



# REPORT INTO THE CURRENT POSITION OF SINGLE-USE PLASTIC PACKAGING IN THE UK TOP FRUIT SECTOR

JUNE 2024

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## Overview

This report has been commissioned by British Apple and Pears Limited (BAPL) to establish the landscape for 'single-use plastics' for UK top fruit growers and their supply chains. In most cases apples and pears are supplied to retailers in "own brand" packaging specified by the retailer.

The report also endeavours to summarise the current position, with regards to the use of single-use flexible plastic, of retail customers, UK regulators and NGO campaigners.

There is significant public concern around single-use plastics, the impact on our carbon footprint and the presence of waste plastic in our environment. BAPL acknowledges that a plan is required for single-use plastics using the strategy of Remove, Reduce, Recycle, also known as 'the 3Rs approach', wherever possible.

Whilst the ambition to ensure a sustainable future for British apples and pears growers is a core principle, other factors have an influence on the industry's success. Many of the reasons that a move out of flexible plastic has been unsuccessful are beyond the control of the individual grower or packer, and a collaborative approach, with a genuine understanding of the barriers, is critical to the industry moving forward in a sustainable way.

## Introduction

Single-use plastic food packaging is now ubiquitous in society and there is hardly a part of the food chain that is free from plastic, and as a by-product of the petroleum industry, it is also very inexpensive. Approximately 36% of all plastics produced are used in food packaging. Unfortunately, approximately 85% of all plastic ends up in landfill or as unregulated waste<sup>1</sup>. Greenpeace estimates that UK households are throwing away an estimated 1.7 billion pieces of plastic a week<sup>2</sup>.

There continues to be significant focus around the packaging of fresh fruit and vegetables in our retail outlets. There is a view from activists and some customers that packaging is unnecessary and should be removed. This view, however, may not consider the protective and shelf life enhancing properties that much packaging gives. All the major retailers have established sustainable packaging aspirations and positions, and many state that concerns about plastic packaging dominate their customer communications. A summary of retailer position is available in Table 1. Most retailers have committed to 100% recyclability of own brand packaging, and the removal of problematic packaging<sup>3</sup>. However, much of this packaging is flexible film which is not supported for home recycling by most local authorities.

Governments worldwide have endeavoured to both legislate and develop their way out of the environmental impacts of our plastic culture, as have political unions such as the EU and the UN. Many of the relevant position statements can be found in Table 2.

<sup>1</sup> UN Environment programme

<sup>2</sup> Greenpeace and Everyday Plastic: The Big Plastic Count

<sup>3</sup> e.g. PVC, polystyrene including EPS, non-detectable pigments such as Carbon Black

*There is no comprehensive kerbside recycling for flexible plastics available in the UK, although the revised UK Packaging Extended Producer Responsibility (EPR) requires the collection of these packaging types by March 2027.*

## Current position

Plastic packaging covers both ridged plastics such as PET or rPET<sup>4</sup> for example, strawberry punnets, and flexible or soft plastics such as PP, OPP, or BOPP<sup>5</sup>, which are used for flow wrapping and poly bags.

In the last 12 years, apples and pears have largely moved to be sold in pre-printed 'flow wrap' flexible film, although some soft bags remain. This flexible film is recyclable but not at home/kerbside. These packs are formed around the apples, often without a carrier tray. The packaging is often used to indicate the tier/retail value of the pack.

Currently around 70% of apples and pears are sold in a flow wrapped or bagged format. This format facilitates a range of sizes and counts and allows good visibility of the fruit for customers. As well as ease of transport, packaging also confers protection from a hygiene perspective which, we also understand is a concern for customers<sup>6</sup>. Loose sales account for the remainder of sales, and whilst the results of customer research suggests that they wish to buy more loose fresh produce, WRAP's recent research suggests that only around 23% of customers actually shop loose apples, as opposed to 76% of bananas being bought loose<sup>7</sup>.

Unfortunately for many reasons, UK plastics recycling has not been as successful as would be hoped. In 2021, 2.5 million tonnes of plastic waste was generated across UK households and just 44% of that was recycled<sup>8</sup>.

