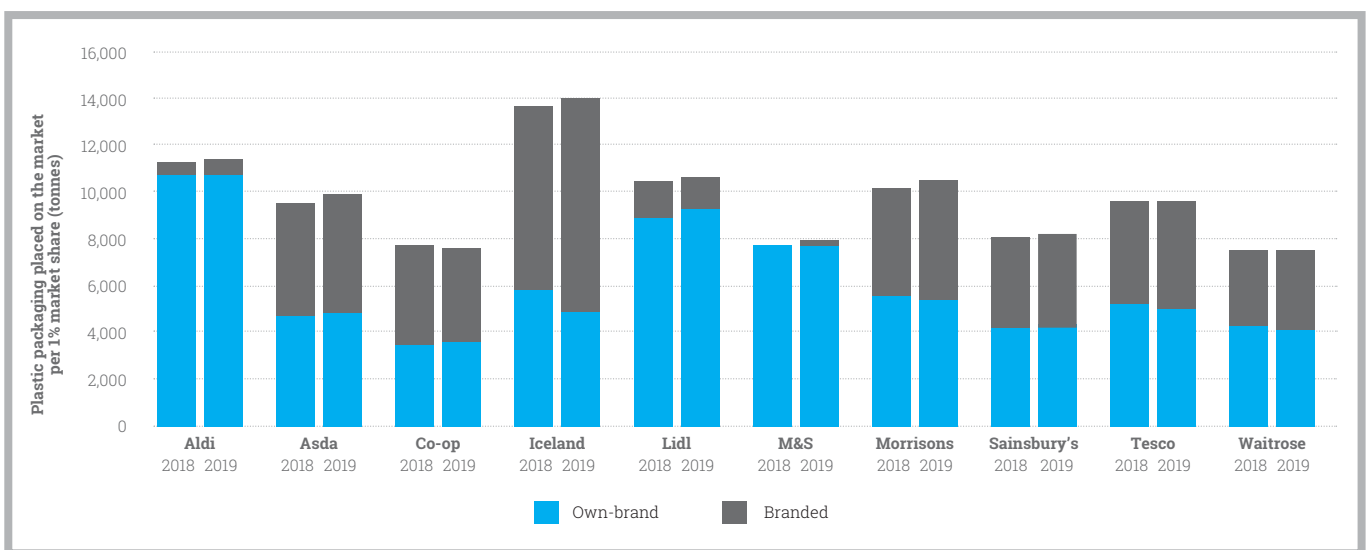


Figure 3
Plastic packaging (tonnes) placed on the market per 1% market share (own-brand and branded) reported in 2018 and 2019 surveys

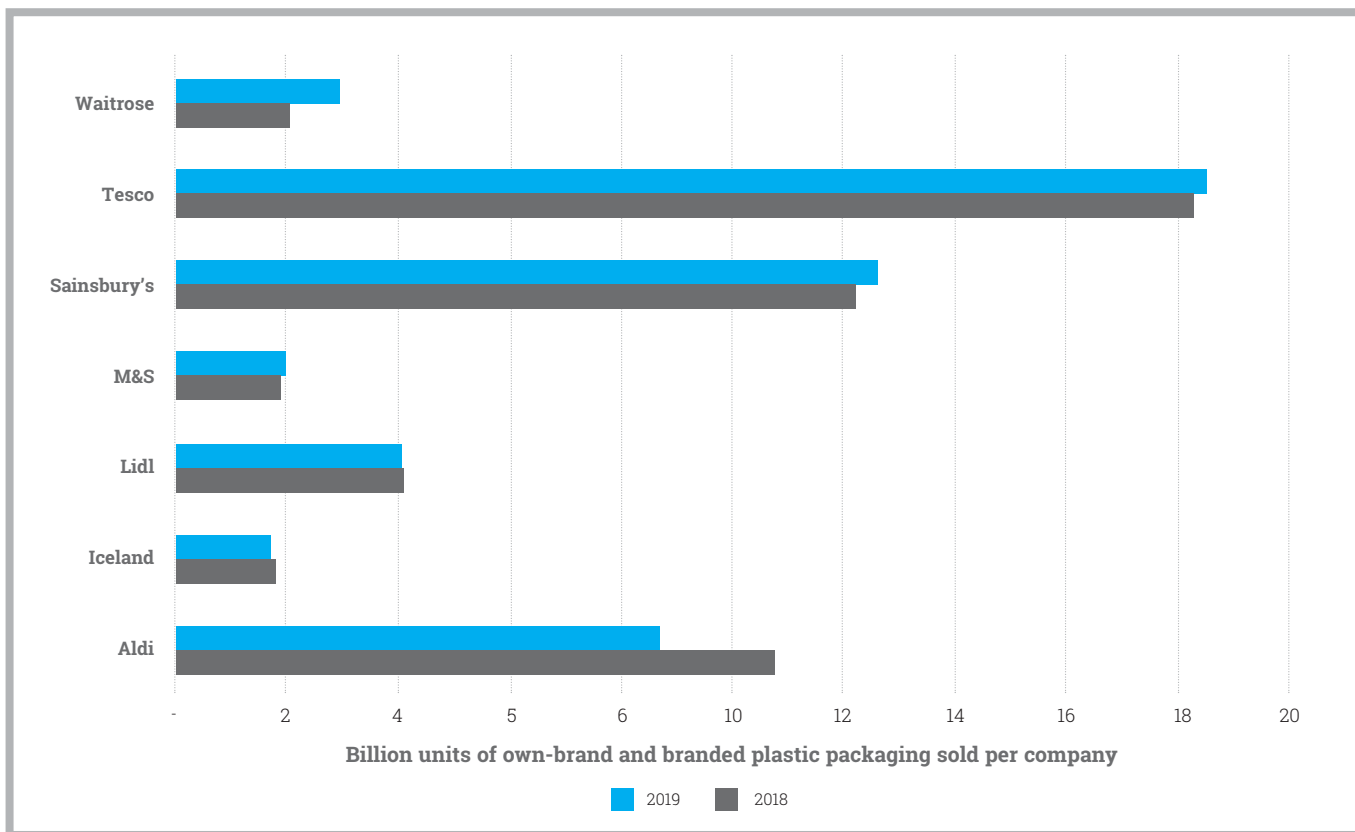


Figure 4
Total number of units (billions) of plastic packaging placed on the market per company (own-brand and branded).
Co-op, Morrisons and Asda were not able to provide this dataset in both years and so have not been included

of tonnage figures but account for a significant proportion of plastic packaging items. Units can be understood in different ways – as a Customer Sales Unit (i.e. the one ready meal the customer finds in the freezer) or as individual components of a piece of packaging (i.e. the ready meal tray, film and cardboard cover each counted separately). In both 2018 and 2019 surveys, we requested data based on the first definition.

Reduction targets – assessment of commitments and progress

The top 10 UK supermarkets all now have targets to reduce their plastic packaging footprint. Among the most ambitious are Iceland (100% removal of single-use plastic packaging from own-brand by the end of 2023), Sainsbury's (50% plastic packaging reduction across branded and own-brand packaging ranges by 2025) and Tesco's commitment to reduce plastic packaging by 20% over two years across own-brand plastic packaging, removing one billion pieces of plastic by the end of 2020 (see Table 2).

An industry-wide trend is for the adoption of "relative" targets based on a past ratio of an amount of plastic and amount of sales. This does not guarantee an overall reduction in a company's

plastic footprint. For example, if a company was putting one tonne of plastic on the market per £1,000 spent in 2015 and reduced this to 0.8 tonnes of plastic per £1,000 spent in 2020 – but had significantly increased in sales volume over this time, meaning that more £1,000s were being spent – then the total amount of plastic will have increased even though the company would have met its target. On the flip side, a decrease in packaging which is mainly attributable to a decrease in sales is no cause for celebration either.

Another limitation of many current plastic reduction targets is that they are limited to own-brand ranges. Branded goods typically make up 40-60% of a supermarket's sales (with the exception of Lidl, M&S and Aldi which are significantly lower). As such, if sales growth in branded products outstrip the packaging reductions made in own-brand ranges, a company could increase its overall packaging footprint while achieving its plastic reduction target.

In the 2018 survey, five companies reported plastic reduction targets in place: Asda, Lidl, Iceland, Morrisons and M&S (see Table 3). All reported they were on track to achieve these targets, while also noting an overall increase in plastic packaging

(own-brand and branded combined). This highlights the limits of targets restricted to own-brand ranges, as well as targets set relative to sales made in a certain year.

When explaining progress made towards targets set, Lidl reported that “against our own-brand reduction target we’ve achieved a 7.9% reduction, relative to net turnover (£)”. However, given the company’s considerable increase in sales, Lidl’s overall plastic footprint (own-brand and branded) increased from 56,459 tonnes reported in 2018 to 59,539 tonnes this year. Similarly, Asda reported it had achieved its 2018 target to reduce own-brand plastic packaging by 10% relative to 2017 sales (6,500 tonnes). However, the company’s overall plastic packaging footprint

increased by 5,300 tonnes. Asda explained that in “2018 we saw more than 5% growth in own label sales, as well as an unprecedented hot summer with a number of national events, including the Royal Wedding and the World Cup. This changed the product mix towards ... some of the biggest plastic-using categories. For example, across pre-packed salad items and dressings we sold an additional 20 million units in 2017.”

Morrisons reported that it was on track to achieve its reduction target in own-brand packaging, but an increase in branded plastic packaging means the company’s overall plastic footprint has grown. Similarly, Iceland successfully reduced its own-brand plastic packaging footprint from 13,000 tonnes

Company	Plastic reduction target	Timeframe	Supporting info provided by companies
Aldi	25%	2023 (2015 baseline)	Reduce plastic packaging 25% by the end of 2023 (gram per product, relative to 2015 baseline). Currently setting interim targets to 2023.
Asda	15%	2021 (2017 baseline)	Reduce own-brand primary plastic packaging by 15% by February 2021, from a 2017 Financial Year baseline.
Co-op	6%	2020 (2018 baseline)	Reduce own brand plastic footprint by 6% between 2019-2020, using a 2018 baseline (1,144 tonnes).
Iceland	100%	2023 (2018 baseline)	Eliminate plastic packaging from all own brand products by the end of 2023
Lidl	20%	2022 (2017 baseline)	By 2022, reduce own brand primary plastic packaging 20% (relative to £ revenue, based on net turnover), using 2017 baseline (4% annual reduction from 2018, when the target was introduced).
M&S	1000 tonnes	2020 (2019 baseline)	Plastic weight reduction target of 1,000 tonnes for financial year 2019 /20 across primary packaging.
Morrisons	25%	2025 (2017 baseline)	25% like-for-like reduction in own-brand plastic packaging by weight by 2025 (2017 baseline). Each commercial team has been set an interim plastic weight reduction target of 4.1% per year.
Sainsbury’s	50%	2025 (2018 baseline)	Reduce plastic packaging by 50% by 2025, including branded and own-brand products, as well as plastic used across operations.
Tesco	20%	2019-2020 (2018 baseline)	Reduce total own-brand plastic packaging weight by 20% and remove 1 billion pieces of plastic in the coming year (to 2020).
Waitrose	20%	2021 (2018 baseline)	Reduce single-use plastic in own brand packaging by 20% by the end of 2021 against a 2018 baseline.

Table 2: Reported plastic reduction targets

in 2017 to 10,900 in 2018, despite a sales increase in own-brand goods. However, large increases in packaging from branded products meant the company's overall plastic packaging footprint rose from about 30,000 tonnes reported in 2018 to approximately 30,800 this year.

