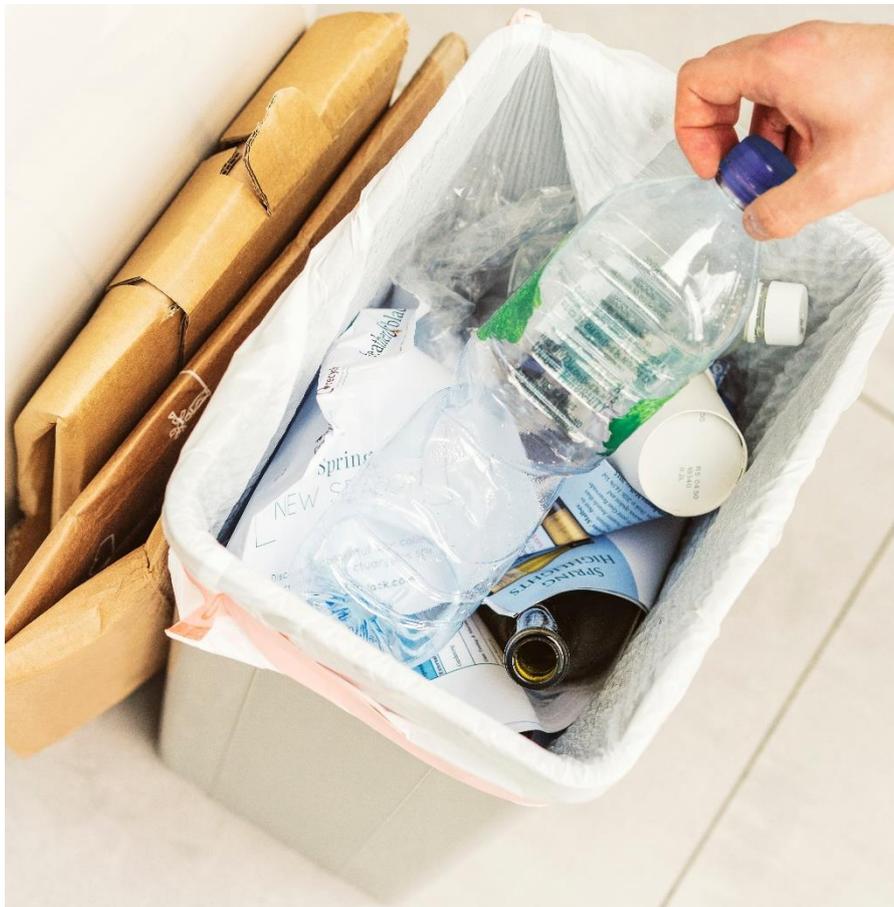


Plastic packaging waste: Understanding existing citizen behaviours, attitudes and openness to change



Key Findings Report

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Front cover photography: Household recycling waste bin – Image owned by WRAP

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www.wrap.org.uk/category/materials-and-products/plastics

1.0 Introduction

This short report outlines the key findings from a UK representative online survey carried out with UK citizens to inform The UK Plastic Pact citizen engagement strategy, to address gaps in the evidence base and generate new insights about citizens' attitudes and behaviours in respect of plastic packaging waste. Specific areas of focus include:

- The proportion and type of citizens undertaking key behaviours of interest covering reduce, reuse and recycle (identified according to WRAP's initial prioritisation exercise);
- The propensity of citizens to adopt reduce and reuse behaviours;
- General attitudes to plastic waste, including levels of concern, perceived social norms and levels of personal agency¹.

1.1 Methodology

Fieldwork was conducted during December 2018 by ICARO using an online panel provider. 4,056 interviews were completed: in England (3,161); Wales (422); Scotland (338); Northern Ireland (135). To achieve the overall UK sample, the data from each of the four nations are combined according to their share in terms of each region's/nation's share of the UK population – giving an 'effective UK base' of 3,776.

Quotas were set for region, social grade, age and gender. The targets were largely met, with minor weighting applied to ensure a representative sample profile.

Sub-group analyses have been undertaken to assess the impact of socio-demographic factors such as age, gender, social economic grade and the presence of children in the household, etc.

1.2 Survey design

The survey was designed to understand citizen attitudes and behaviours associated with plastic packaging, for some elements of the survey specific packaging was identified using a prioritisation exercise. Prioritisation was based on the tonnage of plastics placed on the market. Packaging types with the highest tonnage were identified in addition to capture rates for recycling and subsequently products and behaviour associated with this packaging mapped².

The survey was structured in such a way to minimise bias in general and to avoid bias towards any particular behaviour. In particular, the structure of the survey was designed to minimise social desirability bias and give the most natural/accurate responses. This was achieved by following the below survey structure:

- Establishing current behaviours, and reasons for behaviours.