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One Bin to Rule Them All, a three-year project on plastic packaging, noted that there are over 391 different local authorities in the UK with an estimated 39 different bin regimes. This lack of standardisation is a problem for households, as is the differing capabilities across the UK's over 3,500 waste recovery facilities<sup>10</sup>.

Many retailers have instigated a 'bring back to store' scheme for flexible and soft plastics (including bread bags, top seals from trays and flow wrap films) encouraging customers to return all of their flexibles, facilitating recycling of these materials<sup>11</sup>. However, it is not clear how successful this scheme has been to date.

One of the challenges with both kerbside and return to store recycling is a low understanding of recycling with consumers. Labelling is still confusing, with OPRL (described as the UK's independent experts in recyclability) not supporting the labelling of flexible plastics as recyclable, due to the lack of kerbside recycling<sup>12</sup>. Consumers, even when they do engage with recycling, may not put the right items together, or may fail to rinse packaging appropriately<sup>13</sup>.

4 Polyethylene terephthalate, recycled polyethylene terephthalate

5 Polypropylene, oriented polypropylene, biaxially oriented polypropylene

6 WRAP Unpacking Fresh Fruit and Veg: A UK Behavioural Insight Study

7 WRAP Unpacking Fresh Fruit and Veg: A UK Behavioural Insight Study

8 UK statistics on waste DEFRA

9 <https://flexibleplasticfund.org.uk/flexcollect-interim-report-2024>

10 One Bin to Rule Them All

11 <https://www.recyclenow.com/repeat-the-cycle>

12 <https://oprl.org.uk/what-we-do/how-the-scheme-works/>

13 <https://www.recyclenow.com/repeat-the-cycle>

*Efficiency of packing systems also means that excess packaging is reduced with most packs having a much tighter appearance. Consumers have accepted these changes, which have led to significant amounts of plastic being removed.*

There is also a lack of facilities for either mechanical or chemical recycling in the UK<sup>14</sup>. The British Plastic Federation has developed a recycling roadmap with an aspiration to process all of the UK's plastic waste, including flexible plastic by 2030<sup>15</sup>. Mechanical recycling facilitates the recovery of flexible plastics into lower grade plastic items such as garden furniture and fence panels, whilst a variety of chemical recycling methods, such as HydroPRSTM can return plastic to food packaging<sup>16</sup>.

Retailers have all made public statements with regards to their ambitions, many with date targets. More recently, the ambitions have changed with fewer retailers seeking the elimination of plastic packaging, as the challenges of packaging free or plastic alternatives have been exposed.

Most retailers have targeted the removal of excess packaging, the elimination of problematic plastics<sup>17</sup> and the introduction of alternative packaging such as card and paper. Even Iceland, that had committed to removing plastic from its own-label packaging by the end of 2023, has accepted that there are challenges to this position that make it unachievable. To date the retailer has removed a fifth<sup>18</sup>. A summary of the retailer statements of intent can be found in Table 1. Most retailers have adopted a three, or four 'R' approach – Remove, Reduce, Reuse, Recycle ('remove' being the fourth R).

Reducing the amount of and removing unnecessary items of plastic has been successfully executed by many retailers and their suppliers, especially within apples and pears. The development of trayless flow wrapping has removed the need for carrier trays for all but the

most sensitive lines, with pulp trays being used instead of Expanded Polystyrene (EPS is a rigid, closed cell thermoplastic) in these cases. The thickness (micron  $\mu\text{m}$ ) of flexible films has been significantly reduced often down to 25  $\mu\text{m}$ . This reduces the weight and 'feel' of the packs, and if reduced further can lead to food waste as the film splits or tears during its use.



