

Written evidence submitted by Green Alliance (PW0033)

Plastic waste

Written evidence for the Environment, Food and Rural Affairs Committee
by Green Alliance
September 2021

About Green Alliance

Green Alliance is a charity and independent think tank focused on ambitious leadership for the environment. Since 1979, we have been working with a growing network of influential leaders in business, NGOs and politics to stimulate new thinking and dialogue on environmental policy, and increase political action and support for environmental solutions in the UK.

This submission draws upon concepts and evidence set out in recent Green Alliance publications, including: *Fixing the system: why a circular economy for all materials is the only way to solve the plastic problem*, which examines the flaws in current plastic-focused strategies for waste management; *Building a circular economy: how a new approach to infrastructure can put an end to waste*, analysis of the infrastructure requirements for a circular economy; and *Plastic promises: what the grocery sector is really doing about packaging*, a report on the findings from interviews with anonymised representatives from major UK supermarkets and FMCG businesses.

Summary:

Attention to the urgent issue of plastic pollution is long overdue but government action so far has been piecemeal and inadequate, and there is a danger that the response could have severe unintended consequences. A rush to eliminate plastic by substituting with other materials, such as wood, cartons or compostable plastic, could increase our environmental footprint or make it harder to achieve high recycling rates. Some companies are already switching materials in ways that will not ultimately prove sustainable.

Green Alliance advocates a holistic approach to the problem: recognising that all materials have an environmental impact and that material reduction should be the policy priority. For the plastic that is still used, a more concrete plan is needed to get the right infrastructure in place to treat it domestically and properly resourcing regulators to prevent the offshoring of our waste as much is now exported to countries with weak environmental controls.

- 1. What measures should the UK Government take to reduce the production and disposal of single-use plastics in England? Are the measures announced so far, including a ban on certain single-use plastics and a plastic packaging tax, sufficient?**
 - 1.1. Government measures to date have been piecemeal and fail to tackle the root of the plastic pollution crisis. Cheap and plentiful plastic has enabled a throwaway culture to develop, in which materials are used only briefly before being disposed of. Taking a broad approach to addressing our throwaway culture should be the starting point, not only to prevent marine plastic pollution but to reduce material use and waste across the economy. This means changing the system so that it addresses all the environmental impacts of materials, rather than attempting to solve the problem of plastic pollution in isolation and often on an item-by-item basis.
 - 1.2. In its current form, for instance, the Environment Bill creates a power for government to place a charge on single use items, but only if they are made wholly or

partly of plastic. This is unnecessarily narrow and appears to encourage a shift away from plastic items to similarly unnecessary items made from other materials like wood, paper or compostable material, even when such items are unnecessary, the alternatives are not recyclable, and reusable options are easily accessible. As a previous EFRA inquiry highlighted, other materials can also be used with environmental recklessness, and the government should not be bringing in a power that could simply shift the environmental burden away from plastic to other materials.

- 1.3. Other measures already enacted, such as bans on specific single use plastic items, are piecemeal and focusing on specific uses of plastic rather than taking a broader approach will likely limit the overall impact. For example, the government's 2018 ban on microbeads in wash off cosmetics only addresses around 8.8 per cent of intentionally added microplastics that pollute the environment, with a much larger fraction being used for agricultural uses.ⁱ Through its chemical regime, REACH, the EU is pursuing a much more wide-ranging ban expected to address more than 90 per cent of intentionally added microplastics, but the UK has not committed to revising its own narrow approach.
- 1.4. The government's plastic packaging tax, meanwhile, while a positive step is unlikely to result in the level of change needed, though we welcome the decision to extend it to filled, imported packaging as we suggested in *Fixing the system*.ⁱⁱ We believe further adjustments to the tax's design would make it more effective:
 - 1.4.1. The tax will only apply to plastic packaging that contains less than 30 per cent recycled material, which is unlikely to increase ambition dramatically as the UK Plastics Pact is already targeting an average of 30 per cent recycled content across all plastic packaging by 2025.ⁱⁱⁱ Ramping up ambition could be achieved through an escalator, like that used effectively for landfill: it could be on the rate of tax, the percentage of recycled content needed to avoid the tax or, ideally, both. UK businesses would benefit from a long term trajectory to help domestic supply chains increase recycled content and avoid being locked in to overseas supply chains. This would also encourage technology developers to overcome barriers to higher recycled content use.
 - 1.4.2. Using more recycled content is easier for some polymers than others and the current single obligation will encourage gaming and switching between polymers. A manufacturer could decrease recycled content in packaging already exceeding the threshold so they can increase it elsewhere, resulting in no overall increase. The tax should have differentiated obligations to drive ambition higher where it is possible.
 - 1.4.3. The effectiveness of a plastic packaging tax will change as the price of virgin plastic, closely linked to oil prices, fluctuates. If oil prices drop below \$65 a barrel, mechanical recycling becomes unprofitable, according to analysis by McKinsey.^{iv} This means that the supply chain lacks certainty about future demand for recycled material and therefore has less incentive to invest in collection and reprocessing infrastructure. A price stabilising mechanism could derisk investments in reprocessing and ensure that recycled content, as the more sustainable option, is always cheaper than virgin material, which this (relatively low) tax in no way guarantees. The fund would absorb money when