¹ Personal agency refers to one's capability to originate and direct actions for given purposes, in this case the extent to which respondents feel that through their actions can have influence over the issue of plastic waste. It is influenced by the belief in one's effectiveness in performing specific tasks, which is termed self- efficacy, as well as by one's actual skill.

² <http://www.wrap.org.uk/content/plasticflow-2025-plastic-packaging-flow-data-report>

- Assessing propensity to adopt alternative (non-recycling) behaviours.
- Understanding why/why not adopting alternative (non-recycling) behaviours.
- Recycling behaviours.
- Wider attitudinal values and questions.

The order of the structure is important because it asks about current behaviour before the respondent is asked about the future adoption of alternative behaviours and therefore avoiding priming them to answer in a desirable way.

The questionnaire was designed to explore plastic packaging from several perspectives and in a neutral way. Bias can come in a range of forms; as such the following fixes were used in the design of this survey:

- To avoid 'priming bias' the focus of the research was not initially clear to respondents so that they did not artificially give more importance to the subject than they would do in reality.
- To avoid 'sequencing bias' where things that are tested early in a list of answers typically receive more considered responses than those further down the list, we use techniques such as randomising lists and reversing how question scales appear to the respondent.
- To avoid 'acquiescence bias' we don't ask leading questions that deliver the "right answer", and we also tend to minimise wherever possible the use of 'agree/disagree' type of questions since these, in our view, introduce a subtle bias to 'go along' with the prevailing statement.

1.3 Statistical significance

Statistical tests have been performed to assess whether an apparent difference in the survey data (i.e. across years or between sub-groups) is statistically significant³ or not. This is because a sample of citizens has completed the survey, not the entire population (i.e. a census).

The tests have been undertaken at the 99% confidence level (i.e. 99 times out of 100 the observed difference will be real vs. one time out of 100 it will have happened by chance). Sub-groups are compared to each other (e.g. 18-34s vs 35-54s) as well as the population as a whole (in which case they are said to either 'over-index' or 'under-index' against the average). If they are not flagged in this way, then any observed differences are not significant.

Statistical tests are based around margins of error. For the UK sample, the maximum margin of error in the results is $\pm 2\%$ (i.e. if the survey gives a result of 50% then the real result, if all households in the country were interviewed, would be somewhere in the range 48% - 52%).

³ Please note that the word 'significant' here refers to the result being outside the sampling margins of error – it is not a commentary on whether it is of any policy interest. It should also not distract from the bigger picture (i.e. if 16% of 18-34s agree with a statement compared to the overall result of 10%, this still means that – even though they over-index for agreement - 84% (i.e. the vast majority) still do not agree.

2.0 Key Findings

2.1 Attitudes towards plastics packaging waste

The research demonstrates that citizens are concerned about plastic packaging with 52% of UK citizens scoring the issue as a high concern (scoring 8-10 out of 10). A further 30% say they are moderately concerned (scoring 6-7 out of 10). The citizens most likely to be concerned are those in those aged 55+; and those in Wales. The survey also specifically asked the extent to which they have become more concerned about plastic packaging waste in the past year. The results demonstrate a pronounced shift in the level of concern, with over two in three citizens (68%) saying they have become more concerned.

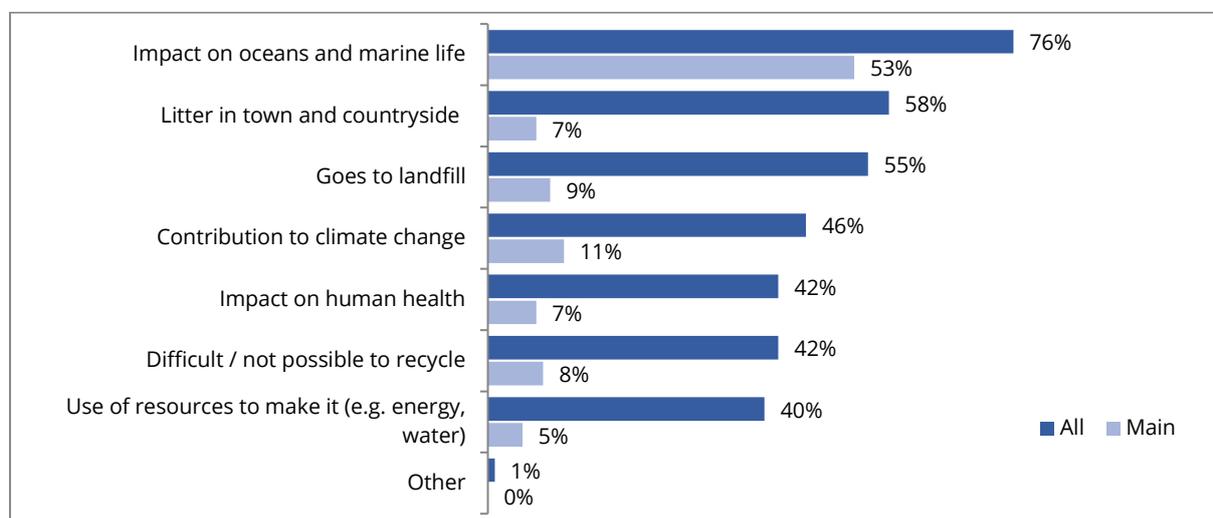
When asked to select what concerns them the most about plastic waste (Figure 1), 76% choose impact on oceans/ marine life; 58% choose litter; 55% choose landfill; and further concerns selected to a lesser extent are shown in figure 1. When asked to select one factor which concerned them the most, 53% of UK citizens selected 'Impact on oceans and marine life'.