<sup>14</sup> BPF recycling infrastructure  
<sup>15</sup> <https://www.bpf.co.uk/roadmap>  
<sup>16</sup> Plastic Recycling (bpf.co.uk)

<sup>17</sup> e.g. PVC, polystyrene including EPS, non-detectable pigments such as carbon black  
<sup>18</sup> <https://sustainability.iceland.co.uk/our-planet/plastic-and-packaging/>



*There are concerns both within the packaging industry and from those who responded to the consultation, that the proposed fee structure based on weight of waste packaging could lead to packaging that is less optimal for a circular economy – with materials which are either recycled or more recyclable being rejected for less recyclable lighter products.*

Efficiency of packing systems also means that excess packaging is reduced with most packs having a much tighter appearance. Consumers have accepted these changes, which have led to significant amounts of plastic being removed<sup>19</sup>.

More importantly, the UK government has adopted a similar 'three R' approach, but with a noticeable move away from encouraging compostable materials (with the exception of individual fruit labels). In 2018 the UK government set a strategic ambition to "work towards all plastic packaging placed on the market being recyclable, reusable, or compostable by 2025"<sup>20</sup>.

However since then the focus has been revised to 'reuse and recycle' as compostable materials are 'inherently single use' and 'not in line with our vision for a circular economy for plastics'<sup>21</sup>.

Other commitments from the UK government include an 'ambition' of zero avoidable waste by 2059 and a 'target' of eliminating avoidable plastic waste by 2042<sup>22</sup>. In 2023, in their Environmental Improvement Plan, the government also set an ambition to ensure municipal plastic waste does not exceed 42kg per capita annually, by 2028<sup>23</sup>. This is a 45% reduction from 2019 levels.

The much-delayed Extended Producer Responsibility<sup>24</sup> (EPR) framework aims to redirect the cost of waste plastic back to the producer. EPR UK hopes to incentivise producers to design packaging that is easy to recycle by ensuring that they pay the full net cost of managing their packaging once it becomes waste. EPR fees will now be implemented in 2025 and the modulated fees (where

EPR fees are adjusted to incentivise businesses to use materials with lower environmental impacts) will not be introduced until October 2026<sup>25</sup>.

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<sup>19</sup> Personal communication with Covaris

<sup>20</sup> Resources and waste strategy for England

<sup>21</sup> The price of plastic: ending the toll of plastic waste: Government Response to the Committee's Third Report

<sup>22</sup> A Green Future: Our 25 Year Plan to Improve the Environment

<sup>23</sup> UK government Environmental Improvement Plan 2023: <https://assets.publishing.service.gov.uk/media/64a6d9c1c531eb00c64fffa/environmental-improvement-plan-2023.pdf>

<sup>24</sup> Extended producer responsibility for Packaging

<sup>25</sup> Modulated fees for Extended Producer Responsibility schemes

<sup>26</sup> Tesco Packaging Report 2023: <https://www.tescopl.com/media/dkxboqkm/tesco-4rs-report-120523.pdf>

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## Alternatives to plastic

There is no shortage of replacement formats being suggested for top fruit packaging, however to this point there has not been a format widely accepted by consumers. Card trays with a paper or card seal such as the Ravenwood<sup>27</sup> or Frutmac<sup>28</sup> have been trialled, however consumers have been resistant, and the associated significant drop in sales has often resulted in a return to plastic.

'Flow wrap' style paper has also been developed. Earthpack<sup>29</sup> made from paper with a bamboo fibre/paper viewing mesh has had some success with fruit and vegetable lines in retailers, although the viewing 'window' can damage apples and is necessarily small to maintain the integrity of the pack. This can lead to a heavily printed front pack to show the product. Again, trials have shown a significant drop in sales in these packs.

Reasons for the reduction in sales can be attributed to the reduced visibility of product. Even retailers with a strong reputation for customer satisfaction and quality are finding that customers, being used to seeing the whole product, do not respond well to opaque card and paper.

There is also the question of the significant increase in cost related to alternative formats. All of the alternative formats are presently more expensive than pre-printed flow wrap. With both an increase in material cost and the requirement for new machinery, costs for alternative formats are estimated by growers to be an additional 5p to 15p per pack. Notwithstanding machinery costs and redundancy of existing machinery, some alternative

solutions also require more people on the production line, with a general slowing of packs produced per minute increasing production costs<sup>30</sup>.

