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BIRMINGHAM

A Future for Sustainable Plastics

UK Public and Political Attitudes

Birmingham Plastics Network
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Executive summary

The UK public are more concerned about the threat to society posed by plastic pollution than the coronavirus pandemic or future pandemics, terrorism, economic collapse, natural disasters, and artificial intelligence. In the mind of the UK public, plastic pollution is a top-three perceived threat to society, alongside war and climate change.

When comparing how concerns relating to plastic pollution and climate change map onto the political spectrum of the UK public, we see that **plastic pollution is a less politically polarised issue than climate change.**

There is broad agreement among the UK public that it is important to tackle all the environmental issues we asked them about, but plastic-related issues topped the list. For the UK public, plastic-related environmental issues rank 1st (plastics in the ocean), 2nd (amount of plastic waste produced), 7th (plastic in landfill), and 10th (microplastics), out of a list of 13 concerns.

However, for Members of Parliament environmental issues concerning plastics ranked 7th (plastic waste produced), 10th (plastics in the ocean), 11th (microplastics) and 12th (plastics in landfill) out of a list of 12 potential environmental concerns. For MPs overall, water pollution and climate change rank as the top two priorities. **This represents a mismatch between UK public and UK politician's priorities.**

There are interesting political party differences in perceptions of the importance of environmental issues to address over the next 5 years. For Conservative MPs surveyed, protecting the countryside and green spaces ranked highest, with 59% of Conservative Members choosing this option, while only 13% of Labour MPs selected this. For Labour MPs the highest ranked option was climate change with 58% of Labour Members choosing this, in contrast only 30% of Conservative MPs believed climate change was an important issue to address over the next five years. **However, a plastic-specific issue did not emerge as a top-five environmental issue for the Government to focus on over the next five years for members of either political party.**

In recent years we have seen an explosion in products labelled compostable, biodegradable and bioplastic. In our surveys we sought to understand how such green claims were understood. **Among the UK public we found uncertainty, misunderstanding, and a mismatch between expectations and the promise of how such materials are marketed.**

When asked about their understanding of the term 'bioplastic', only 50% of people correctly identified that bioplastics can still contribute to plastic pollution. The term 'biodegradable' also creates difficulties. 1 in 5 people (20%) think biodegradable plastic can be thrown into landfill and will break down doing no environmental harm.

We also wanted to assess what people expect a 'biodegradable plastic' label to mean. In our study of the UK public, **just over half of people (52%) think plastic labelled 'biodegradable' should take less than a year to break down.** Interestingly, **a similar proportion of Members of Parliament (55%) also said that products should break down in one year if they are to be labelled biodegradable.**

While there are scientific and industry standard for timeframes for biodegradability (e.g. ISO14852 and EN13432), these specify the aerobic composting conditions under which the breakdown must occur (such as 50 – 60 °C temperatures, with controlled humidity and aeration). **Products labelled biodegradable that aren't processed or disposed of in line with the conditions specified in these industrial standards may never fully break down.** Furthermore, if left in the environment, these products may fragment into smaller pieces. There are open questions about the environmental and health-related harms these fragments may cause. **The findings of this report suggest serious issues with the unqualified use of the term's 'biodegradable' and 'bioplastics' in the marketing of plastic products.**

Background

There is an urgent need to radically shake up the way we approach the plastic problem; a social and environmental imperative to move from an imagined future with sustainable plastic, to a real one. By drawing on innovative cross-disciplinary research, we can create a joined-up approach and a comprehensive roadmap forward. This requires an open, honest, and inclusive societal conversation about the ways in which we currently produce, utilise and market plastic, and the realities and fictions of the move towards bioplastic and biodegradable plastic. It is only by tackling plastic in a systematic way – within its broader social and environmental context, examining its production, usage, reuse and end of life – that allows us to propose novel whole systems solutions, radical new ways of thinking or the development of new materials, in order to move towards this sustainable plastic future.

- Excerpt from *Plastic: A Call to Action*, Birmingham Plastic Network 2023

This report is the first of its kind incorporating the findings of one of the few dedicated, nationally representative surveys of public opinion on the topic of plastics in the UK, with a survey of the attitudes and opinions of UK politicians. This research was undertaken in 2022 and 2023 in order to generate a baseline of public and politicians attitudes, and to address the following three top-level research questions:

- What are the UK public attitudes, expectations, and concerns in relation to societies current relationship with plastics?
- Where do plastics rank among the priorities of environmental issues for both the UK public and politicians?
- What do the UK public and politicians think about terms such as bioplastic and biodegradable plastic?
- What are public hopes and expectations for our future relationship with plastics?

The present report should be read alongside the [Birmingham Plastics Network's *Plastic: A Call to Action*](#), which can be found on the Birmingham Plastics Network's website.