In 2018, our survey reported that M&S targeted a 10% reduction in plastic packaging from 2018 to 2020 (5% per annum). This year, the company clarified that the target is to reduce 1,000 tonnes for the financial year 2019/20, which equates to less than 5% per annum. The company reported that *"on a like-for-like basis our overall usage of plastic packaging has declined"*, reporting a 1,000 tonne decrease in plastic through the *"elimination of single-use, high volume units such as cutlery, straws, produce bags...and light-weighting"*.

All companies are currently achieving targets in a large part through substitution and light-weighting. Light-weighting is the process of replacing packaging material with lighter alternatives or cutting down the amount of packaging material used. While there is a role for light-weighting where packaging is excessive, it is not a long-term solution since it does not shift the market from single-use.

Substitution of one single-use material for another is a false solution to the waste crisis as it simply shifts the resource burden elsewhere. Examples of this practice include Morrisons switching 269 tonnes of plastic produce bags with paper-based alternatives, Tesco replacing 113 tonnes of plastic trays containing apples for pulp-based trays, Iceland substituting 100 million ready meal trays with board-based alternatives and Co-op replacing 78.5 tonnes of plastic ready meal trays with aluminium or board-based.

Rather than light-weighting or substituting plastic for other single-use materials, we encourage a transition to packaging-free and reusable packaging alternatives. Innovative examples of packaging being taken off the shelf altogether include Waitrose removing the shrink-wrap from multi-packs of tins without substitution for another material.¹⁶

EIA and Greenpeace recommend that reduction targets are long-term with ambitious annual reduction milestones, covering branded and own-brand packaging and spanning primary, secondary and tertiary packaging ranges. The target should form part of a strategy to reduce all single-use packaging, not just plastics. With this in mind, we

Company	Target reported in 2018	Change in own-brand plastic packaging reported between 2018 and 2019 surveys	Change in overall plastic packaging reported between 2018 and 2019 surveys	Sales change between 2018 and 2017
Iceland	Remove all own-brand plastic packaging by 2023	-2,100 tonnes, 16% decrease	+784 tonnes, 2.6% increase	+ 5%
M&S	10% reduction in primary plastic packaging between 2018 -2020	+21 tonnes, 0% change	+559 tonnes, 2.2% increase	+ 1.2%
Lidl	20% reduction in own-brand plastic packaging between 2017 -2022 (relative to £ revenue, based on net turnover)	+3,636 tonnes, 8% increase	+3,080 tonnes, 5.5% increase	+ 8.1%
Asda	Remove 6,500 tonnes of own-brand plastic packaging by 2019 relative to 2017 sales	+653 tonnes, 1% increase	+5,300 tonnes, 4.1% increase	+ 3.5%
Morrisons	25% like-for-like reduction in own brand plastic packaging by weight by 2025 (2017 baseline).	-2,634 tonnes, 5% decrease	+ 2,292 tonnes, 2.8% increase	+ 2.2%

Table 3: **Progress towards reduction targets reported in 2018**

encourage companies to set parallel targets to reduce single-use packaging of all materials, something which has already been done by Waitrose (to reduce own-brand packaging by a third between 2018-23), Tesco (to halve packaging weight between 2007-25), Sainsbury's (to halve own brand packaging between 2005-20) and Aldi (to halve packaging weight between 2015-25).

Reuse and refill systems and packaging-free ranges

EIA and Greenpeace support a transition away from single-use packaging as the primary means of achieving plastic reduction targets, prioritising packaging-free ranges and reuse systems at scale. The number of companies trialling reusable alternatives has considerably increased since last year, but trials currently remain small in scale and scope. For the first time, a convenience chain, SPAR, reported trials of refill stations for wine, oil, cereals, pulses and detergents in four stores. The company reported that these had *“attracted new customers and additional sales”* and noted the trial stores will share learnings with other SPAR retailers. Some supermarkets have claimed that the ‘convenience’ format of their stores is a hurdle to reusable systems and we encourage SPAR to share its experience across the industry.

Other laudable initiatives include Waitrose’s “Unpacked” store (see case study) and wide-ranging trials in three Morrisons stores including seeds, pasta, rice, dried fruit, frozen fruit, frozen pies and pastries. In nine stores, Morrisons is trialling an unbranded household cleaning ‘Bottle for Life’, sold with water-soluble pods for various household cleaning ranges. Morrisons reported that the cost of loose and refillable ranges is 10% cheaper than packaged counterparts. We strongly encourage all retailers to ensure price-parity at a minimum, in addition to other incentives to encourage reuse.

Small-scale pilot projects and trials have an important role to play in designing and testing innovative ideas, providing lessons and managing risks prior to the large investments needed to shift supply chains nationwide towards reuse formats. Since supermarkets have different customers with different needs, we understand the necessity for tailored approaches. However, the time has now come for retailers to take heart from positive customer feedback and commit to progressively rolling out these systems across their estates. A number of companies are currently scoping out trials of reuse and refill systems in-store, including



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Waitrose ‘Unpacked’ Oxford store

Waitrose is testing packaging free and refillable concepts at its ‘Unpacked’ Botley Road shop in Oxford, with more than 160 items of loose fruit and vegetables and 48 other products for customers to refill, including pasta and grains, coffee, frozen fruit, beer, wine and cleaning products.

Feedback to date has been overwhelmingly positive. Analysis from the 11-week trial has provided *“confidence that the concept can be a success elsewhere”* and the company is now rolling out the concept to three additional stores. The roll-out will include dispensers for dried products, frozen ‘pick and mix’, coffee, wine and beer refills, as well as Ecover detergent and washing-up liquid refillables. There will be a wide range of unpacked fruit and vegetables, changing to reflect the season.

Asda, Co-op, Lidl, Iceland, Sainsbury's and M&S. There is clear potential for the introduction of reusable packaging through online shopping, using reverse logistics where packaging is retrieved from customers by producers to be refilled for reuse. This is an area few companies have yet to tap into. Tesco is making progress with the 'Loop' online reusable packaging range, to be launched shortly in partnership with Terracycle. Morrisons is working with Amazon and Ocado to offer refillable/reusable alternatives. Other companies suggested this was an area they were looking into, without concrete plans at this stage.

Targets on reusables

Morrisons is leading the pack in setting the first quantifiable target on reusables, namely to double the amount of reusable and refillable transactions year-on-year. Other companies reported they were also scoping targets on reuse. We encourage companies to adopt ambitious quantified targets in order to provide suppliers confidence in investing in reusable packaging formats. Targets might be measured as a proportion of total sales made through reuse and refill ranges.

Loose vegetables on sale at Waitrose Unpacked store, Oxford

Morrisons is leading the pack in setting the first quantifiable target on reusables, namely to double the amount of reusable and refillable transactions year-on-year.

Loose fruit and vegetable ranges

Loose fruit and vegetable sales are growing at twice the rate of plastic-packed and should be an easy first step for supermarkets to take.¹⁷ Supermarkets were asked to describe plans and activities to expand loose product ranges and remove packaging from fruit and vegetable ranges. All the major supermarkets and SPAR reported trials, often citing demand from customers as a key reason for the initiative. Three companies provided information about the percentage of fruit and vegetables sold loose as a proportion of the total: Aldi (17%), Asda (18%) and Lidl (16%). Other companies reported the



number of loose product lines: Co-op (30), Sainsbury's (74) and Waitrose (~90). Morrisons reported it was trialling 127 varieties of loose fruit and vegetables in pilot stores. Tesco is trialling the removal of packaging from fruit, vegetables and bakery products.

Retailers seemed aware of the importance of ensuring that loose fruit and vegetable ranges were offered on a price parity with pre-packed ranges. Tesco and Asda reported that no loose line would be more expensive than its pre-packaged equivalent. Sainsbury's said it had recently reduced the prices of several loose produce items and was looking to make further reductions, while M&S is also working to ensure competitive pricing. Lidl is working to provide further incentives, including ensuring 'Pick of the Week' promotions are exclusively 'loose' products.

Food waste and system change

Plastic packaging is often hailed as the best way to prevent food waste; however, the growth in food waste has increased alongside the growth in plastic packaging, with a significant proportion of food thrown away in Europe still inside plastic packaging.¹⁸ Customer and staff education on food handling, preparation and preservation can result in less waste than simply adding more plastic to products, and reusable packaging and traditional approaches to preserving food can deliver the same functionality as single-use packaging.¹⁹ Pre-packaged ranges can force people to buy more than required, further contributing to food waste.

The importance of behavioural change was underlined in a Morrisons loose fruit and vegetables trial, where food waste initially increased but then returned to average levels after a few weeks as staff and customers adapted their approaches to handling food. Customers noted the benefits of loose products as it allows them to purchase their desired quantity, size and quality of product – and noted that purchasing loose has potentially reduced food waste occurring at home. Morrisons staff also adapted well to the changes made in-store and to new ways of working.

Another driver behind the rise of single-use plastic packaging is the nature of modern diets, where out-of-season produce is on offer all year round, relying on single-use packaging.²⁰ Seasonality and short supply chains influence the 'necessity' of packaging. Morrisons removed plastic wrap from products following careful analysis of the food waste impact, including fresh swede, British

summer-season cucumbers, asparagus and rhubarb, removing 126 tonnes of plastic. Similarly, Asda removed the plastic from British swedes with no product deterioration, while Waitrose reported that seasonality was important for determining which loose fruit and vegetables the store could offer. We urge companies to focus more on promoting local and seasonal produce, addressing air miles and packaging in parallel.

Focus needed to address 'on-the-go' plastic waste

An area which presents additional challenges is the convenience and 'on-the-go' food market, such as 'meal deals'. The food-to-go market is currently worth £25 billion and is growing, with supermarkets supplying about 20% of lunch trips.²¹ This is an area ripe for major transformation, as currently almost all products are sold in one-way packaging. So far there has been limited attention; M&S is the first UK supermarket to offer a reusable option in trial stores for on-the-go food options.²²

Inspiration might be taken from Luxembourg for future innovation with the EcoBox,²³ a reusable on-the-go lunchbox solution for which customers pay a €5 deposit when purchasing food from participating stores, which is then returned when the box is brought back to a participating store. This initiative is supported by the Luxembourg Government. We encourage a public-private taskforce to be set up to review the convenience food market in the UK.

Recyclability and recycled content of packaging

EIA and Greenpeace asked survey respondents a series of questions regarding "widely recycled" packaging, defined by On-Pack Recycling Labelling (OPRL) as when 75% or more of councils offer kerbside collections.²⁴ We note shortcomings with this definition, including that it does not account for whether an item is ultimately collected or recycled. However, OPRL remains the labelling system with the broadest industry support.