A large study<sup>31</sup> of existing packaging life cycle analyses (LCA)<sup>32</sup> conducted by the UN Environment Programme concluded that 'substituting single use plastic for other single use materials (such as plant-based plastics or paper) does not represent a solution in most cases'<sup>33</sup>. LCAs of single-use packaging tend to show plastics having the lowest impacts, mainly as a result of plastics' low weight relative to other materials. Substitutions with card or paper tend to show higher impacts, or at best, a trade-off between different impacts – as whilst plastic packaging options have the highest marine litter impacts they often have the lowest climate change impact<sup>33</sup>.



<sup>27</sup> <https://www.ravenwood.co.uk/tray-label-formats/>

<sup>28</sup> <https://www.frutmac.com/en/machines/products/frutmac-flapmatic-foodtainer-sealing-technology>

<sup>29</sup> <https://cmsa.es/en/earthpack-2/>

<sup>30</sup> Personal communication from industry experts

<sup>31</sup> Single use supermarket food packaging and its alternatives: Recommendations from Life Cycle Assessments

<sup>32</sup> Life Cycle Analysis – an explanation

<sup>33</sup> Single use supermarket food packaging and its alternatives: Recommendations from Life Cycle Assessments

*Customers are resistant to purchasing loose items for many reasons including: a perceived lack of quality, concerns about hygiene, confusion over the cost of the items, the cost relative to a pack, and the convenience of picking up a pack.*

Selling fruit as loose individual items is a packaging free answer. The UN report also concluded that loose fruit sold in recirculating plastic crates had the lowest carbon footprint of any sales format. However, fresh produce supply chains have been optimised to sell packaged produce and consumers are accustomed to buying it that way<sup>34</sup>. WRAP investigated the reasons consumers were reluctant to buy loose fresh produce in their 2023 survey, showing that whilst 62% of respondents regularly buy apples, only 23% of them purchase loose fruit<sup>35</sup>. Customers are resistant to purchasing loose items for many reasons including: a perceived lack of quality, concerns about hygiene, confusion over the cost of the items, the cost relative to a pack, and the convenience of picking up a pack<sup>36</sup>.

Retail specifications tend to dictate that loose fruit is at the larger end of the size range, with 68mm to 80mm diameter fruit found in loose presentation. Many consumers find this too large, so the smaller fruit would also need to be provided in a loose format, not least to ensure that the current percentage of a grower's crop that is marketed still has a retail home.

When questioned very few respondents in the WRAP survey brought up reducing plastic packaging as a concern, or part of the decision-making process<sup>37</sup>. One of the barriers listed in the report, of the lack of loose fruit available, is an unlikely barrier for the apple and pear category as loose is available in all but the smallest footprint stores.

There are significant cost implications associated with a move to more loose fruit. WRAP acknowledges that 'simply increasing the supply of loose produce will not drive change'<sup>38</sup>. Solutions will need to be found to reconfigure supply chains and store operations<sup>39</sup>. More store staff are required to ensure the quality appearance of the fixtures. There is a reluctance with most retailers to invest at this level, and food waste at store level could be significant due to damage.



<sup>34</sup> WRAP Unpacking Fresh Fruit and Veg: A UK Behavioural Insight Study

<sup>35</sup> WRAP Unpacking Fresh Fruit and Veg: A UK Behavioural Insight Study

<sup>36</sup> Reducing household food waste and plastic packaging

<sup>37</sup> WRAP Unpacking Fresh Fruit and Veg: A UK Behavioural Insight Study

<sup>38</sup> WRAP Unpacking Fresh Fruit and Veg: A UK Behavioural Insight Study

<sup>39</sup> WRAP Unpacking Fresh Fruit and Veg: A UK Behavioural Insight Study



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From a production perspective, packhouses are configured to supply fruit in packs, and machinery has been invested in to reduce the need for people on the production lines. More production lines would be needed to handle loose fruit, and those that reduce the need for fruit handlers are a considerable expense, often in excess of £400k each.