The survey was commissioned and undertaken to coincide with the currently ongoing Birmingham Plastics Network Policy Commission.

Policy Commission

The plastic waste problem represents one of the most significant environmental challenges we face today. Despite this, many proposed solutions have been 'quick fix' in nature, often focussing on eradicating plastic completely or implementing relatively small, albeit valuable and needed changes, when compared to the problem as a whole. Whilst these solutions are well-meaning, they lack the nuanced insight into the wide-ranging use of plastic in our everyday lives (e.g., healthcare, construction, automotive industry) and the breadth of positive and negative impacts associated with this. Therefore, the Birmingham Plastics Network is leading a Policy Commission to support policy strategy development and decisions in the UK with evidence-based critical thinking.

The Birmingham Plastics Network Policy Commission aims to bring together voices from across the plastics landscape to develop a set of well informed, evidence-based, policy recommendations which will promote a sustainable future for plastics in the UK, enhancing the positive contributions that plastics make to our lives whilst minimising the negative impacts across their life cycle. We will engage with the plastics problem comprehensively, considering economic, environmental, social, and ecological impacts, developing comprehensive and evidence-based recommendations for an issue which has seen the same low-impact solutions and challenges be presented for decades.

Survey information

The Birmingham Plastics Network worked with YouGov Plc to survey the UK publics and UK Members of Parliament attitudes toward plastics. Details of the methodology and sample can be found below.

This work was supported by the Engineering and Physical Sciences Research Council [grant number EP/X525662/1], and Research England under the Institutional Policy Support Fund stream.

Methodology

Public Survey: This survey has been conducted using an online interview administered to members of the YouGov Plc UK panel of over 2 million individuals who have agreed to take part in surveys. Emails are sent to panellists selected at random from the base sample. The e-mail invites them to take part in a survey and provides a generic survey link. Once a panel member clicks on the link, they are sent to the survey that they are most required for, according to the sample definition and quotas. Invitations to surveys don't expire and respondents can be sent to any available survey. The responding sample is weighted to the profile of the sample definition to provide a representative reporting sample. The profile is

normally derived from census data or, if not available from the census, from industry accepted data.

MP Survey: For the MP survey: YouGov completed online interviews with a representative sample of 110 MPs. The survey was completed between 6th of September – 2nd of October 2023. All results are based on a sample and are therefore subject to statistical errors normally associated with sample-based information; Any percentages calculated on bases fewer than 30 unweighted respondents must not be reported as they do not represent a wide enough cross-section of the target population to be considered statistically reliable; Results for MPs are weighted by party, gender, electoral cohort, and geography to give a sample that is representative of the House of Commons; Based on a 95% confidence level results are correct to +/- 9%.

Editor's Note

Public survey: All figures, unless otherwise stated, are from YouGov Plc. Total sample size was 2942 adults. Fieldwork was undertaken between 25th March - 2nd April 2022. The survey was carried out online. The figures have been weighted and are representative of all UK adults 18+, by age, gender, region, social grade, and ethnicity.

UK public: plastics, priorities & politics

'Waste' and 'pollution' were the two most common answers when we asked the UK public what the first three words that come to mind when they heard the word 'plastic'. There were also positive words and attributes, such as 'cheap' and 'useful', but these were less common than more negative words and attributes. This indicates that in the mind of the UK public, plastics tend to be viewed negatively (Figure 1).



Figure 1. Please record the first words that come to mind when you hear the word 'plastic'. 40 most common responses among UK public.

Our survey indicates that the majority (almost 7 in 10) of the UK public say that 'sustainability' is important to them. However, 3 in 4 agree it is hard to understand what plastics to put in recycling bins. Furthermore, the majority see it as a national responsibility to deal with recycling, with just over 8 in 10 agreeing recycling should be completed within the UK rather than waste being sent abroad.

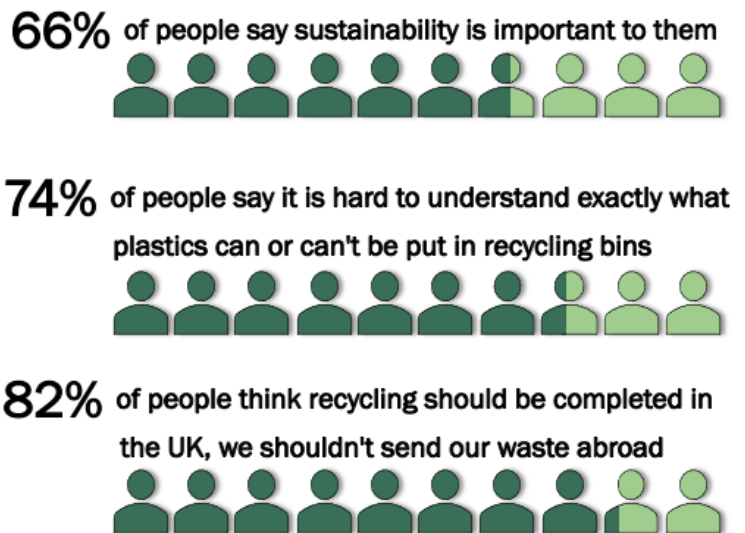


Figure 2. A profile of the UK public on sustainability and recycling.