There has been a decrease in the amount of own-brand plastic packaging classified as "widely recycled" since reported last year, moving from an average of 64.7% to 63.8% based on overall tonnage (reported by eight companies, see Figure 5). Companies reporting a decrease included Sainsbury's (-0.5%), Tesco (-5.6%) and Waitrose (-5%). Tesco reported this was in part due to changes in data collection and inaccuracies contained in data

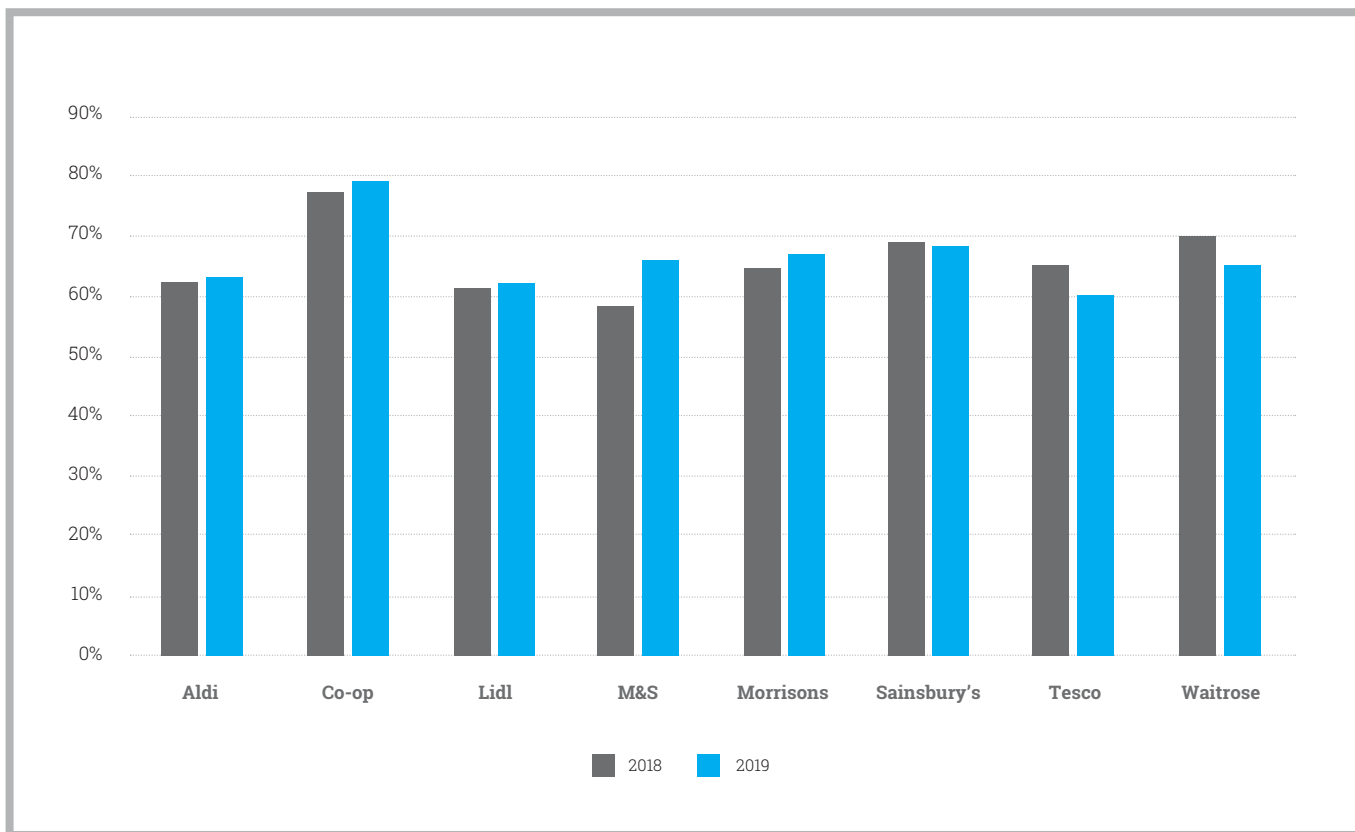


Figure 5
Reported own-brand packaging classified as “widely recycled”. Note that Iceland did not provide tonnage-based data in 2019 and Asda did not provide this data in 2018, so these companies are not included

provided in the previous survey. Since the companies reporting a decrease include those putting the most packaging tonnage on the market, the fall in their overall recyclability has outweighed progress made by other supermarkets.

Six companies reported on the overall recyclability of plastic packaging (branded and own-brand), which averaged 62.74% based on overall tonnage. Not enough companies provided this dataset in 2018 to allow for an accurate year-on-year comparison to be made.

Reporting on recyclability by tonnage skews the real recycling story since heavier items (such as plastic bottles) are more widely recycled than the more numerous but lighter items such as plastic films, which have very low recyclability levels. Figure 6 highlights the difference that tonnage vs unit/product line reporting makes. As with last year, few companies were able to provide this level of detail. The average proportion of “widely recycled” items based on unit data from three companies was 33.51%, which is likely higher than the sector-wide figure since Co-op has an above average proportion of ‘widely recycled’ plastic packaging. This suggests that potentially more than two-thirds of own-brand plastic packaging items placed on the market by the UK’s biggest supermarkets cannot be widely recycled.

All 10 supermarkets have commitments to phase out non-recyclable packaging: by 2021 (Waitrose), 2022 (Aldi and M&S), 2023 (Sainsbury’s, Iceland, Co-op) and 2025 (Asda, Lidl, Morrisons, Tesco). Many companies have additional targets to eliminate the most problematic polymers and packaging format types within the next two years. All 10 supermarkets reported work under way to remove undetectable black plastics, up from six companies last year. Morrisons also reported that coloured PET (unless pre-tinted by recycled content) will be phased out from 2022 and Co-op is committed to eliminate dark plastic by the end of 2020. Companies that are signatories to the voluntary UK Plastic Pact, which includes all surveyed supermarkets other than Iceland, have agreed to phase out PVC and oxo-biodegradable packaging by 2020.²⁵

Potentially more than two-thirds of own-brand plastic packaging items placed on the market by the UK’s biggest supermarkets cannot be widely recycled.

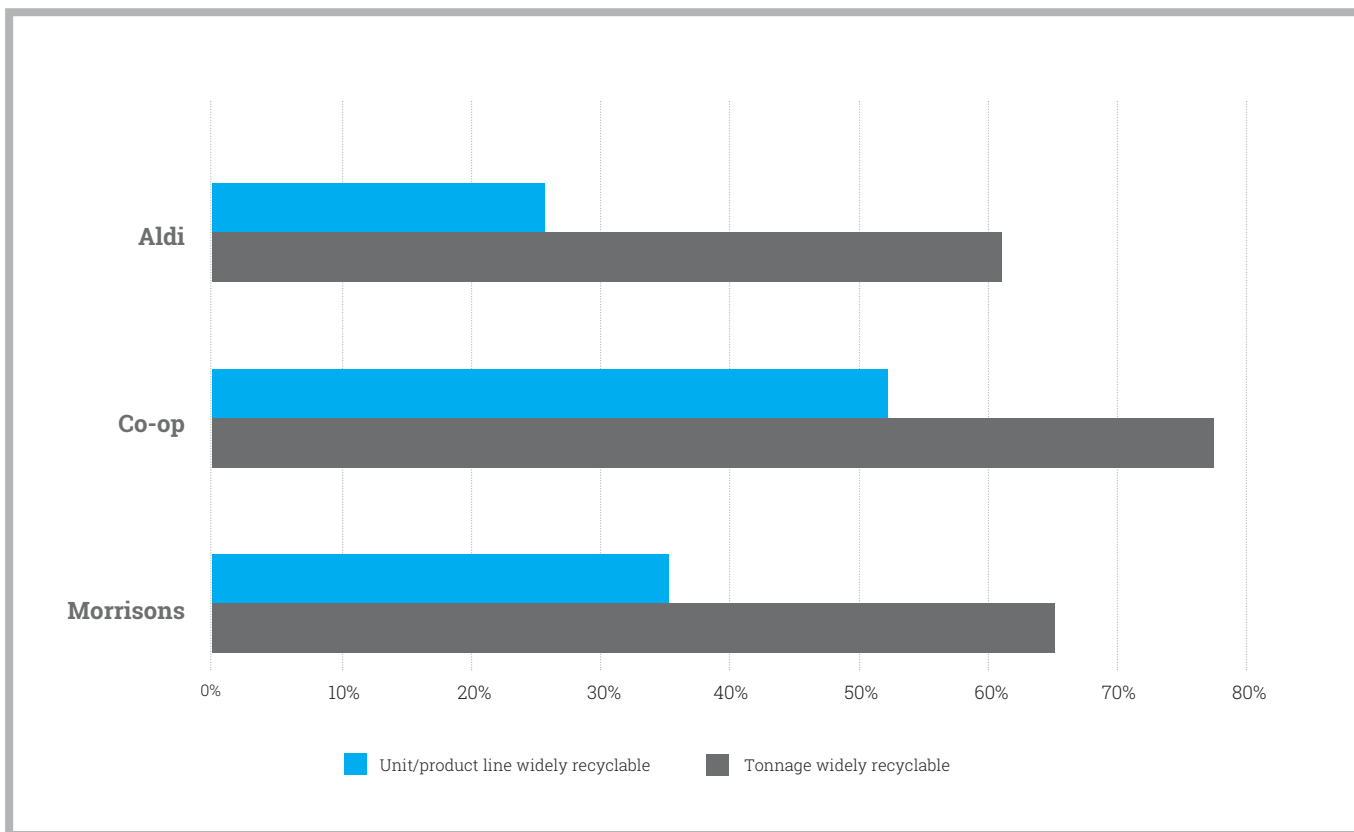


Figure 6
“Widely recycled” own-brand plastic packaging measured in units compared to weight

Asda, Co-op, Iceland, M&S, Morrisons, Tesco and Waitrose reported action on packaging types containing a mixture of materials or polymers, which are typically hard to recycle. For example, Morrisons has been phasing out labelling on rigid PET packaging (e.g. on bottles and trays) since January 2019. Iceland is looking to simplify laminate structures to single materials where feasible. Asda, Co-op, M&S, Morrisons, Sainsbury’s and Tesco are also exploring alternative options for flexible films which cannot be recycled on the kerbside.