Figure 1 - Concerns plastic waste

Q. Which of the following, if any, concern you most about plastic waste?

Q. Which ONE of these concerns you the most?

Base: 3,336 UK adults aged 16+ who say they are concerned about plastic waste (i.e. scoring the issue 6-10 out of 10)



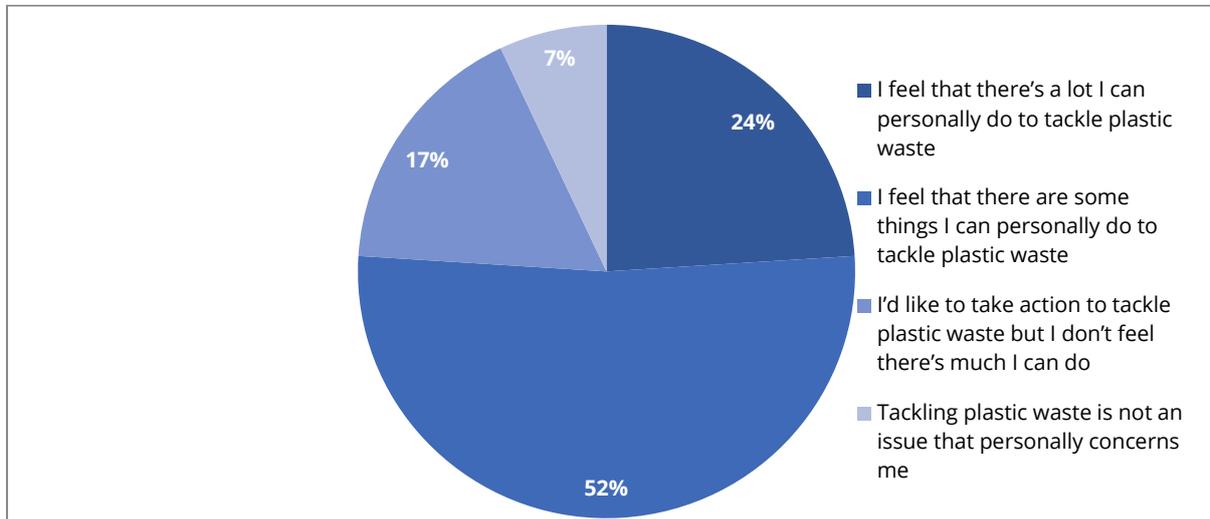
Of those who identified 'impact on oceans and marine life' as a concern, some audiences are more likely – notably retired (92%); aged 55+ (90%); and rural (82%).

76% of citizens feel they can take action to tackle plastic waste (including 24% who feel there is a lot they can do, and 52% some things they can do) (Figure 2).

Figure 2 – Personal agency

Q. Which of the following best describes your view?

Base: 3,937 UK adults aged 16+ who have a view on plastic waste

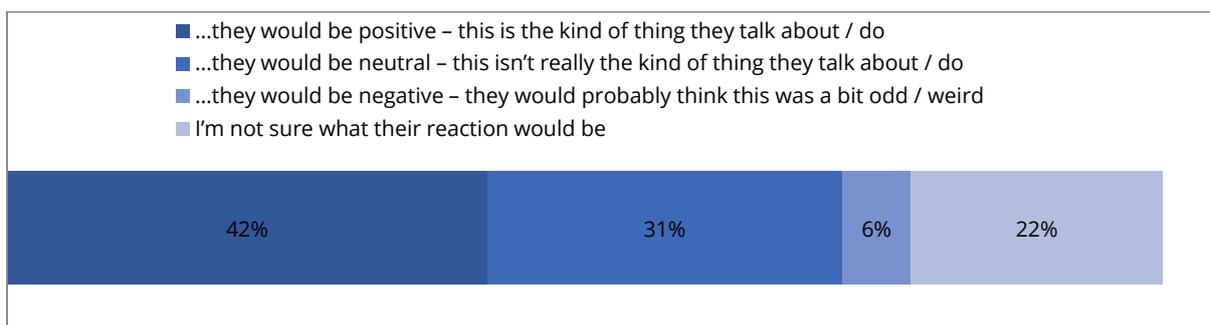


When asked what they believe people they know would think if they encouraged them to take action to reduce plastic waste; 42% responded that people they know would be positive if they encouraged them to take action on plastic waste (Figure 3).