Plastic pollution was ranked as a very high concern among a list of potential threats to society, including both environmental and non-environmental issues. Only war¹ and climate change ranked as higher concerns than plastic pollution for the UK public (Figure 3). More members of the UK public were concerned about the potential threats posed by plastic pollution, than the coronavirus pandemic or future pandemics, terrorism, economic collapse, natural disasters, and artificial intelligence. This indicates that in the mind of the UK public, plastic pollution is a major concern alongside war and climate change.

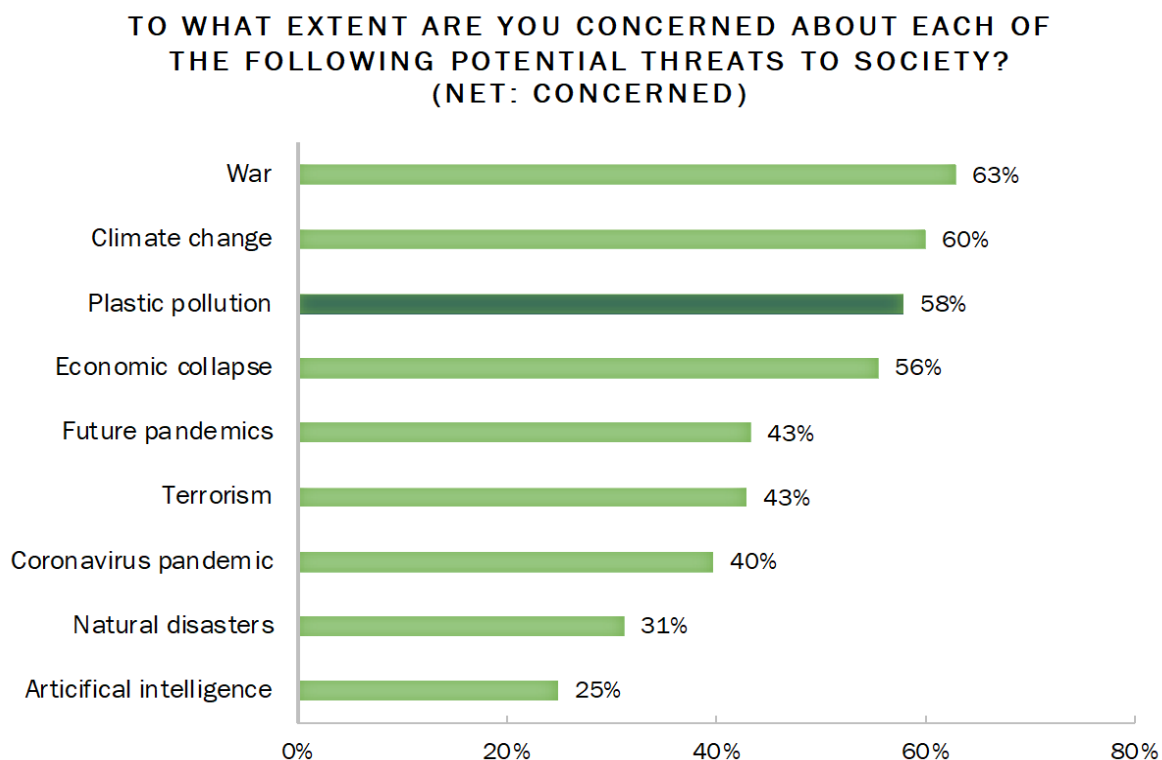


Figure 3. UK public concerns about potential threats to society.

When breaking down the differences between demographic groups regarding their concerns about plastic pollution and climate change, interesting generational and gender patterns emerge. As seen in Figure 4 (below) while a majority in all age groups express concern about both climate change and plastic pollution, a higher proportion of those under 50 years old are more likely to express concern around climate change, while those over 50 are more likely to express concern over plastic pollution. Furthermore, a higher proportion of women are concerned about both climate change (64%) and plastic pollution (62%) than men (56% and 54%, respectively).

¹ This part of the fieldwork was conducted in early 2022, after Russia's invasion of Ukraine.