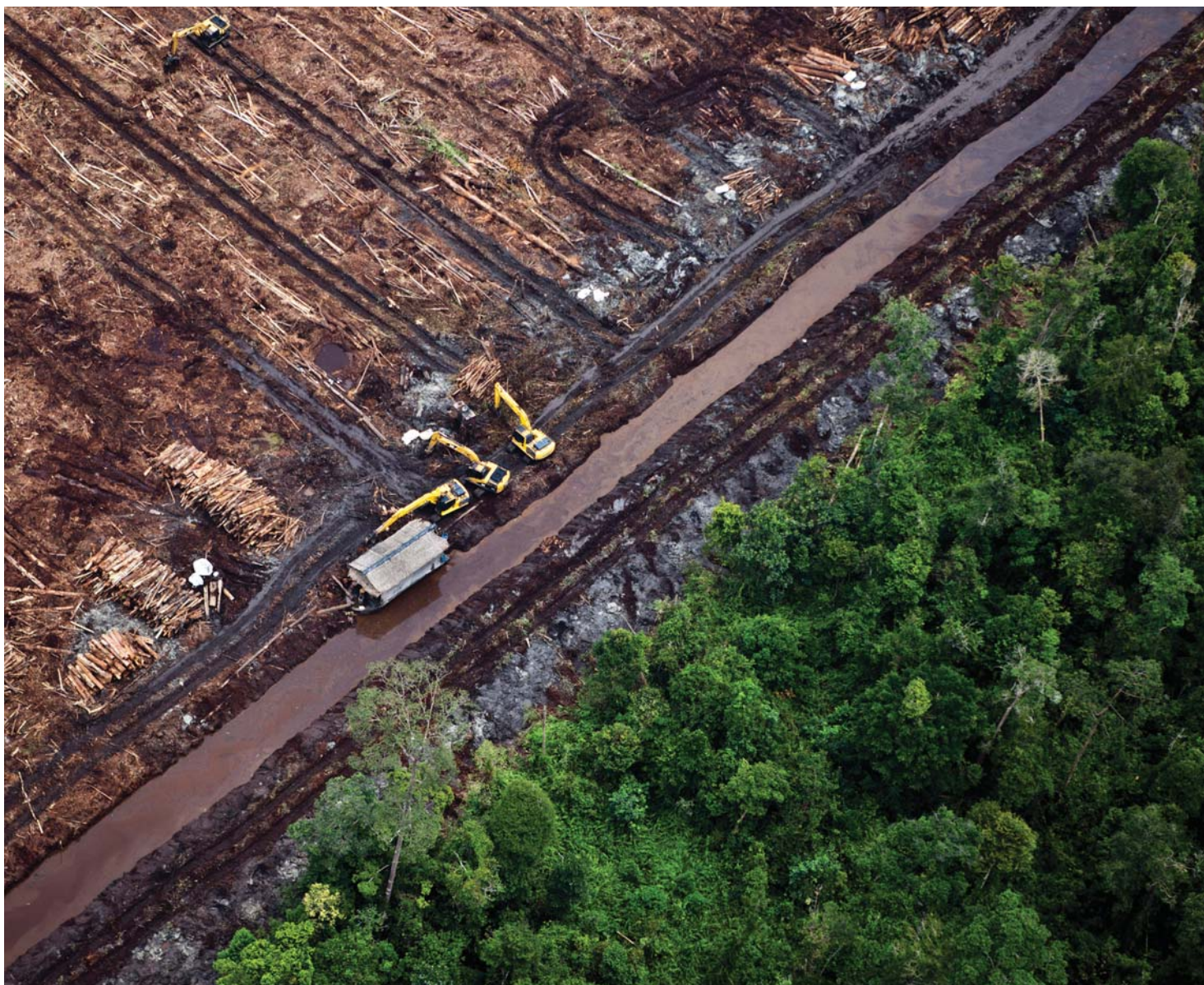
In line with the waste hierarchy, we urge companies to consider design for reduction and reuse foremost, in addition to redesign to meet OPRL’s “widely recycled” classification criteria. Some companies are seeking to increase recycling through initiatives such as ‘bring back to store’ recycling facilities for packaging formats such as flexible films which cannot be recycled on the kerbside. However, these generally have limited return rates, and a focus on packaging redesign is our recommended way forward.

As well as ensuring all plastic placed on the market is recyclable, supermarkets can also drive the shift to a circular economy by maximising the recycled content levels of packaging. Seven companies provided information about current levels of

Companies	Recycled content % in own-brand packaging and timeline for achieving
Co-op	50% by 2021
Asda	30% by 2020
Waitrose, Tesco	30% by 2021
Aldi, Lidl	50% by 2025
M&S	50% / 40% by 2022 for different formats (PET - 50%; HDPE milk bottles - 40%; PP bags - 40%; PE film - 50% (non-food application))
Sainsbury’s	30% by 2022
Morrisons	30% by 2025

Table 4: **Supermarket commitments to increase recycled content in own-brand packaging**

recycled content in own-brand packaging – Co-op (34%), Asda (28%), Sainsbury’s (27%), M&S (20%), Morrisons (16%), Waitrose (15%) and Aldi (12%). Companies have pledged to increase their use of recycled content, with commitments outlined in Table 4. Only Iceland has no quantified target but encourages suppliers to use recycled content through their policy framework.



Bioplastics and other non-conventional plastics – a false solution

Non-conventional plastics – namely bio-based, biodegradable and compostable plastics – are often marketed as a more sustainable option, despite concrete evidence to the contrary.²⁶ For example, most bio-based plastics are produced from agricultural feedstock, requiring an estimated 600,000 hectares to produce 1.6 million tonnes of plastics in 2013 – a fraction of the total demand for plastics (<0.5% of 2015 total).²⁷ Increasing land use for bio-based plastics could bring about competition with agriculture, cause biodiversity loss and raise land rights concerns, as well as having negative climate consequences.^{28,29} While there may be a very limited potential role for non-conventional plastics in certain applications, e.g. home compostable plastic labels on loose produce where there is a high chance of food waste contamination, they are not a solution to the plastic pollution crisis.

Substituting conventional plastic for bio-based plastics or paper-based materials can contribute to land-use change and deforestation.

Most survey respondents recognise the issues associated with these plastic types, highlighting the lack of infrastructure for recycling and/or composting, customer confusion, contamination of existing recycling streams and negative impacts for land-use change associated with growing crops to produce bio-based plastics. We welcome Iceland's shift in position on compostable plastics, which it no longer supports following a trial that ended in 2019. Similarly, M&S trialed but ultimately rejected a compostable produce bag which confused customers and raised technical concerns as to whether it could be composted at home by most customers. Tesco has included industrially compostable plastics on its "red list" of those that cannot be used by suppliers.

Aldi, Waitrose and Co-op offer compostable bags or packaging, although Co-op only sells these in areas where local authorities collect food waste. A number of supermarkets suggested they were looking into recyclable bio-based plastics. We strongly caution against this approach and recommend a focus on reduction and reuse.

Single-use items

No material should be sourced, extracted, transported, manufactured, marketed and sold to be used for just a matter of minutes before being disposed of. EIA and Greenpeace do not support the simple substitution of single-use plastic items with those made of other materials such as paper or aluminium because this could have equally severe consequences for ecosystems and communities affected by increased demands on forestry and mined resources. In line with the waste hierarchy, attention must focus on reduction and reuse solutions which are technically feasible and already scalable for almost all items.

Distribution and action on single-use items

Our 2019 survey found that eight supermarkets sold more than 805 million single-use water bottles and the 10 companies collectively distributed more than 166 million items of single-use plastic cutlery and over 75 million disposable coffee cups. Most supermarkets reported a reduction in the amount of single-use plastic cutlery and coffee cups

distributed since the 2018 survey (see Figure 7 and Table 5), but sales of these products still remain remarkably high.

We welcome the drastic reduction in single-use plastic cutlery made by M&S in the past year. Co-op reported an increase in these items but has committed to remove them altogether during the next 12 months. Tesco and Co-op reported the largest increases in disposable coffee cups (up 57.1% and 47.9% respectively), with Waitrose making the most significant reduction of 24.4 million fewer sales of coffee cups than reported in the previous year.

Many companies are shifting from single-use plastic into other single-use materials, largely pulp and wood (e.g. Asda, Lidl, M&S, Sainsbury's and Waitrose with cutlery). Some companies reported that they are looking to phase out single-use cutlery altogether and we encourage all companies to do this. Waitrose and Lidl have removed single-use coffee cups altogether. We note that some of these item removals were introduced during the period covered by the data and so the number distributed during the past year may not yet be zero. Some companies are offering incentives such as discounts (Asda, M&S, Tesco, Morrisons and Sainsbury's) for customers bringing in reusable cups. However, as seen with Tesco's increase in sales of disposable coffee cups, discounts alone are not sufficient to guarantee an overall reduction.

Company	Number of single-use cups reported in 2018 survey	Number of single-use cups reported in 2019 survey (% change)
Aldi	0	0 (0%)
Asda	10,000,000	7,000,000 (-30%)
Co-op	265,416	392,500 (+47.9%)
Iceland	N/A	132,080
Lidl	45,400	0 (-100%)
M&S	6,128,650	5,000,000 (-18.4%)
Morrisons	N/A	7,800,000
Tesco	15,500,000	24,350,000 (+57.1%)
Sainsbury's	N/A	3,000,000
Waitrose	52,000,000	27,610,140 (-53.1%)

Table 5: Number of single use coffee cups distributed by supermarkets

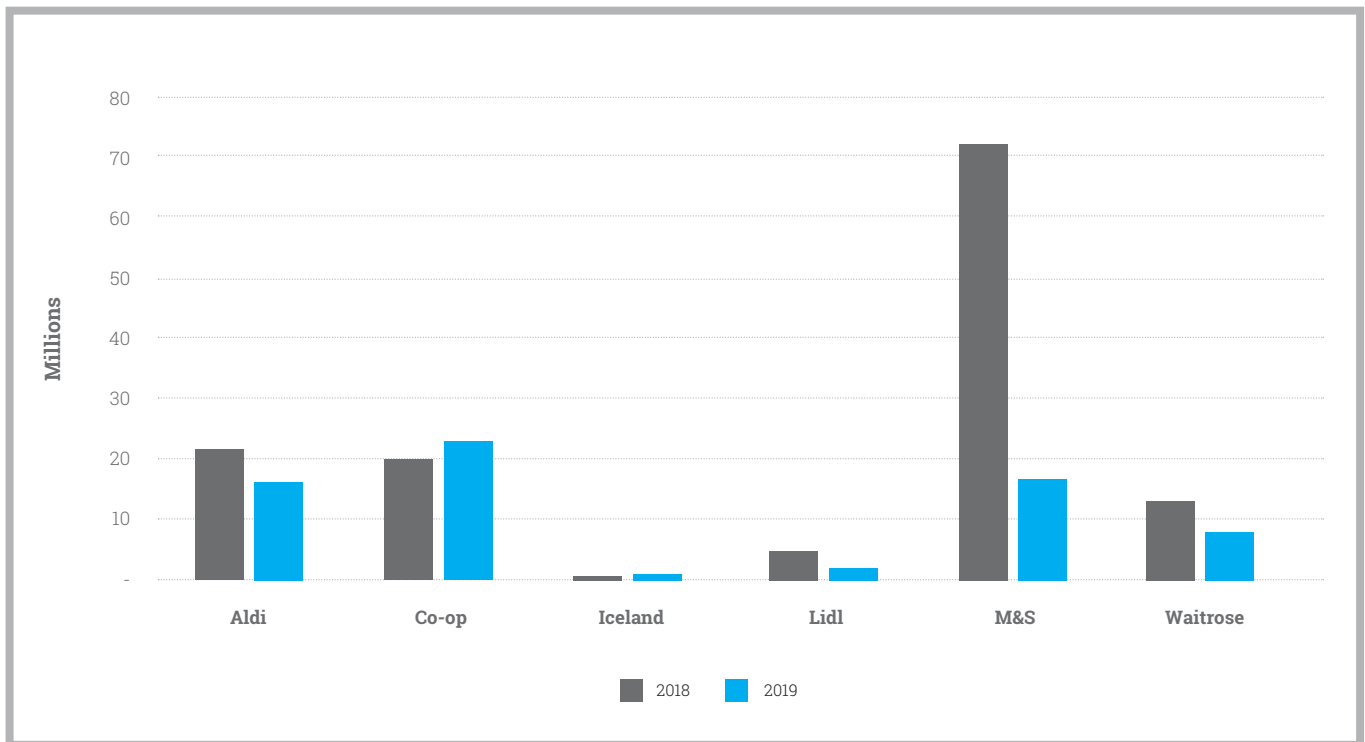


Figure 7
Number of single-use plastic cutlery items sold or distributed

	Aldi	Asda	Co-op	Iceland	Lidl	M&S	Morrisons	Sainsbury's	Tesco	Waitrose
Straws	✓ (also working to remove from cartons)	✓	✓ (also working to remove from cartons)	✓	✓ (also working to remove from cartons)	✓	✓ (also working to remove from cartons)	✗ (removed from cafes and replaced for on the go range)	✗ (removed from cafes)	✓
Cutlery	✓ (by end of 2020)	✗ (removed from cafes)	✓ (over next 12 months)	✓ (ending this year)	✓ (by 2020)	✓	✓ (by 2020)	✓	✗ (from September 2019 in cafes)	✓
Cotton buds	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Coffee cups	✓	✗ (discount on reusable cup)	✗	✗	✓	✗ (discount on reusable cup)	✗ (discount on reusable cup)	✗ (discount on reusable cup)	✗ (discount on reusable cup)	✓
In-store water refills	✗	✓ (offered in cafes)	✓ (trailing)	✓ (trailing)	✗	✓ (offered in cafes, looking into fountains)	✓ (installing in new stores and offered in cafes)	✓ (offered in cafes)	✗	✓ (available at cafes and installing in new stores)
Other initiatives	Plastic-free sanitary items; stirrers; disposable plates and bowls	Disposable partyware (including table clothes and cocktail stirrers); plastic free and reusable sanitary items and wipes	Plastic-free tea bags; plastic-free wipes	Removed balloons	Removed disposable plates	Plastic-free tea bags, coffee pods, wipes	Removing milk jiggers and sauce sachets in cafes; stirrers; sanitary items	Plastic-free wipes	Removing milk jiggers, trialling the removal of sachets in cafes	Plastic-free sanitary items; and wet wipes

Table 6: Reported plastic reduction targets



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Table 6 summarises supermarket commitments to reduce specific single-use plastic items through bans or other initiatives, such as in-store water dispensers. Plastic Pact members have agreed to phase out plastic cutlery, cotton buds, stirrers and straws by 2020.³⁰ We support the demands of disability rights groups, such as One in Five, which are concerned that bans on items such as plastic straws could be detrimental to some citizens and are therefore calling on manufacturers to produce an environmentally friendly flexible non-plastic straw suitable for hot and cold liquids.