Figure 3 – Social Norms

Q. What do you think the people you know would think if you encouraged them to take action to reduce plastic waste? Do you think...

Base: 3,937 UK adults aged 16+ who have a view on plastic waste



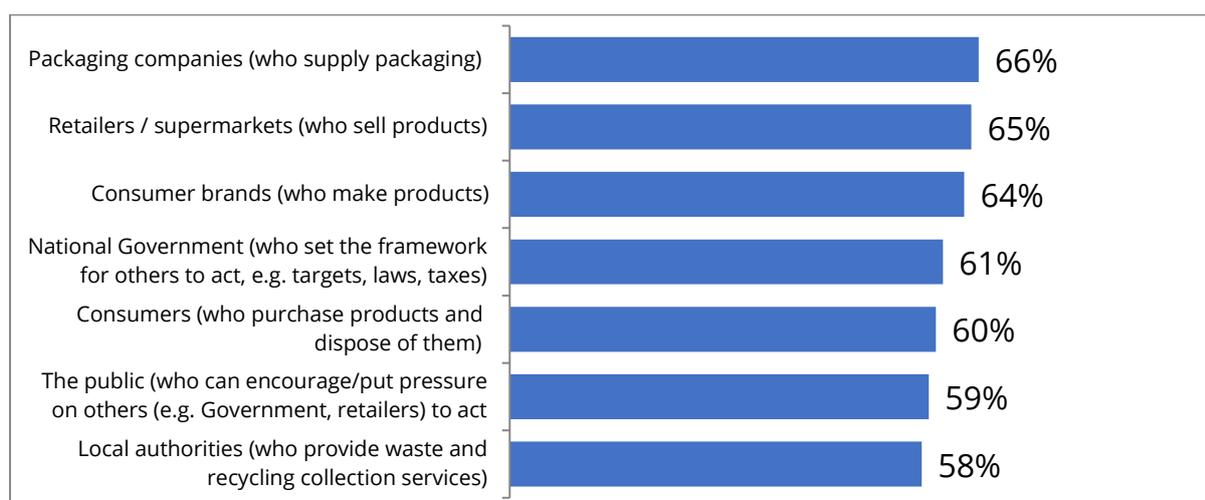
The research highlights that most citizens (80%) recognise that retailers and brands have made progress in the past couple of years to address plastic packaging waste. When asked about the progress that governments have made over two in three (67%) think governments have made progress in the past couple of years to address plastic packaging waste.

Nonetheless, the most frequently cited response across both actors is ‘a little progress’ showing that, from a citizen perspective, there remains scope for further improvement.

The research demonstrates that citizens recognise that all groups/actors are responsible for tackling plastic waste (including consumers themselves) (Figure 4).

Figure 4 – Responsibility for tackling plastic waste

**Q Which of the following groups do you think are responsible for tackling plastic waste?
Base: 3,937 UK adults aged 16+ who have a view on plastic waste**



2.2 Actions

Almost half (49%)⁴ of UK citizens have had a conversation about plastic waste in the past year - either in person (42%) or by posting on social media (19%)⁵. Being part of a ‘national conversation’ like this is correlated with other indicators in the survey (a) a positive social norm about the need to take action on plastic waste; (b) higher levels of personal agency to take action; and (c) higher stated propensity to adopt alternative behaviours.

Almost one in three - 31% - have taken action in the form of signing a petition/being part of a campaign on plastic waste (16%), complaining to a supermarket about plastic packaging (9%), or removing and leaving packaging in store (9%)⁶. Notably students and 16-24 year olds are more likely to identify with taking these actions.

Respondents were asked an unprompted question to assess any actions that individuals are taking to reduce their own plastic waste. Recycling all that they can was the most frequent response, with 39% of UK citizens saying that they are doing this behaviour. There is then a drop off in the number of citizens stating they take a

⁴ Sum of individual respondents who have had a conversation either in person, by posting on social media or both.