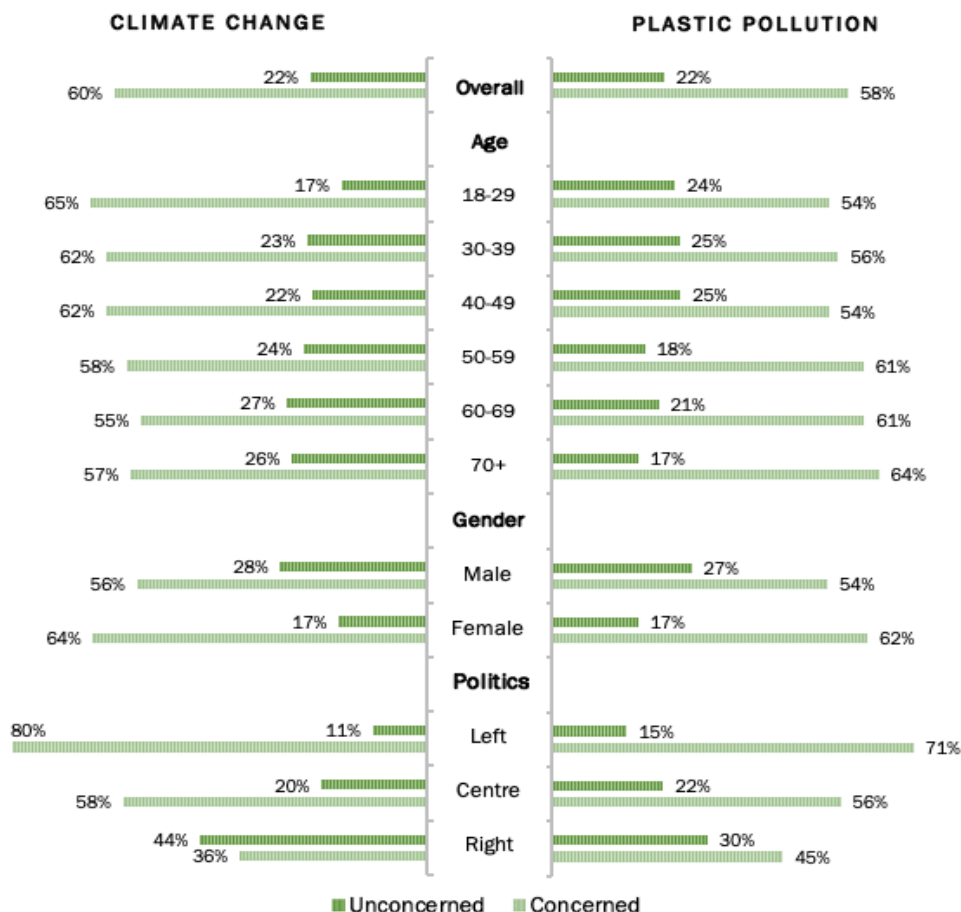


Figure 4. UK public demographic breakdown of those 'Unconcerned' (dark green), and 'Concerned' (light green) about the potential threats of climate change and plastic pollution for society.

When breaking down concerns regarding climate change and plastic pollution by people's political alignment, another interesting pattern emerges. In general, those who describe themselves as 'left wing' on the political spectrum report more concern regarding both climate change and plastic pollution than those who describe themselves as politically 'centre' or 'right-wing'. However, a larger proportion of left-wing individuals report concerns regarding climate change (80%) than report concerns regarding plastic pollution (71%). Those who are centre on the political spectrum have similar levels of concerns about both climate change (58%) and plastic pollution (56%). While a smaller proportion of those who are right-wing are concerned about climate change (36%) than they are about plastic pollution (45%). Our survey shows there is a smaller difference between levels of concerns across left, centre, and right respondents regarding plastic pollution (71% and 45%), than there is in regard to the threat of climate change (80% and 36%). This comparison highlights that plastic pollution is a less politically polarised issue than climate change across the political spectrum.