Plastic bags

The introduction of the 5p carrier bag charge in England has been credited with an 83% reduction in the number of single-use plastics bags issued by the largest retailers.³¹ However, our survey reveals a huge rise in the sale of plastic 'bags for life', demonstrating the inadequacy of the current policy which is clearly not providing a strong enough incentive for people to stop using 'bags for life' as a single-use option.

In 2018, eight companies representing 75.3% of the UK market share reported the distribution of 959 million plastic 'bags for life', equating to 12.7 million

per 1% market share. In 2019, 10 companies representing 94.4% of the grocery retail market reported over 1.5 billion bags for life, equivalent to about 16 million per 1% market share. This is an increase of about 26% on a market share basis, representing approximately 54 bags for life per household in the UK from the 10 supermarkets. It is clear from this data that many people are simply swapping 'single-use' plastic bags for these plastic bags for 'life'.

Some companies reported an enormous jump in sales of plastic bags for life. Iceland reported a tenfold increase from 3.5 million to 34 million, while Tesco reported an increase from 430 million to 713 million. Other companies reporting an increase in sales include Aldi (from 52 to 84.6 million) and Co-op (28.2 to 29.2 million).

Over the past year, there has been a 26% increase in sales of 'bags for life', representing 54 per household in the UK.

	Total 2018 units (mill)	Total 2019 units (mill)	Total 2019 tonnage
Single-use plastic bags	1,197 All companies	786.2 All companies	3,334 No data provided by Tesco or Asda
Plastic bags for life	959 8 companies, no data Asda or Lidl	1,514 All companies	44,913 No data provided by Lidl
Ultra lightweight plastic bags	1,309 All companies	1,033 All companies	1,049 No data provided by Lidl, Sainsbury's
Other reusables	Not asked in 2018	81 All companies	193 Data only for Sainsbury's and Co-op

Table 7: Overview of data on plastic bags provided by companies in 2018 and 2019 surveys

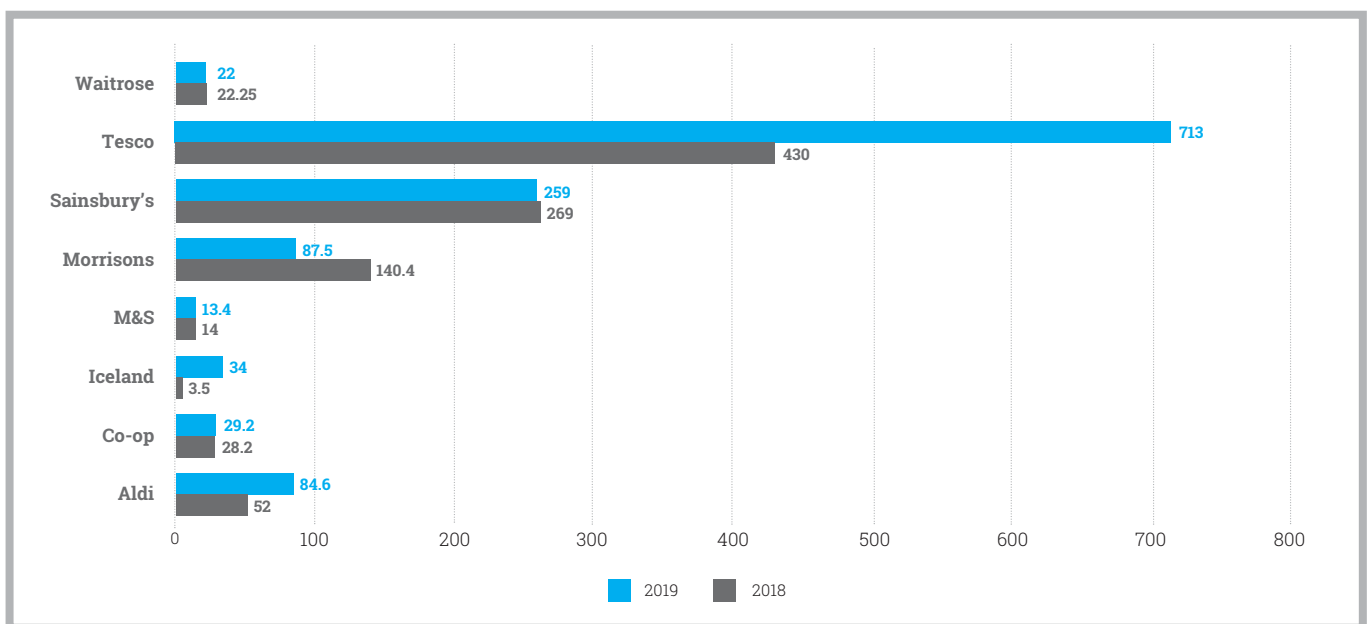


Figure 8
Plastic bags for life reported per company in 2018 and 2019 surveys

The impact of this simple substitution is a major concern, given the significantly higher plastic content of bags for life. Our 2019 survey found that supermarkets distributed over 1.5 billion bags for life weighing 44,913 tonnes and 786.2 million single-use bags weighing 3,334 tonnes (see Table 7). For the carbon footprint of a typical 'bag for life' to be equivalent to that of a conventional single-use carrier, it needs to be used at least four times if it is a thin low-density polyethylene (LDPE) bag and at least 11 times if it is a thicker non-woven polypropylene (PP) bag.³²

Some supermarkets are taking steps to reduce the number of plastic 'bags for life'. Lidl has removed plastic 'bags for life' from 54 stores in Wales, with customers having to spend 38p on a heavy-duty bag if they forget to bring their own bag. Morrisons has

increased the price of plastic 'bags for life' to 30p in 31 stores, also in Wales, leading to a 40% reduction in their sales. Morrisons attribute half of the reduction to a move into paper bag sales, the other half to customers reusing bags.

A 90% reduction in bags for life sales was achieved in the Republic of Ireland by setting a charge six times higher than the price consumers reported that they were willing to pay, at 70 cents.³³ Recent polling found 58% of customers were willing to pay at least 20p for a supermarket carrier bag, 14% would pay as much as 50p and 6% as much as £1.³⁴ Given this, and the overwhelming increase in use of bags for life, EIA and Greenpeace recommend a price increase to at least 70p – or ideally to remove them altogether, enforced by a Government ban.

Numbers of loose produce bags are beginning to fall and we encourage faster progress towards offering reusable alternatives, which are being introduced and piloted by Morrisons, Waitrose, Tesco, Asda, Aldi, Sainsbury's and Lidl. Substitution of single-use plastic for paper produce bags is not a solution.

Supply chain engagement

Plastics found in supermarket aisles are just one part of a grocery retailer's plastic footprint. From the tiny pellets used to manufacture plastic items to the fields of plastic polytunnels used to grow crops, plastic is ubiquitous throughout the supply chain. Our survey sought to gain a better understanding of how grocery retailers are looking to reduce and responsibly manage these behind-the-scenes plastics.

Engaging with brand suppliers

Our survey leaves little doubt that branded suppliers are standing in the way of a significant reduction in single-use packaging and a shift into reusable solutions. All supermarkets except for Lidl and Co-op reported an increase in their branded single-use

plastic packaging footprint this year, rising from 349,022 tonnes reported last year to 366,937 tonnes.

Branded goods typically comprise 40-60% of a supermarket's sales, although some stores such as Aldi and M&S have less than 10% branded products. Fast Moving Consumer Goods (FMCG) companies such as Unilever, Nestlé and Procter & Gamble operate a huge number of brands and have significant influence over the market. These big brands have been identified in a recent audit of marine pollution as being behind the majority of plastic items found in clean-ups around the world.³⁵

This year's survey found some progress towards formalising systematic and robust engagement processes with branded suppliers, although much more remains to be done to drive down branded single-use packaging. Many companies have more rigorous processes for own-brand suppliers. For example, Aldi reported that it has run packaging optimisation reviews on each food group, providing buying teams with recommendations on removing and replacing plastic and packaging, using the



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Clearance to Supply (CTS) control system to ensure that compliance against pledges on plastic reduction are mandatory. Products do not get CTS if they are non-compliant with mandatory policies.

Companies including Asda, Aldi, Morrisons, Co-op, Lidl, Tesco and Sainsbury's reported that they communicate their policies on plastic and packaging through conferences, provision of technical support, trainings and information-sharing sessions and written guidelines and policies. Iceland and Waitrose remain at the earlier stages of the process of formalising engagements with branded suppliers, although both are beginning to communicate their policies and commitments. Branded goods make up just 3% of M&S sales, so this is not a priority area for the company, although it has made some communications to branded suppliers.

Supermarkets must be prepared to act if brands are unable or unwilling to work towards reduction and reuse objectives. We applaud Tesco for showing leadership by committing to consider the size and suitability of all packaging and assess whether it is excessive or inappropriate, reserving the right not to

stock a product.³⁶ This will help the company achieve its target to reduce plastic packaging by 20% and phase out non-recyclable materials. It is important Tesco follows through on this strong commitment, so that brands realise there will be serious consequences for inaction. Other companies such as Asda also reserve the right to delist products if they fail to meet minimum standards, although these policies have not been so publicly communicated. Supermarkets with less than 10% market share generally felt they had less influence on branded suppliers than larger grocers.

Working with agricultural suppliers

Use of plastics in agricultural production (known as agriplastics) has intensified throughout Europe in recent years, with growth in plastic mulch and greenhouse film, silage covers and bags, irrigation systems, tunnels and covers. This increase has not been matched with improvements in cleaning, sorting, collection and recycling facilities.³⁷ Where these plastics are not recovered, they are often buried in the soil, abandoned in fields or watercourses (which can act as a passage to the oceans) and even illegally burnt.