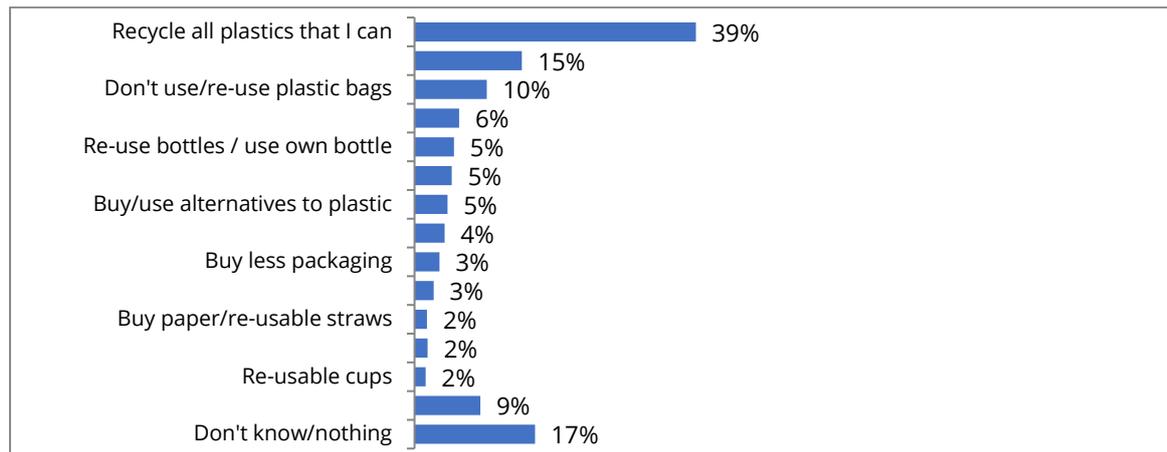
⁵ Sum is greater than 49% as respondents were able to identify with more than one of these actions.

⁶ Sum is greater than 31% as respondents were able to identify with more than one of these actions.

particular action, with the next highest being 'Buy less plastic' (15%); and 'Don't use/re-use plastic bags' (10%) (Figure 5).

Figure 5 – Personal actions to tackle plastic waste

Q. We're interested to hear about any actions that individuals are taking to reduce their own plastic waste. Tell us here about any actions that you have personally taken.
Base: 3,338 UK adults aged 16+ who are concerned about plastic waste⁷

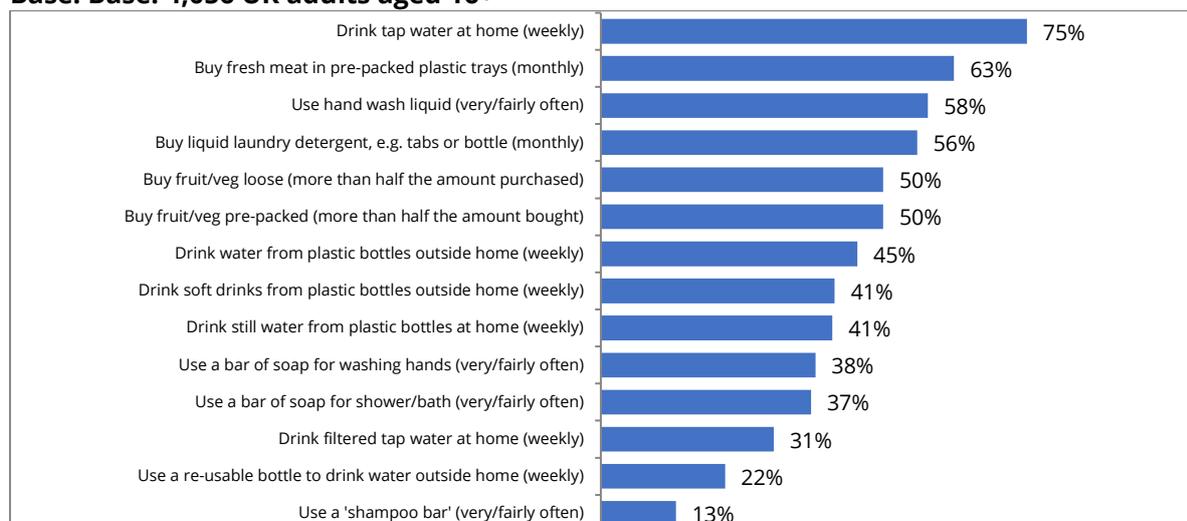


2.3 Current purchase/consumption behaviours

The research demonstrates that, across the behaviours identified in WRAP's prioritisation exercise, citizens vary markedly in their current purchase and consumption (Figure 6).

Figure 6 – Current purchase/consumption behaviours

Percentage of consumers who regularly do each of these behaviours
Base: Base: 4,056 UK adults aged 16+



⁷ Sum is greater than 100% as respondents were able to record more than one action they are taking to reduce their own plastic waste.