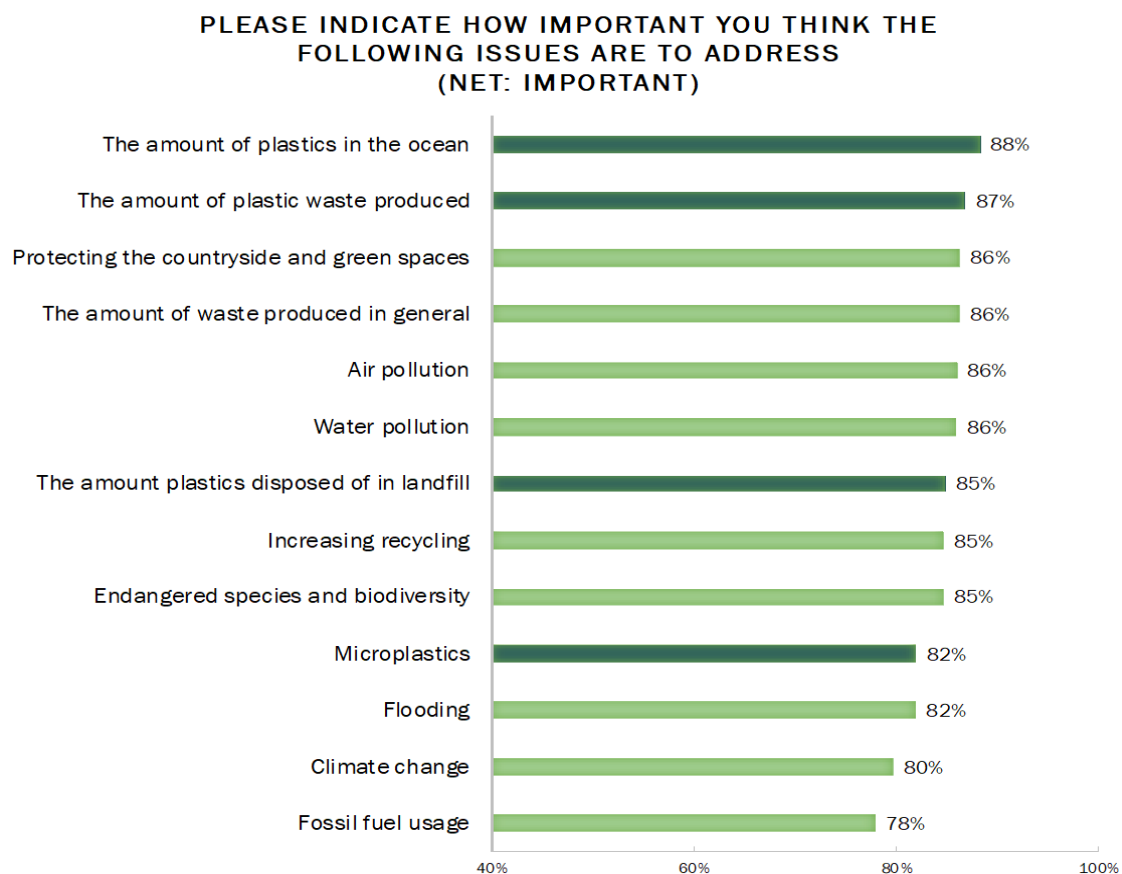


Figure 5. How important UK public think various environmental issues are to address.

To better contextualise UK public's concerns about plastics we also asked how important they thought it was to address a range of environmental issues. As can be seen in Figure 5, while there was broad agreement that it is important to tackle all the environmental issues listed, the amount of plastics in the ocean (88%) and the amount of plastic waste produced (87%), were seen as the most important to address. Interestingly, in comparison to perceptions of the broader threats to society discussed above, climate change and fossil fuel usage were at the bottom of the list of environmental issues to address – though it is important to note that there was still strong support among the UK public of the importance of addressing both climate change and fossil fuel usage (80% and 78%).

UK public: bio- & biodegradable plastics

In recent years we have seen an explosion in plastic products labelled compostable, biodegradable and bioplastic. In our survey of the UK public, we found uncertainty, misunderstanding, and a mismatch between public expectations and the promise of how such materials are marketed.

For example, when asked about their understanding of the term 'bioplastic', only 50% of people correctly identified that bioplastics can still contribute to plastic pollution.

A bioplastic can however contribute to plastic pollution just as much as a traditional

plastic. A plastic made from non-fossil fuel sources needs to perform in the same way as the fossil-fuel derived plastic it is replacing. Although they come from different feedstocks, they are made into identical materials. For example, polyethylene made from sugar cane is chemically identical to polyethylene made from fossil fuel sources. A plastic that is 'compostable' is, by definition, biodegradable, but the majority may only biodegrade in industrial composting conditions. Therefore, if you dispose of it in your home compost then it will not readily degrade. When asked what percentage of plastic labelled 'compostable' could be composted at home or had to be composted under specific conditions using industrial equipment, 59% of the UK public said they did not know.

The term 'biodegradable' can also mislead. 1 in 5 people (20%) in our survey thought that biodegradable plastics can be thrown into landfill and will break down doing no environmental harm. Almost 1 in 4 people (24%) thought biodegradable plastics always break down within at least a few years in the environment, while around 1 in 12 (8%) think they always break down in a matter of months. This isn't necessarily an issue of public understanding, but rather reflects public expectations over how plastics should be labelled. As seen in Figure 7, in our study of the UK public, just over half of people (52%) think plastic labelled 'biodegradable' should take less than a year to break down. While there are industrial standards for biodegradability, products disposed of outside the specific parameters of these standards (such as those found in industrial composting facilities), will not break down in line with the timeframes outlined in the industrial standards.