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Soil ecosystems can absorb large quantities of microplastics, stunting the growth of earthworms with potentially serious impacts on the soil ecosystem.³⁸

Last year, very few companies reported actions to address this area of plastic pollution. This year, only Aldi said it was not working on agriplastics. Nonetheless, policies and commitments still remain limited in scope, with just a patchwork of small scale actions under way. For example, Asda has found a method allowing herbs to be grown in a 'pellet', removing the need for plastic plant pots. Lidl suppliers in south-west England collect and recycle plastic waste into long-lived items such as sheep pens and hen houses. Similarly, M&S is encouraging agriplastic recycling into plastic lumber for items such as fence posts. Other actions include M&S working with the Sustainable Agriculture Initiative on a collaborative project in Spain. Sainsbury's highlighted an initiative to eliminate agriplastic waste and consumer-facing packaging in parallel, removing bags from cabbages and cauliflowers that were formerly packaged directly on the field.

Morrisons was one of the few companies seeking to introduce a clear policy to guide suppliers on reduction, sustainable disposal and/or reuse of agriplastics. Waitrose also said it would use data gathered through a project with Lancaster University to formalise a policy for single-use plastics in food production, focused on plastic tunnels, fleeces and netting used for mulch films. Co-op is working with its grower groups to encourage responsible agriplastic use and is incorporating this into its plastic pollution strategy to be shared with suppliers.

Solutions to this problem are not simple. Shifting to reusable and longer-lasting structures may not be an overnight answer, although we strongly encourage long-term investment in these solutions. Addressing the problem requires a deeper understanding of the causes behind the recent growth in agriplastics; for example, a year-round demand for salad items which cannot be grown without plastic structures. A focus on local and seasonal sourcing is a necessary part of a holistic solution and could also help reduce the amount of primary packaging required.





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There is discussion around the use of biodegradable plastic mulching which can be tilled back into the soil. This may be preferable to conventional non-biodegradable alternatives but only if the very highest standards are met, with independent ecotoxicology and biodegradability testing to ensure they fully and safely breakdown in natural environments. A few companies indicated that bio-digesters and chemical recycling would play a role in their approach to agriplastics. We note such solutions are not as resource-efficient as reuse or prevention.

Working with fisheries suppliers

At least 640,000 tonnes of abandoned, lost or otherwise discarded fishing gear (also known as ghost gear) enters our oceans each year, accounting for 10% of the total volume of marine debris globally,³⁹ with recent studies pointing to amounts higher than 46% in some areas.⁴⁰ Ghost gear is predominantly comprised of plastic⁴¹

and is an insidious threat as it catches and kills fish, as well as other non-target species, contributing in some areas to a 5-30% decline in certain fish stocks.⁴²

Supermarkets including Tesco, Waitrose, Sainsbury's, Morrisons and M&S participate in the voluntary multi-stakeholder platform Global Ghost Gear Initiative (GGGI),⁴³ with Co-op and Lidl joining the list of signatories since our 2018 survey and Aldi currently considering membership. Asda has committed that all vessels supplying white fish will collect plastic as they fish by 2020, but did not have any specific initiatives to prevent ghost gear. Several companies stated they were shifting to reusable containers for the delivery of fish to reduce the quantities of polystyrene in their supply chains.

Examples of best practice include: a commitment from Lidl to work with GGGI on an online training tool to share with suppliers on best practices for



mitigating gear loss, M&S's engagement with suppliers on rolling out preventative measures for gear loss and management, and Tesco's engagement with the Marine Stewardship Council to ensure ghost gear is considered in the standard review. Morrisons, Tesco and Waitrose all reference specific projects they are supporting in their supply chains to address ghost gear, including net recycling, net collection and gear marking.

We recommend all supermarkets to include ghost gear prevention measures in fisheries sourcing policies; for example, through requirements on the implementation of the GGGI Best Practice Framework, following the lead from Morrisons, M&S, Tesco, Sainsbury's and Waitrose which are already taking this step.

Pre-production plastic pellets

Small plastic pellets, also known as nurdles, are melted down and used in the manufacture of all

plastic products. They can enter the environment at every stage of the plastic production, manufacturing and recycling process and are the second largest source of marine microplastic pollution by weight.⁴⁴ Since last year, there has been some progress by the UK's largest supermarkets to ensure that best practices in preventing pellet loss have been met along the supply chain.

Co-op asks all own-brand suppliers to source plastics from factories which have signed up to Operation Clean Sweep (OCS), an industry-led voluntary scheme which provides best practices to prevent pellet loss. Co-op was also involved in successfully lobbying BRC Global Standards to include a new audit requirement in the Global Packaging Standard for packaging factories to introduce systems to minimise the loss of pellet, powder and flakes.⁴⁵ Tesco is another leader, with a comprehensive site audit programme for all own-brand suppliers, with any issues around poor control of pellets recorded as non-compliance in the audit.

Other progress made over the past year includes Aldi updating its quality standards policy to require suppliers to implement best practices in pellet loss prevention, with the company looking to provide detailed requirements and guidance as part of its production site standards. Morrison's procurement team is engaging to understand current levels of participation in OCS. Sainsbury's has become a signatory to OCS and asks suppliers to pressure their own packaging suppliers to ensure they are also signatories. Lidl has begun engaging with suppliers regarding the level of pre-production pellet loss but did not report concrete actions or commitments at this stage. M&S is supportive of OCS, although the best practice framework is not currently built into its formal supplier policies. Similarly, Waitrose recommends suppliers use OCS guidelines, but this does not appear to be supported through formal mechanisms. Disappointingly, Asda and Iceland reported this is an area they have not acted on.

Packaging in supply chains

Besides the packaging that consumers find on the shelf, grocery retailers use secondary packaging to protect and collate products during storage, transport and distribution; and tertiary packaging to transit goods, including pallets, stretch wrap and strapping.

Compared to last year, more companies were able to provide data on the amount of secondary and tertiary packaging they use. Companies were also asked what proportion of this packaging was reusable and for any information on policies or

commitments to enforce this. Few companies had data on the exact proportion, but all reported that reusable packaging is widely used within secondary and tertiary packaging.

Aldi reported all its tertiary pallets are reusable and that more than 60% of secondary packaging for fresh produce and bakery is reusable. Co-op said 68% of fruit and vegetables and 50% of meat are delivered in returnable trays. Iceland reported bakery items and milk are delivered in reusable packaging, while in produce it uses returnable crates for approximately 30% of the volume. Lidl reported 91% of tertiary packaging and 8% of secondary packaging was reused. M&S estimated 76% of food is distributed to stores in reusable containers. Tesco estimated 70% of secondary and tertiary packaging is reusable (mostly green trays and pallets).

Customer, staff and policy engagement

From the millions of customers passing through supermarket doors every day, to the staff who engage with them and handle products in-store, through to policy-makers working on packaging legislation; grocery retailers interact with stakeholders whose behaviour and actions collectively shape the UK's relationship with plastic. The survey sought to understand how companies are using their influence to catalyse a transition from our throwaway culture.

Engagement with staff, customers and communities

All companies reported a wide range of engagements to encourage a shift away from single-use and encourage an uptake in recycling, including through internal communications (i.e. online resources, internal bulletins and newsletters, promotion of reuse and recycling in staff facilities), staff education and training programmes, customer communications and engagement (including through product labelling, magazines, promotion of plastic-free options and incentives) as well as wider awareness-raising (including through education programmes and clean-up initiatives). The highest performing companies reported the most comprehensive and targeted programmes with a full range of stakeholder groups, with a specific focus on incentivising reduction and reuse.

Notable initiatives include efforts by Asda to ensure wide-reaching staff engagement, including at the highest levels – with metrics tracking progress against plastic commitments included in executive

board meetings. Examples of community engagement initiatives with a wide reach include Aldi's 'Reduce, Reuse, Recycle' school education programme, which seeks to interact with 1.5 million children across the UK.

Engagements to encourage staff and citizens to reduce their plastic footprints must be backed up with widely available and accessible means for people to do so in practice. For example, this might include offering reusable produce bags for purchase with loose fruit and vegetables. Several companies have signed up to the Refill app, which lets people know that they can refill their water bottles in-store. Where reusable and zero-waste solutions are available, we encourage companies to ensure they are widely communicated to customers, with other incentives – including financial – to encourage uptake.

Engagement with policy-makers

In 2019, a number of Government policy consultations were launched under the Resource and Waste Strategy, including proposals to reform legislation defining Extended Producer Responsibility for packaging (EPR), to implement a Deposit Return Scheme (DRS) for drinks containers, and to introduce a tax for plastic packaging containing less than 30% recycled content. As part of the survey, we were keen to understand the position of retailers engaging with these processes.

Currently in the UK, it is estimated that less than 10% of the costs associated with dealing with packaging waste are covered by the EPR fees producers pay. The rest is externalised, with local authorities and the natural environment bearing the brunt, as well as communities around the world to which the waste is shipped. Companies were generally supportive of EPR covering the full costs associated with dealing with packaging waste and favoured a transparent system, wherein fees were used to significantly improve recycling facilities in

Engagements to encourage staff and citizens to reduce their plastic footprints must be backed up with widely available and accessible means for people to do so in practice.



the UK. Few, however, identified the transformative potential of EPR to incentivise reduction and reuse, in addition to recyclability,

DRS schemes are an effective way to ensure high levels of containers are collected for recycling – or ideally, reuse – by including a small fee at the point of sale, which customers redeem once they return the item. While most supermarkets supported the introduction of a DRS system, with the exception of Lidl and Tesco, all had concerns about the inclusion of glass. It is important to include glass for a number of reasons. Despite being one of the most recyclable materials, an unacceptable amount of glass bottles end up in landfill or are littered – for example, in Scotland, more than 40% of glass drinks containers escape recycling.⁴⁶

The Government has proposed a tax to be applied to plastic packaging containing less than 30% recycled content. Some companies seemed supportive of its introduction, including Iceland, Aldi and Sainsbury's. Others had concerns that, as currently formulated, the tax could have unintended consequences, with many noting that by focusing on plastics and not all packaging materials, there is a risk that producers could simply substitute one single-use material for another, with negative environmental impacts. We share this concern and call for the tax to be applied to all single-use packaging materials.

Transparency and disclosure

Transparency is critical to ensure accountability around targets and commitments, as well as to provide a more comprehensive understanding of the plastic and single-use packaging being placed on the market each year. Ocado, Booker Group and Best Way were the only survey recipients not to submit a response. All of the major supermarkets we contacted responded to the survey and engaged in follow-up discussions and clarifications.

All major retailers have committed to report on their plastic footprints annually, with many having already done so – including Asda, Co-op, Iceland, Lidl, Morrisons, Tesco and Waitrose. There were some areas where companies were not able to provide data due to challenges in data collection. Companies struggled to provide information on the proportion of branded packaging that is 'widely recycled' using OPRL's definition (Asda, Co-op, Iceland) and the average level of recycled content that packaging contains (Iceland, Lidl, Tesco). Asda and Co-op were not able to provide unit plastic packaging data for branded products. Furthermore, Asda and Sainsbury's did not provide unit sales data on single-use water bottles.



Conclusions

Supermarkets have a major role to play in driving the transition towards zero-waste grocery supply chains. However, the findings of our report highlight the scale of the challenge ahead and the need for continued and concerted action by industry and Government. Modern dependence on single-use packaging and items is a symptom of a broken system and to reverse this trend we must address the underlying drivers. We recommend a holistic suite of solutions to avoid unintended consequences, moving forward towards a more sustainable grocery sector.