- 41% of UK citizens drink still bottled water at least weekly (including 16% daily). Three quarters of UK citizens drink tap water at least weekly increasing to 85% when filtered tap water is included.
- 45% of UK citizens drink water outside the home from a plastic bottle at least weekly (including 16% daily). However, the use of re-usable bottles for drink water outside the home is breaking through into the mainstream with 22% of UK citizens drinking water from a purpose designed reusable bottle several times a week.
- 41% of UK citizens drink soft drinks outside the home at least weekly (including 10% daily). Of these, 58% drink from plastic bottles, followed by aluminium cans (44%), take away cups (24%), glass bottles (15%) and cartons/ pouches (13%). 13% use a purpose designed reusable bottle.
- 50% of UK citizens purchase more than half their fresh fruit and veg pre-packed although there is significant variation across different products – on average, 36% of potatoes are purchased loose, followed by pears (43%), apples (44%), carrots (47%), broccoli (51%) and bananas (69%).
- 77% of UK citizens regularly buy shampoo/conditioner; 69% shower gel; and 58% regularly use hand wash in plastic bottles. 38% of citizens already regularly use a bar of soap to wash their hands; 37% regularly use a bar of soap for showers/baths and 13% regularly use a ‘shampoo bar’.
- 63% of UK citizens regularly purchase meat in pre-packed plastic trays and 71% regularly purchase frozen vegetables in plastic packaging.

Key audiences for each of the current behaviours are shown in Table 1. These audiences are sub-groups that are more likely to do each of these than the population average.

Table 1 Key audiences for current behaviours

Consumer Behaviours	Audience Groups
Buy fresh meat in pre-packed plastic trays	Widespread, no notable over-indexes.
Use liquid hand soap	Children at home; aged 25-44; those who drink still bottled water at home and outside home.
Use liquid laundry detergent	Children aged 0-5 at home; aged 16-34.
Buy fruit/veg pre-packed	Homemaker; 18-44; students; social class DE; children at home.
Drink water from plastic bottles out of home	Aged 16-44; children aged 0-11 at home; student; work FT; London; those who drink still bottled water at home.
Drink soft drinks in plastic bottles outside home.	Aged 16-44; children aged 0-11 at home; students; working FT; London
Drink still water from plastic bottles at home.	Drink still bottled water outside home; children aged 12-17 at home; London; aged 16-34s; working FT; drink filtered water at home.

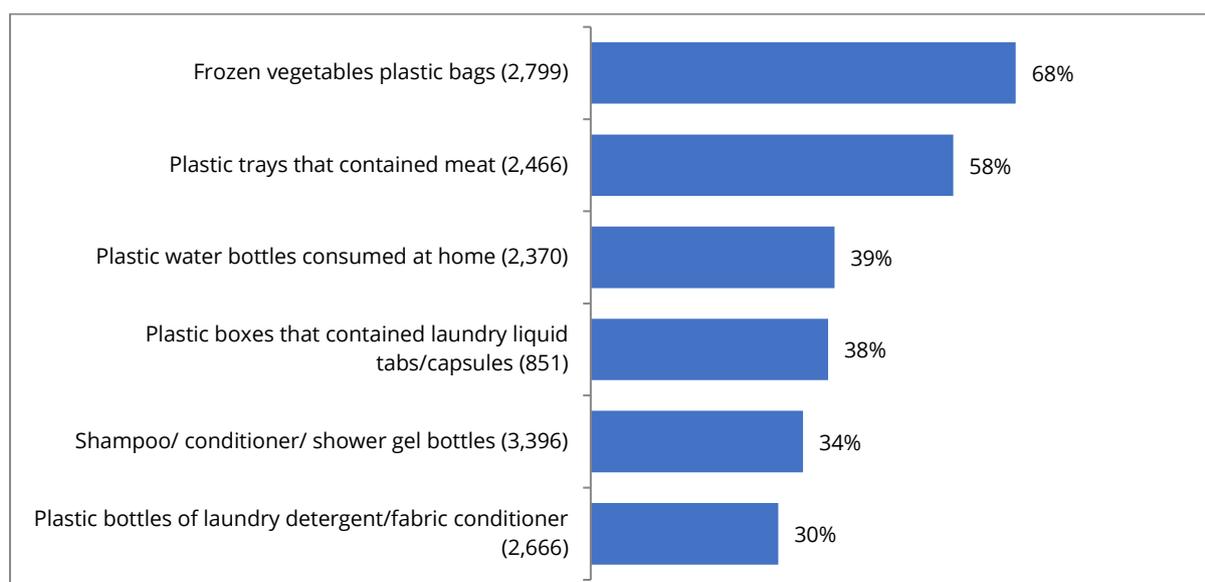
2.4 Current in-home disposal behaviours

The research demonstrates that there are still opportunities to increase capture across the recycling behaviours identified in WRAP's prioritisation task (Figure 7).