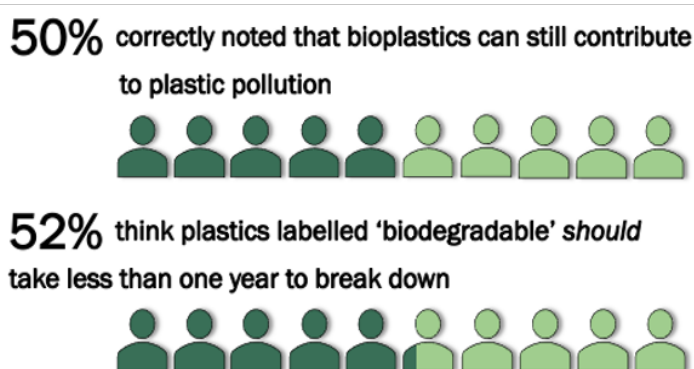


Figure 6. UK public views on bio- and biodegradable

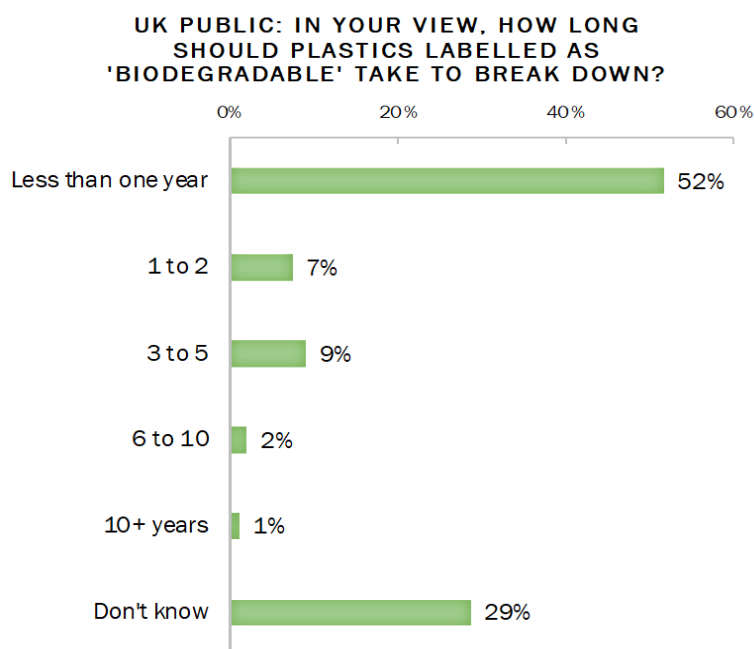


Figure 7. Public views on how long a plastic labelled 'biodegradable' *should* take to break down.

The findings of this section align with recent qualitative research commissioned by the Advertising Standards Authority (ASA). In their November 2023 report, ASA research found there to be a general uncritical acceptance of environmental claims in advertising among the public. Terms such as 'biodegradable' and 'compostable' were often seen as confusing and were generally less well understood than the term 'recycling' or 'recycled'. After learning of the definition of term biodegradable, "the unlimited timeframe and potential for toxin creation was shocking to some and disappointing for all. There was a strong belief that without significant qualification the term should not be used. Some argued the word should not be used at all."² In light of the ASA's research, new and tighter advertising guidance has been released around 'green disposal claims' such as 'biodegradable' and 'compostable'. The updated guidance, effective from January 2024 and fully enforceable from April, clarifies that green disposal claims must be substantiated, and must contain relevant information (e.g. on disposal processes and timeframes for biodegradation) to reduce the likelihood these claims will mislead.³

² ASA (2023) 'Consumer Understanding of Green Disposal Claims in Ads: Qualitative Research Report'. *Jigsaw Research Limited*. Nov 2023, p7.

³ CAP (2023) 'Updated environmental guidance: green disposal claims'. *CAP News*. Available at: <https://www.asa.org.uk/news/updated-environmental-guidance-green-disposal-claims.html>

UK MPs: priorities & biodegradable plastics

In our survey of UK Members of Parliament, a different picture of priorities emerges to that of the UK public. We asked UK MPs which environmental issues are the most important for the UK Government to focus on in the next 5 years. This allowed a clear picture of priority policy areas to emerge. In both Figure 5 (UK public, above) and Figure 8 (MPs), environmental issues relating specifically to plastics are displayed in darker green. As our surveys show, for the UK public, plastic-related environmental issues rank 1st (plastics in the ocean), 2nd (amount of plastic waste produced), 7th (plastic in landfill), and 10th (microplastics), out of a list of 13 concerns. However, this was markedly different for MP's ranking of priorities, with plastic waste produced 7th, plastics in the ocean 10th, microplastics 11th and plastics in landfill 12th out of a list of 12 potential environmental concerns. For MPs overall, water pollution and climate change rank as the top two priorities.