The packing of loose is slower, and this again negatively affects operational balance sheets<sup>40</sup>. The consolidation in UK apple packhouses means that most operate at a scale

of multiple production lines. The consensus amongst packers interviewed for this paper, is that between four to eight new lines per packing business would be needed to facilitate total commercial volume being retailed as loose – a cost which on current operating margins could not be considered economically viable. In most packhouses operating at scale, at least four to eight of these production lines would be required. **The total cost to the sector is estimated to be £15 million to £25 million.**



<sup>40</sup> Personal communication with leading fruit packers



*Transitioning away from plastic packaging is not an overnight process. It requires careful planning and collaboration from suppliers, retailers, and government. Despite consensus on the target aim, eliminating plastic waste does not have a simple answer.*

## Next steps and asks

The BAPL board, experts and campaigners agree that a sustainable reduction in plastic packaging materials should be achieved through a combination of removing materials outright, improved recycling infrastructure and better regulatory oversight to underpin the food industry's efforts. Transitioning away from plastic packaging is not an overnight process. It requires careful planning and collaboration from suppliers, retailers, and government. Despite consensus on the target aim, eliminating plastic waste does not have a simple answer. To achieve the circularity that the government and NGOs aspire to, a collaborative approach is required. BAPL has seven asks to continue the good progress towards minimising plastic pollution.

1. First and most importantly, the UK government needs to meet its commitment to consistent home/kerbside collection and recycling infrastructure. Meeting the 2027 target to include flexible plastics at kerbside is critical to an improved recycling position<sup>41</sup>.
2. The recycling infrastructure must be improved and expanded to ensure that more plastic waste is recycled, with investment in recycling innovation to avoid the downcycling of valuable plastic resource. Chemical recycling of plastic to return it to high value purposes is needed.
3. An improved consumer understanding of recycling and a unified approach to what is and what is not recyclable is required. There is apathy and confusion

within the UK population<sup>42</sup> as explored in the Let's Recycle Study, but also backed up by the amount of plastic disposed of in waste bins according to the Big Plastic Count from Greenpeace<sup>43</sup>.

4. Those involved in the chain need to recognise that a move to loose sales or alternative packaging will require both significant financial investment by retailers in their stores (people and fixtures) and in returns to growers in order for them to be able to make the necessary investments.
5. A move to loose will require a significant change in consumer buying patterns. Across the board, those interviewed for this report said that a move to loose fruit would result in lower sales. This has implications for the industry and, importantly, consumer health. Such a solution requires a collaborative and well-planned approach across the retail landscape, aligned to consumer education.
6. Suitable life cycle analysis should be conducted to ensure that alternative materials actually improve the environmental position, and do not just create different problems.
7. **To achieve the target aim, BAPL recommends that a cross retailer/industry taskforce is created with the BAPL board and wider fresh produce industry to find solutions for the sector. This issue should not be considered competitive, it is a priority for society.**

<sup>41</sup> <https://flexibleplasticfund.org.uk/flexcollect-interim-report-2024>

<sup>42</sup> Letsrecycle.com

<sup>43</sup> Greenpeace and Everyday Plastic: The Big Plastic Count

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**Table 1: Retail commitments to plastic reduction and elimination**