Figure 7 – Current in-home disposal behaviours

Percentage of consumers who dispose in the general rubbish at home least sometimes (1-100%)

Base (detailed in brackets): UK adults aged 16+ with any responsibility for dealing with the rubbish/recycling in the home and has this item to dispose of (base sizes in brackets)



- 39% of households who drink still bottled water at home put at least some of the bottles in the general rubbish bin (equating to 18% of all still water bottles consumed at home i.e. for every five bottles a household uses, one ends up in general rubbish).
- Over half (59%) of plastic soft drink bottles consumed outside the home are recycled – of these; 31% are taken home to recycle; 15% are currently put in on street recycling bins.
- 30% of citizens who regularly purchase liquid detergent/fabric conditioner in bottles put at least some in the household rubbish (equating to 16% of all liquid detergent/fabric conditioner bottles disposed of by households).
- 38% of citizens who regularly purchase liquid detergent tablets in plastic boxes put at least some boxes in the household rubbish (equating to 20% of, or one in five, boxes disposed of by households).
- A third (34%) of citizens who regularly purchase shampoo/conditioner/shower gel in bottles put at least some in the household rubbish (equating to 18% of all shampoo/conditioner/shower gel in bottles disposed of by households).
- Over half (58%) of citizens who regularly purchase fresh meat in plastic trays put at least some in the household rubbish (equating to 39% of these trays).

Audiences identified in Table 2 are sub-groups that are more likely to put items in the general rubbish than the population average.

Table 2 Key audiences for increased recycling at home

Consumer Behaviours	Audience Groups
Plastic water bottles	Students; aged 16-24; aged 25-34s; London; children aged 0-11 at home; West Midlands.
Plastic trays that contained meat	Students; aged 25-34; aged 16-24; Yorks & Humber; London; children aged 0-5 at home.
Frozen vegetable plastic bags	Aged 16-34; students; Yorks & Humberside; London.
Plastic boxes of laundry liquid tabs	London; students; children aged 0-5 at home; aged 16-34.
Shampoo/conditioner/shower gel bottles	Aged 16-34; students; London; children aged 0-5 at home.
Plastic laundry detergent bottles	Aged 16-34; students; London; children aged 0-5 at home.

Reasons for placing items in general rubbish include too much food residue, confusion what can and can't be recycled, and ease (easier to put in the general rubbish). A lack of bin capacity also appears. WRAP's recycling tracker⁸ demonstrates that bin capacity is an enabler of missed capture, with around one in five identifying capacity as an issue for their recycling bin.

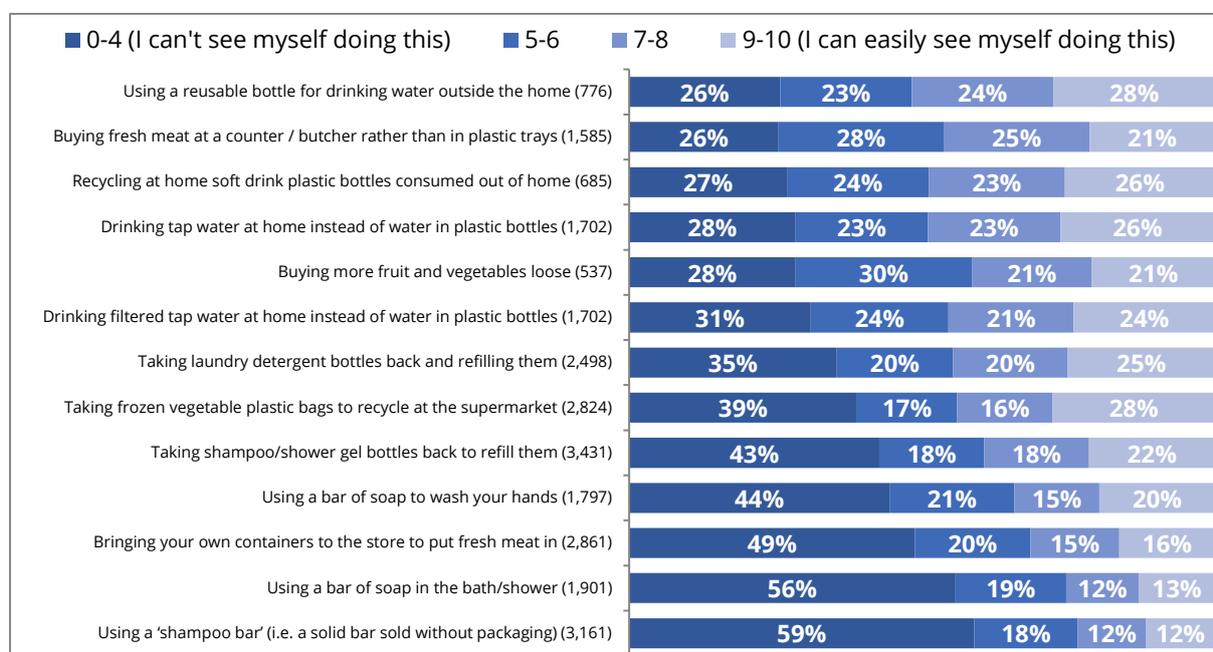
2.5 Propensity to adopt reduction and reuse behaviours

The research demonstrates that across the behaviours identified in WRAP's prioritisation exercise, citizens vary markedly in their propensity to adopt non-recycling behaviours (Figure 8).