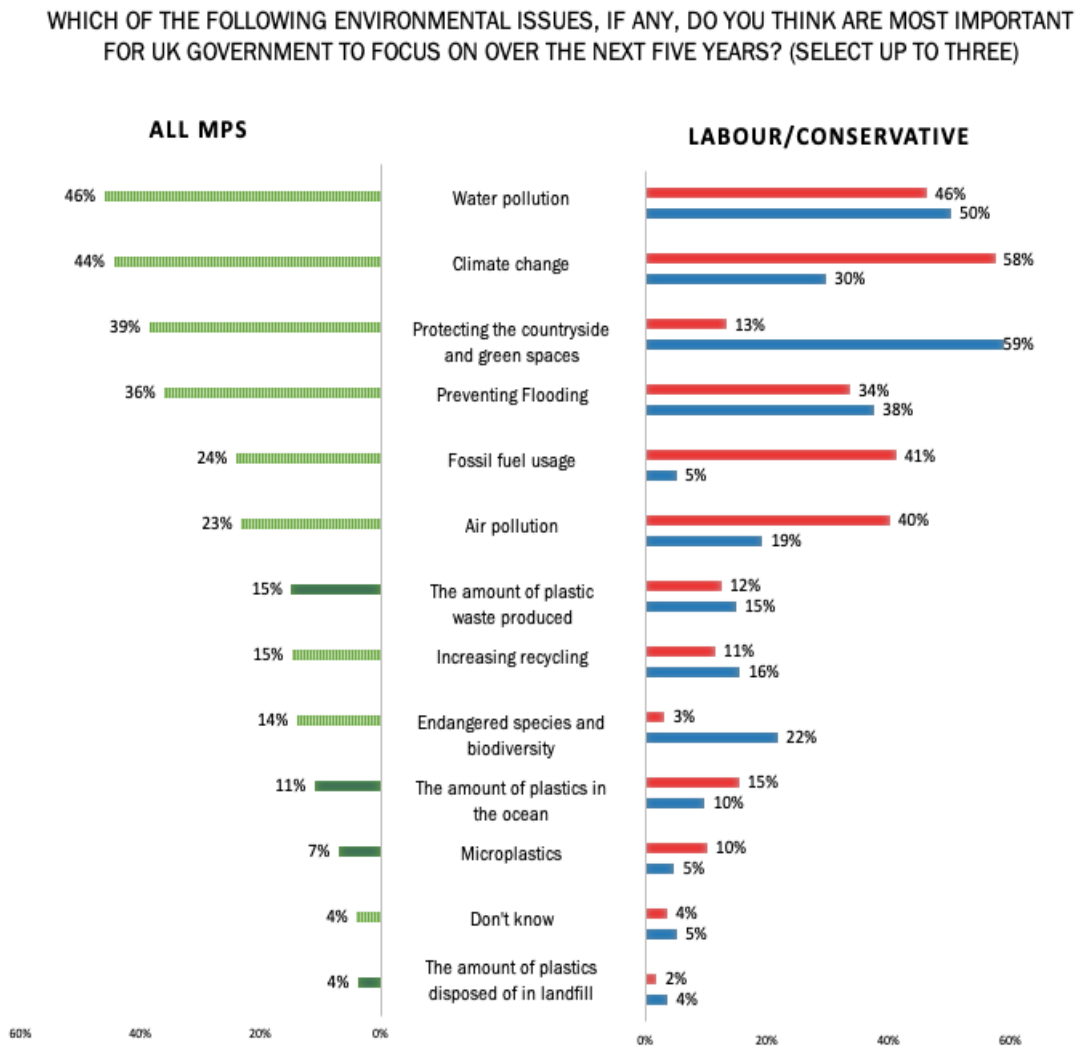


Figure 8. The environmental issues that UK Members of Parliament think are the most important to address over the next five years. (Left: All MPs, Right: Labour [Red], Conservative [Blue]) Note: All MP sample also contains MPs from smaller political parties.

There are also clear political party differences in perceptions of the importance of environmental issues to address over the next 5 years. For example, of the Conservative MPs surveyed, protecting the countryside and green spaces ranked highest, with 59% of Conservative Members choosing this option, conversely only 13% of Labour MPs selected this. For Labour MPs the highest ranked option was climate change with 58% of Labour Members choosing this, in contrast to only 30% of Conservative MPs believed climate change was an important issue to address over the next five years. In contrast to the UK public, within our sample of Labour or Conservative MPs a plastic-specific issue did not emerge as one of the top-five environmental issue for the UK Government to focus on over the next five years.