Supermarket	3Rs	Extending loose	Eliminating problematic plastics*	Reducing weight of packaging	Removing items of plastic	100% of packaging recyclable	Compostable mentioned?	Plastic take back	Plastic Pact member	Link
Aldi	Y	Y	Y (in core range food by 2020)	Y (by 50% by 2025)	Y (reduce plastic packaging by 50% by 2025 - against 2019 base)	100% of own label packaging to be reuseable recyclable or compostable by 2022 - branded 2025)	Y	Y (ltd stores)	Y	Aldi
Asda	Y	N	N - talks to single use only	Y - researching further reduction commitment	Y - esp. single use items such as cutlery	Not explicitly	Y (teabags)	Y	Y	Asda
Co-op	N - Committed to reducing plastic by 30% by 2025	N	N	Y (no target or info)	Y (no target or info)	Y	Y (bags)	Y (ltd stores)	Y	Co-op
Iceland	N - Do not believe it's possible to recycle out of the problem	Y	Y	Y	Aimed to remove plastic packaging from own label range completely by 2023	N	Y focus on paper & board but may contain plastic	Y warehouse stores	N	Iceland
Lidl	Y	N	Y	Y	Y	100% of own-brand and branded packaging will be recyclable, reusable, refillable or renewable by 2025)	Y (teabags)	Y (ltd stores)	Y	Lidl
M&S	Y	Y	Y	Y (no target or info)	Y (1bn units by 2027- equating to a 30% reduction in volume of plastic)	Y (2025)	N	Y (ltd stores)	Y	M&S
Morrisons	Y	Y	Y	Y	Y	Y	N	Y	Y	Morrisons
Sainsbury's	Y (4Rs) although not their headline	Not explicit	Y (2021)	Y	Y	Y (2023)	Y	Y	Y	Sainsbury's
Tesco	Y (4Rs)	Not explicitly	Y (2019)	Y (including refill)	Y (2bn since 2019)	Y (2025)	Y (teabags)	Y (widely)	Y	Tesco
Waitrose	Y	Not explicitly	Y	Y	Y	Own brand to be widely recyclable by 2021	N	Y	Y	Waitrose

\* Problematic plastics statements made regarding Problematic plastics, e.g. PVC, polystyrene including EPS, non-detectable pigments such as carbon black

**Table 2: Outline of country and NGO commitments to removing plastics**

Body	Deadline and transition	Link
France	2026 - all fruit and veg to be plastic free. Started in 2022 and all but the most vulnerable products to be removed from packaging completely. Government support to find sustainable solution.	France
EU	Requires all packaging to be recyclable minimising the presence of harmful substances, reducing unnecessary packaging, boosting the uptake of recycled content, and improving collection and recycling. Swapped from an initial ban on all single-use packaging for fruit and vegetables) 5% by 2030, 10% by 2035, 15% by 2040.	EU
WRAP	Interim targets for 2030 - in order that buying loose is the norm.	WRAP
UK Plastic Pact (WRAP)	Eliminate problematic plastics, removing plastic packaging from uncut fresh fruit and veg reducing the total amount of packaging on supermarket shelves, stimulate innovation and help build a stronger recycling system in the UK by 2025.	UK Plastic Pact
EPR Scheme	Polluter pays principle modulated fees based on recyclability from 2025, all businesses with £2million turnover and 50t of packaging handled each year Compostable and biodegradable required to be 'Do not recycle' to build evidence. Annual recycling targets for six packaging materials for each year from 2024 to 2030.	EPR
Government	Work towards all plastic packaging placed on the market being recyclable or reusable by 2025. Ambition of zero avoidable waste by 2050. A 'target' of eliminating avoidable plastic waste by end of 2042. All plastic to be kerbside recyclable by 2027.	GOV.UK
Recycle Now (WRAP)	To build a nation where recycling is the norm, together with our partners, help make a better world for future generations.	Recycle Now
OPRL (Not for profit company)	To collaborate across the packaging cycle to drive circularity and a transformation in packaging resource efficiency.	OPRL
WWF	Full plan to ban avoidable single-use plastics by 2025 (cups, cutlery).	WWF plastic
Greenpeace	Plastic pledge: complete ban on all plastic waste exports no later than 2027, and a legally binding target to radically reduce our waste at source, including a target to cut the UK's single use plastic by 50% by 2025.	Greenpeace
Commonwealth Clean Ocean Alliance	Take steps to eliminate all avoidable single-use plastic waste. Significant reduction of single-use plastic carrier bags by 2021. Ban the sales of microbeads in rinse-off cosmetic and personal care products by 2021.	Clean Ocean Alliance
World Economic Forum - Global plastic action partnership	At a global level, GPAP aims for systemic transformation in the plastics economy by building a global plastics collaboration network enabling key public and private actors and NGOs to convene and identify collaboration opportunities to tackle plastic pollution. A key element is the opportunity to exchange knowledge and learning from the national-level actions to advance systems change.	World Economic Forum
UN (UNEP)	Binding agreement to end plastic pollution ratified by 2024. To include measures along the entire life cycle, product design and waste management.	UNEP