⁸ http://www.wrap.org.uk/sites/files/wrap/Recycling%20Tracker%20Report%202018%20-%20Final%20for%20publication_0.pdf

Figure 8 – Propensity to adopt reduction and reuse behaviours

Percentage of consumers can see themselves doing each of the alternative behaviours
Base: UK adults aged 16+ who represent a target audience according to behaviours they are currently undertaking/not undertaking (base sizes in brackets)



- Almost half (49%) of those who currently drink bottled still water at home can see themselves drinking tap water instead.
- Over half (52%) of those who drink bottled water outside the home can see themselves using a re-usable bottle instead.
- Almost half (49%) of those not regularly taking their plastic soft drinks bottles consumed out of the house back home for recycling can see themselves doing this in future.
- (43%) of those who currently buy more fruit and veg pre-packed can see themselves increasing how much they buy loose in future.
- 44% say they can see themselves taking their personal care bottles back to the store to refill them; and 35% for laundry bottles
- Among those citizens not regularly using soap bars or refill options for shampoo or conditioner, a minority (one in four to one in three) can see themselves doing so in future - from 24% for shampoo bars up to 35% for a bar of soap to wash their hands. A larger proportion can see themselves taking bottles back to refilling them in store.
- Among citizens who purchase fresh meat, almost half (46%) can see themselves buying fresh meat at a butcher or meat counter rather than in pre-packed plastic trays.
- Almost a third (31%) of citizens can see themselves taking their own containers to the store for fresh meat purchases.

Key audiences (those not carrying out the behaviour but open to change) for each of the non-recycling behaviours are shown in figure 8. Those audiences identified in Table 3 are sub-groups that are more likely to see themselves doing each of these than the population average.

For all alternative behaviours, in order for them to become main stream actions, some challenging barriers need to be overcome for example lack of detergent refill options, as well as the hassle and mess of refilling detergent.

Table 3 Key audiences for alternative behaviours

Consumer Behaviours	Audience Groups
Drink tap water at home	Scotland and Wales; use a reusable bottle out of home.
Buy fruit/veg loose	Aged 55+.
Use a bar of soap for washing hands	NW England; aged 65+; social grade C2; men.
Use a bar of soap for shower/bath	Social grade C2; NW England; London; men
Re-usable water bottle	Students; aged 16-44; children aged 0-11 at home; working FT; London.
Drink filtered tap water at home	Drink still bottled water at home; London; children aged 0-11 at home.
Use a "shampoo bar"	Drink still bottled water at home; children aged 0-11 at home; aged 16-34; London.

2.6 Conclusions

Plastic packaging waste is a concern for over half of UK citizens, and for many the concern has increased in the previous year (November 2017 - December 2018). The impact of plastic packaging waste on oceans and marine life is overwhelmingly the most prominent concern for the majority of UK citizens expressing concern.

Recycling remains a salient action to tackle plastic waste for citizens, however, there is still scope to increase capture with UK citizens reporting that between 54% (for frozen vegetable packaging) and 16% (for plastic bottles of laundry and detergent/fabric conditioner) of plastic packaging is disposed of in the general waste. Barriers to recycling are around knowledge and motivation with UK citizens citing 'not sure if it can be recycled' and 'easier to put in the general rubbish' for many of the disposal items in this research.

Beyond recycling some action is happening to reduce plastic consumption, but it is limited except among the most engaged, and is often fuelled by other motivations. However, refillable drinks bottles are breaking through into the mainstream. Other plastic waste reduction behaviours remain challenging for many citizens – this is likely due to behaviours not being simple enough for them to implement in their daily lives and often require facilitation by others (governments, brands and retailers).

Almost half of UK consumers have had a conversation about plastic waste in the past year - either in person or by posting on social media. Being part of a 'national conversation' is correlated with (a) a positive social norm about the need to take action on plastic waste; (b) higher levels of personal agency to take action; and (c) higher stated propensity to adopt alternative behaviours. Correlation does not imply causation and therefore we are unable to conclude that being a part of a 'national conversation' is the cause of a higher propensity to adopt alternative behaviours. However, these conversations could be an important means of supporting behaviour change

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