We further asked our sample of MPs about their views on the labelling of biodegradable plastics. We asked MPs: "If limits were to be set for the time in which a plastic product takes to completely break down in order to be labelled "biodegradable" what, if any, should those limits be?" The majority of MPs (55%, Figure 9) said that plastic products labelled as 'biodegradable' should break down in one year. Only 5% of MPs felt no limit should be set. This aligns with public views, the majority of which (52%, Figure 7, above) felt that plastics labelled as biodegradable should break down in under 1 year, with a further 19% indicating that this process should take place within 1 -10 years. **There is a clear consensus between the majority of members of the public and the majority of MPs sampled in our surveys that the label 'biodegradable' for plastics should be restricted in its usage.**

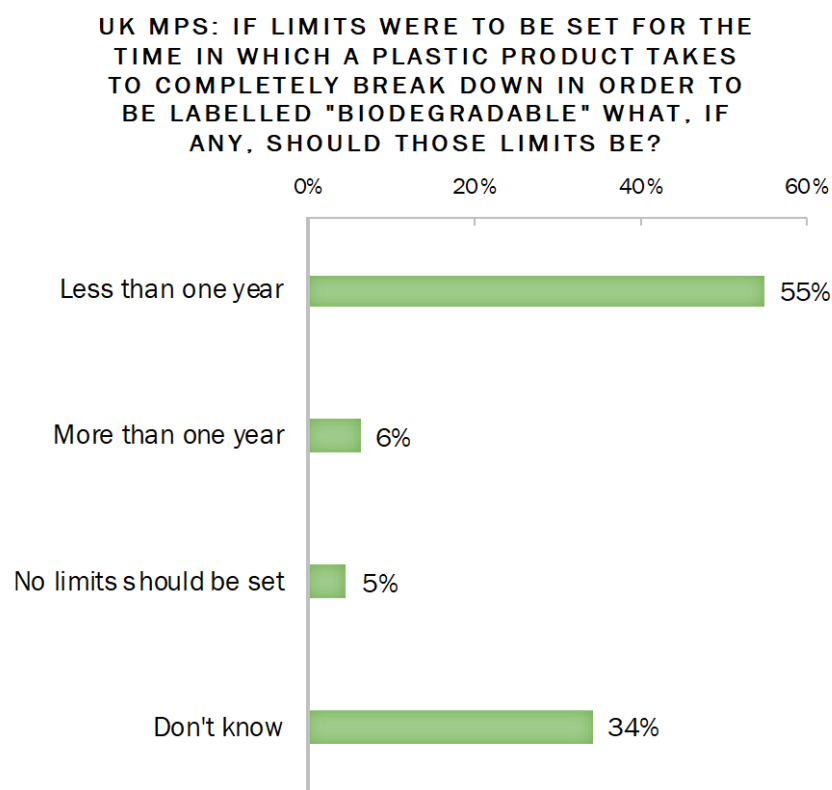


Figure 9. MPs views on breakdown time limits for products to be labelled biodegradable.

Conclusion

This report highlights two mismatches in our relationship with plastics:

First, **there is a mismatch between the environmental issues the UK public think are most important to address, and those that Members of Parliament believe are most important to focus on in the next five years.**

For the UK public, plastic-related environmental issues rank 1st (plastics in the ocean), 2nd (amount of plastic waste produced), 7th (plastic in landfill), and 10th (microplastics), out of a list of 13 environmental concerns.

However, for Members of Parliament environmental issues concerning plastics ranked 7th (plastic waste produced), 10th (plastics in the ocean), 11th (microplastics) and 12th (plastics in landfill) out of a list of 13 potential environmental concerns.

This research shows that politicians are out of step with public concerns as there is **a clear mismatch between UK public who deem tackling plastic related issues as *the* most important areas of environmental concerns, and those of UK Members of Parliament who deem plastics among *the least* important areas of environmental concern.**

Secondly, we find a mismatch between expectations around the terms 'bioplastics' and 'biodegradable', and how environmentally friendly materials labelled in this way actually are. **When asked about their understanding of the term 'bioplastic', only 50% of people correctly identified that bioplastics can still contribute to plastic pollution.** These materials can still break down into microplastics, potentially causing environmental and health-related harms.

We find **a clear consensus between what the UK public and Members of Parliament believe regarding how long plastics labelled 'biodegradable' should be expected to take to be broken down, and a mismatch with the realities of how these materials are currently being utilised, disposed of, and sometimes marketed.** Just over half of the UK public (52%) think plastic labelled 'biodegradable' should take less than a year to break down (with 29% saying they do not know). For Members of Parliament, when asked if a limit should be set for the time in which a plastic product takes to completely break down in order to be labelled "biodegradable" – **55% say this limit should be less than one year** (34% saying they do not know, 6% say more than one year, and 5% say no limits should be set.)

Scientific and industry standards of timeframes for biodegradability exist, but these specify the aerobic composting conditions under which the breakdown must occur (such as those found in industrial composting facilities). Products labelled biodegradable that aren't processed or disposed of in line with these specific conditions may never break down fully. Furthermore, if left in the environment, these products may fragment into smaller pieces. Questions remain about the environmental and health-related harms these fragments may cause.

The majority of both UK public and Members of Parliament would expect plastics labelled as 'biodegradable' to break down within one year, indicating a mandate to further regulate the usage of the term 'biodegradable' in relation to the labelling of plastic products.



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