Reduction and reuse

Supermarkets were scored on progress made in the past year to reduce their single-use footprints and move towards packaging-free and reusable solutions, in addition to their forward-looking targets and commitments in these areas. Seven of the 10 companies increased their overall single-use plastic packaging footprints (branded and own-brand). As a result, the amount of single-use plastic packaging placed on the market by the UK's leading supermarkets has increased by almost 20,000 tonnes since the 2018 survey, primarily driven by sales of branded goods. All 10 companies have plastic reduction targets but these need tightening to ensure a genuine shift away from single-use packaging across both branded and own-brand ranges. There remains too much focus on false solutions like light-weighting and substituting single-use plastic for other materials.

A patchwork of packaging-free and reuse initiatives are under way, which now need to be applied at scale in order to achieve deep reductions in single-

use packaging. We encourage companies to follow the lead of Morrisons in setting quantified reuse targets to drive further improvements. There is increasing attention on expanding loose fruit and vegetable ranges. It is important that single-use plastic produce bags are replaced with reusable, rather than paper, alternatives; and for all loose ranges to be offered on price parity (or ideally cheaper) than packaged equivalents.

The number of single-use items such as coffee cups, water bottles and cutlery remains unacceptably high. We urge companies to end the sale of these items in favour of reusable alternatives. The soaring number of so-called bags for 'life' also warrants urgent attention and we call on supermarkets and policy-makers to end sales of these altogether or at a minimum increase the price to 70p.

Recyclability and recycled content

All supermarkets have committed to phase out non-recyclable plastic packaging by 2025 at the latest. However, despite being a major focus for industry,



the overall levels of own-brand plastic packaging classed as 'widely recycled' have actually decreased since last year, from 64.7% to 63.8% when calculated by tonnage. Tonnage calculations skew the true number of non-recyclable items, since much non-recyclable packaging such as plastic films are lightweight but represent a larger number of items. When calculated on a unit basis, it is likely that less than a third of own-brand plastic packaging items are 'widely recycled'.

Companies are working to increase the level of recycled content that own-brand plastic packaging contains, with some companies already reporting levels of about 30% average (Co-op, Asda and Sainsbury's), and targets have been set to increase average recycled content levels to 50% (Aldi, Lidl, M&S, Co-op).

Supply chain and stakeholder engagements

Our survey has identified branded product ranges as a hurdle to ending grocery retail dependence on single-use packaging. EIA and Greenpeace urge supermarkets to collectively leverage their buying power to push for a significant reduction and shift into reusables systems among these companies. If a brand is unwilling or unable to reach these objectives, supermarkets should not stock their products.

Beyond the items that customers find on the shelf, supermarkets must address supply chain plastics through enforcing policies with regard to the reduction of plastic pollution associated with fisheries, agriculture and pre-production plastic

pellets. While most companies have some initiatives in these areas, best practices now need to be systematically applied at scale.

Engaging staff, customers and communities will be a key driver for reducing and reusing packaging. We encourage supermarkets to continue scaling up these communications, ensuring the availability and accessibility of packaging-free and reusable solutions. Supermarkets can use their leverage with policy-makers to support legislative reform that catalyses reduction and reuse, calling for binding targets and policy support on these areas.

Transparency

We were disappointed that Ocado, Booker Group and Best-One chose not to participate in the survey. These companies are selling millions of grocery items every day and we have not been able to assess their progress or commitments. SPAR provided a partial response.

The 10 leading supermarkets generally scored well on transparency, although there remain some areas where data is poor. A number of firms struggled to provide information about their sales of branded goods (including the number of units sold, recyclability of this packaging and levels of recycled content). Companies are encouraged to publicly report on their plastic footprints in both tonnage and units.

Recommendations

Actions and choices made by supermarkets today are defining the future health of ecosystems and those depending on them. We encourage companies to reconsider their relationship with single-use packaging and items, analysing and addressing the trends which have driven their recent proliferation. A summary of key recommendations is provided below. We encourage companies to collaborate and share learnings to enable faster progress across the sector.

Single-use packaging

- **Reduction targets.** Set ambitious reduction targets and map out long-term plans for cutting single-use plastic, with shorter term milestones built in. Targets must apply to both branded and own-brand goods and should achieve an absolute reduction (without being tied to sales or growth). Methods for achieving these targets should focus on removing single-use packaging altogether and shifting into reusable packaging, rather than light-weighting or swapping one single-use material for another.
- **Packaging-free ranges and reuse solutions.** Support a wholesale transition towards packaging-free ranges and reuse and refill systems across shop floors, supply chains and product lines nationwide; ensuring price parity, availability, accessibility and awareness. Introduce online reusable ranges. Given the potentially heavier weight of reusable packaging, supermarkets should take steps to ensure no knock-on impacts on transport emissions by supporting a rapid decarbonisation of the transport fleet.
- **Eliminate non-recyclable packaging.** Urgently eliminate all non-recyclable plastic polymers and packaging formats by the end of 2020 and make it mandatory for branded suppliers to do the same.
- **Non-conventional plastics.** Avoid false solutions involving non-conventional plastics (bio-based, biodegradable, compostable).
- **Address the drivers of single-use packaging.** Promote shorter supply chains and seasonal produce; ban excessive packaging used for marketing objectives; challenge the 'convenience' culture underpinning the wasteful on-the-go market.

Single-use plastic items

- **End sales and free provision of single-use items.** This includes, but is not limited to, plastic cutlery, bottles, cups, straws, stirrers, sanitary items and plastic-stemmed cotton buds. Focus on removing single-use items altogether and shifting to reusables.
- **End sale of single-use plastic bags and plastic 'bags for life'** or increase the minimum price to at least 70p, and offer reusable produce bags.

Working with the supply chain

- **Robust engagement with branded suppliers.** Engage with brand suppliers on reducing single-use plastics and packaging by requesting target-setting, sharing best practices and collaborating on refillable packaging ranges. De-list companies unwilling or unable to adapt.
- **Agriplastics.** Work with fruit and vegetable suppliers on the reduction and responsible management of plastics used on the farm to prevent pollution of soil, rivers and oceans. Formalise this into a policy enforced across all suppliers.
- **Fisheries-related plastic waste.** Work with fishery suppliers to implement measures to prevent abandoned, lost and discarded fishing gear and other plastic waste. Adopt sourcing policies that incorporate best practices such as those advocated by the Global Ghost Gear Initiative.
- **Secondary and tertiary packaging.** Introduce a comprehensive policy requiring reusable containers for transportation, storage and distribution.
- **Plastic pellet loss.** Introduce requirements for suppliers to implement best practice measures to prevent plastic pellet loss, with third party auditing and reporting requirements.

Engagement with staff, customers and policy makers

- **Staff, customer and community engagement campaigns.** Utilise all internal and external communication channels to empower staff and customers to reduce plastic, addressing financial and non-financial barriers to behavioural change.
- **Engage with policy makers to support the reduction of plastic and single-use packaging.** Engage individually and through industry bodies to promote ambitious policy reform to significantly reduce single-use packaging and shift towards reuse and refill systems.

Transparency

- **Publicly disclose full plastic footprint breakdown** on website and within annual report.

Investors and shareholders in these companies are encouraged to promote these recommendations through their engagements.

Recommendations for policy-makers

We urge policy-makers to adopt and implement ambitious legislation to ensure a rapid reduction in plastic waste, including:

- Introducing legally binding reduction and reuse targets for packaging, reducing single-use plastic packaging by at least 50% by 2025.
- Using Extended Producer Responsibility (EPR) packaging reform to ensure that producers cover the full costs associated with the items they place on the market, with fees set to incentivise design for reduction and reuse, as well as recyclability.
- Introducing an all-inclusive Deposit Return Scheme covering all materials and formats (including glass), designed to enable reuse as well as recycling.
- Banning single-use plastic bags and plastic 'bags for life' (or increase the minimum price to at least 70p) as well as other unnecessary single-use items such as cutlery and coffee cups.
- Introducing taxes and charges to disincentivise the use of any virgin materials in packaging applications.
- Phasing out overseas exports of packaging waste and banning waste incineration as false solutions to addressing the UK's lack of domestic recycling capacity.
- Introducing EPR schemes for agriplastics and fishing gear.
- Extending the UK microbead ban to cover intentionally added microplastics in all household and industrial applications.



Glossary

Absolute change (increase or decrease):

An absolute change refers to the simple difference between two given values. For example, if a company increased its plastic footprint from 100,000 tonnes in 2017 to 150,000 tonnes in 2018, the absolute change would be 50,000 tonnes.

Agriplastics:

Agriplastics (sometimes known as 'plasticulture' or 'ag plastics') are 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.

Baseline year:

A baseline year is a reference point in time against which targets are set. For example, a company may commit to reduce plastic by 20%, using its 2015 plastic footprint as a baseline by which the reduction is measured.

Bioplastics:

The term 'bioplastics' is commonly used to refer to 'bio-based', 'biodegradable' or 'compostable' plastics (see definitions below). A bioplastic could be both bio-based and biodegradable.⁴⁷

Bio-based plastics:

'Bio-based' means that the material at least in part derived from renewable resources. Most bio-based plastics are produced from agro-based feedstock, raising concern that increasing land-use for bio-based plastic production could bring about competition with agriculture, contribute to deforestation and biodiversity loss, and raise land rights concerns.

Biodegradable plastics:

'Biodegradable' plastics should meet industrial standards EN 13432 or EN 14995, which require at least 90% disintegration after 12 weeks, 90% biodegradation in six months, and include tests on ecotoxicity and heavy metal content. Conditions required for rapid and full degradation are rarely met in the natural environment, thus these plastics still pose a hazard if they leak into the ocean or persist as microplastic fragments. If incorrectly sorted, they can contaminate plastic recycling systems.

Compostable plastics:

Compostable plastics are a subset of biodegradable plastics. 'Industrially compostable' plastics are defined by standard EN 13432, which requires the packaging sample to be mixed with organic waste and maintained under test composting conditions for 12 weeks, after which time no more than 10% of material fragments are allowed to be larger than 2mm, with an absence of any negative effect on the composting process. Home compostable materials must be treatable at ambient temperatures. The timeframes for biodegradation and disintegration can be longer.

Fisheries-related plastic waste:

Plastics related to fishing activities, which can include abandoned, lost and discarded fishing gear (otherwise known as 'ghost gear'), bait boxes and other waste. Examples of best practice relevant to fishing gear can be found within the Global Ghost Gear Initiative's Best Practice Framework for the Management of Fishing Gear.⁴⁸

**Light-weighting:**

This is the process of replacing packaging material with a lighter weight alternative or cutting down the amount of packaging material used.

OPRL:

On-Pack Recycling Labelling (OPRL) is a voluntary scheme designed as a standardised label to help consumers determine whether the item can be widely recycled at the kerbside or not.

Pre-production plastic pellets:

Pre-production pellets, flakes and powders (referred to collectively as pellets) are the raw materials from which virtually all plastic products are made. Also known as 'nurdles', plastic pellets are the second largest source of direct microplastic pollution. When handled irresponsibly by plastic producers, transporters, recyclers or converters, they reach drains and rivers and, eventually, the sea.

Packaging unit:

There are different ways of defining a packaging unit. A unit can be considered as a 'customer sales unit' that the customer finds on the shelf – for example, a single packaging container e.g. a single bottle of milk. Alternatively, each component of the packaging can be understood as a separate unit – i.e. the plastic bottle, lid, branded wrapper.

Primary packaging:

Packaging that contains the finished or final products that customers find on the supermarket shelf, 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.

Plastics Pact:

The UK Plastics Pact is a collaborative voluntary initiative bringing together businesses across the plastics value chain, UK Government and NGOs. Signatories are committed to certain targets related to plastic reduction and recycling.

Reusable packaging:

Packaging which has been designed to be refilled or used for the same purpose within a closed system. This can be through customer refills (i.e. reusable produce bags that customers can buy loose veg in), or packaging designed to be collected by the producer for reuse in a closed-loop system, similar to the traditional 'milkman' model where empties are picked up, washed, refilled and restocked for delivery to another customer.

Secondary packaging:

Packaging used to protect and collate products during storage, transport and distribution.

Single-use plastic packaging:

Any plastic packaging that is intended to be used just once before disposal. Examples include plastic bags, sachets, bottles, as well as food, drink and non-food packaging that are designed to be used only once. This can include recyclable packaging.

Tertiary packaging:

Outer packaging, including pallets, stretch wrap, strapping etc used for the shipment and distribution of goods, also referred to as transport or transit packaging.

Widely recycled:

"Widely recycled" is a term defined by the On-Pack Recycling Label (OPRL) to be used when 75% or more councils offer kerbside collection.

References

- 1** N.B. In 2018, our report noted that the 10 largest supermarkets reported to have put 810,000 tonnes of single-use plastic packaging on the market; however, this figure did not include branded sales by Asda, which had not been reported. The 886,000 tonne figure reported here includes an estimate provided by Asda for these sales (~65,000 tonnes) in order to make a more accurate comparison to this year's complete dataset. Co-op and Lidl provided updated data from the previous year, which increased the total by another 11,000 tonnes. Source: EIA and Greenpeace, 2018. Checking Out on Plastics. Available at: <https://eia-international.org/wp-content/uploads/Checking-out-on-plastics.pdf>
- 2** Department for Environment, Food and Rural Affairs (DEFRA), 2018. Our Waste, Our Resources: A Strategy For England. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765914/resources-waste-strategy-dec-2018.pdf
- 3** World Wildlife Fund (WWF), 2018. Plastics Consumption and Waste Management. Available at: https://www.wwf.org.uk/sites/default/files/2018-03/WWF_Plastics_Consumption_Report_Final.pdf
- 4** BBC, 2019. Recycling: Where is the plastic waste mountain? Available at: <https://www.bbc.co.uk/news/science-environment-46566795>
- 5** Centre for International Environmental Law (CIEL) et al., 2019. Plastic and Health: The hidden costs of a plastic planet. Available at: <https://www.plasticpollutioncoalition.org/blog/2019/2/20/report-plastic-threatens-human-health-at-a-global-scale>
- 6** Greenpeace, 2019. Greenpeace report exposes how multinationals are pretending to solve the plastic crisis. Available at: <https://www.greenpeace.org/international/press-release/24580/greenpeace-plastics-false-solution-report-exposes-how-multinationals-are-pretending-to-solve-the-plastic-crisis/>
- 7** Environmental Paper Network, 2019. The Paper and Packaging Boom: A growing wave of pulp production threatens the world's forests and climate. Available at: <https://environmentalpaper.org/2019/03/the-paper-and-packaging-boom-agrowing-wave-of-pulp-production-threatens-the-worlds-forests-and-climate>
- 8** Innovation Forum, 2019. Packaging drives pulp's deforestation risks. Available at: <https://innovation-forum.co.uk/analysis.php?s=packaging-drives-pulpsdeforestation-risks>
- 9** United Nations Environment Programme (UNEP), 2019. Sand and Sustainability: Finding new solutions for environmental governance of global sand resources. Available at: https://d1pdf7a38rpk8.cloudfront.net/fileadmin/user_upload/documents/Nyheder/2019/1_Sand_and_sustainability_UNEP_2019.pdf
- 10** Lee, K. et al., 2017. Environmental and Occupational Health Impact of Bauxite Mining In Malaysia: A Review. *IJU Medic*, 16. Available at: http://iiuimedic.net/imjm/v1/download/volume_16_no_2/IMJM-Vol16-No2-137150.pdf
- 11** EIA and Greenpeace, 2018. Checking Out on Plastics. Available at: <https://eia-international.org/wp-content/uploads/Checking-out-on-plastics.pdf>
- 12** IGD, 2018. Retail Analysis: UK Grocery Store Numbers. Available at: <https://www.igd.com/Portals/0/Downloads/Research/UK-grocery-stores-table.pdf>
- 13** The Nielsen Company, 2018. Grocery Sector Gains Momentum as Scorching Summer Boosts Sales. Available at: <https://www.nielsen.com/uk/en/insights/article/2018/grocery-gains-momentum-as-summer-boosts-sales/>
- 14** The Nielsen Company, 2018. *Ibid.*
- 15** N.B. We reported that 59 billion units of single use plastic packaging were distributed by these seven companies in our 2018 report. This has been revised as companies have standardised their definition of 'units' to provide us with a comparable dataset for both years. This resulted in a significant revision by Tesco – from 26.5 billion reported in 2018, revised down to 18.28 billion as the correct number, in addition to changes from other companies. Source: EIA and Greenpeace, 2018. Checking Out on Plastics. Available at: <https://eia-international.org/wp-content/uploads/Checking-out-on-plastics.pdf>
- 16** Edie, 2019. Waitrose ditches plastic shrink wrap for can multipacks. Available at: <https://www.edie.net/news/5/Waitrose-ditches-plastic-shrinkwrap-for-can-multipacks/>
- 17** The Grocer, 2019. Loose fruit and veg sales growing at double rate of plastic-packed. Available at: <https://www.thegrocer.co.uk/fruit-and-veg/loose-fruit-and-veg-sales-growing-at-double-rate-of-plastic-packed/592030.article>
- 18** Friends of the Earth Europe, 2018. Unwrapped: How throwaway plastic is failing to solve Europe's Food Waste Problem. Available at: http://www.foeeurope.org/sites/default/files/materials_and_waste/2018/unwrapped_-_throwaway_plastic_failing_to_solve_europes_food_waste_problem.pdf
- 19** Friends of the Earth Europe, 2018. *Ibid.*
- 20** Friends of the Earth Europe, 2018. *Ibid.*
- 21** The Grocer, 2018. Food to go: Get ready for the counter revolution. Available at: <https://www.thegrocer.co.uk/trend-reports/food-to-go-get-ready-for-the-counter-revolution/572874.article>
- 22** Marks and Spencer (M&S), 2019. M&S supports shift towards reusable containers for fresh food-to-go. Available at: <https://corporate.marksandspencer.com/media/press-releases/5c2f8d617880b21084450f5e/m-and-s-supports-shift-towards-reusable-containers-for-fresh-food-to-go>
- 23** Ecobox, 2019. Available at: <https://ecobox.lu/fr/>
- 24** OPRL, 2019. Available at: <https://www.oprl.org.uk/get-involved/what-is-the-scheme/>
- 25** REB News, 2019. UK Plastics Pact members to remove eight problematic single-use plastics from the shelf by 2020. Available at: <https://www.rebnews.com/uk-plastics-pact-members-to-remove-eight-problematic-single-use-plastics-from-the-shelf-by-2020/>
- 26** N.B. These issues are explored in depth in EIA's 2018 briefing. Source: EIA, 2018. Available at: <https://eia-international.org/report/unpacking-non-conventional-plastics/>
- 27** European Bioplastics, 2019. Frequently Asked Questions on Bioplastics. Available at: https://docs.european-bioplastics.org/publications/EUBP_FAQ_on_bioplastics.pdf
- 28** Delft, 2017. Biobased Plastics in a Circular Economy: Policy suggestions for bio-based and bio-based biodegradable plastics. Available at: https://www.cedelft.eu/publicatie/biobased_plastics_in_a_circular_economy/2022
- 29** Piemonte, V. and Gironi, F., 2011. Land-use change emissions: How green are the bioplastics? *Environmental Progress & Sustainable Energy*, 30, 685-691.
- 30** Edie, 2019. Businesses commit to phase out eight 'problem plastics' by 2020. Available at: <https://www.edie.net/news/5/Businesses-commit-to-phase-out-eight-problem-plastics-by-2020/>
- 31** Department for Food, Environment and Rural Affairs (DEFRA), 2019. Single-use plastic carrier bags charge: data in England for 2016 to 2017. Available at: <https://www.gov.uk/government/publications/carrier-bag-charge-summary-of-data-in-england/single-use-plastic-carrier-bags-charge-data-in-england-for-2016-to-2017>
- 32** Environment Agency, 2011. Life cycle assessment of supermarket carrier bags: a review of the bags available in 2006. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/291023/scho0711buan-e-e.pdf
- 33** Department of Communications, Climate Action and Environment (DCCA), 2019. Frequently Asked Questions.

Available at: <https://www.dccae.gov.ie/en-ie/environment/topics/waste/litter/plastic-bags/Pages/FAQs.aspx>

34 Business Waste Survey, 2017. Reported in: Edie, 2017. Plastic bag charge: 10 fascinating facts about the scheme's sustainability success. Available at: <https://www.edie.net/news/5/Plastic-bag-charge-UK-sustainability-statistics-from-Defra-2017/>

35 Break Free From Plastics (BBFP), 2019. Branded Vol. II: Identifying the World's Top Plastic Producers. Available at: <https://www.breakfreefromplastic.org/globalbrandauditreport2019/>

36 The Guardian, 2019. I want Tesco's packaging overhaul to plug into a new national framework. Available at: <https://www.theguardian.com/business/2019/aug/22/tesco-effort-packaging-national-recycling-target>

37 For example, see: BBC, 2018. Lack of farms plastic recycling options 'ridiculous'. Available at: <https://www.bbc.co.uk/news/uk-wales-44925727>

38 Boots, B. et al., 2019. Effects of Microplastics in Soil Ecosystems: Above and Below Ground. *Environmental Science and Technology*, 53, 11496-11506.

39 Mcfadyen et al., 2009. Abandoned, lost or otherwise discarded fishing gear. UNEP Regional Seas Reports and Studies No.185; FAO Fisheries and Aquaculture Technical Paper, No. 523. Available at: <http://www.fao.org/3/i0620e/i0620e00.htm>

40 Lebreton, L. et al., 2018. Evidence that the Great Pacific Garbage Patch is rapidly accumulating plastic. *Scientific Reports*, 8, 4666.

41 Wilcox, C. et al., 2016. Using expert elicitation to estimate the impacts of plastic pollution on marine wildlife. *Marine Policy*, 65, 107-114.

42 National Oceanographic and Atmospheric Association (NOAA) Marine Debris Program. 2015. Report on the impacts of "ghost fishing" via derelict fishing gear. Available at: https://marinedebris.noaa.gov/sites/default/files/publications-files/Ghostfishing_DFG.pdf

43 See: <https://www.ghostgear.org/participants#private-sectors>

44 Fauna and Flora International (FFI), 2019. Surprising findings from new microplastics study in Denmark. Available at: <https://www.fauna-flora.org/news/surprising-findings-new-microplastics-study-denmark>

45 DQS Holding GmbH, 2019. What's new? BRCGS Packaging Materials – Issue 6. Available at: <https://dqs-cfs.com/2019/01/whats-new-brc-global-standard-for-packaging-issue-6/>

46 The Scottish Government, 2019. A Deposit Return Scheme for Scotland. Available at: https://consult.gov.scot/environment-forestry/deposit-return-scheme/user_uploads/00537484.pdf

47 Delft, 2017. Ibid.

48 Global Ghost Gear Initiative (GGGI), 2017. A Best Practice Framework for the Management of Fishing Gear. Available at: <https://www.ghostgear.org/resources>



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