recyclate prices exceed an upper threshold and release money when prices fall. Potential sources of funding for this idea include reprocessors, producers, the extended producer responsibility system, unclaimed deposit return scheme deposits or revenue from the plastics tax itself.

1.4.4. The tax excludes packaging that “is made of multiple materials of which plastic is not proportionately the heaviest when measured by weight”. In practice, that means many of the most difficult to recycle materials that contain plastic – for example coffee cups and fibreboard cartons – will not be captured by the tax. This could have the unintended consequence of encouraging businesses to switch to that sort of packaging to avoid the tax. Complex, multi-layer materials are notoriously difficult to recycle and cannot be recycled back into the same format, or in a ‘closed loop’ (unlike single polymer plastic packaging). This means that the tax, as configured, could fail in its aim to “encourage the use of recycled plastic instead of new plastic within packaging [and] stimulate increased levels of recycling and collection of plastic waste, diverting it away from landfill or incineration.” Instead, the tax should discourage switching and promote the use of recycled plastic in all applications where it is possible. Ideally, the tax would encourage reduction in material use, as well, but it has not been designed to do that.

1.4.5. It is not possible to tell from testing a finished product how much recycled content it contains and, therefore, liability for the tax will be based on claims about percentages of recycled content. It is very important for the tax to be complemented by an independent recycled content verification system, which does not currently exist. This should be developed in consultation with businesses and other stakeholders to ensure information on recycled content is trustworthy and can be audited, including for overseas producers.

2. How should alternatives to plastic consumption be identified and supported, without resorting to more environmentally damaging options?

2.1. There is a real danger that simple substitution of alternatives for plastic consumption can lead to unnecessary or environmentally detrimental applications. Analysis by PwC for Green Alliance’s Circular Economy Task Force, for instance, showed that simply switching all current consumption of plastic packaging (1.6 million tonnes) on a like for like basis, to the other materials currently used for packaging in the UK could almost triple associated carbon emissions from 1.7 billion tonnes CO₂e to 4.8 billion tonnes CO₂e.^v

2.2. Environmental impacts other than greenhouse gas emissions must also be considered, such as water use and associated forest loss, and the government must take a more robust approach to greenwashing and misinformation. Several supermarket representatives we interviewed for our *Plastic promises* report to determine what supermarkets are really doing about plastic noted that not all the changes in packaging have been assessed properly for environmental impact and some decisions have been taken knowing it could actually increase some environmental burdens. Several interviewees shared a desire for a more standardised and transparent approach to lifecycle assessments, which could help them make better informed decisions to avoid unintended consequences. Many also expressed a desire for ‘braver’, more robust action from government.

2.3. In *Fixing the system*, we make the case for a systemic approach to all materials, with a focus on eliminating all unnecessary material use and environmental harms. We set out some important considerations and guidelines to avoid problems at each stage of the material cycle, to ensure that all material use is safe, sustainable and efficient. Elements of these principles are:

- 2.3.1. Safety: minimise harm from extraction and production; minimise exposure to hazardous substances; eliminate litter and leakage.
- 2.3.2. Sustainability: consider all environmental harms; follow a hierarchy (reduce, reuse, recycle); use systems thinking.
- 2.3.3. Efficiency: rationalise use and eliminate unnecessary applications of materials; build the right infrastructure; connect actors at all stages of the material cycle.

2.3.4 With this set of principles, government and businesses can identify and support alternatives to plastic, without resorting to more environmentally damaging options.

3. Is the UK Government’s target of eliminating avoidable plastic waste by 2042 ambitious enough?

3.1. A fundamental flaw in this target is that the government has not clearly defined what it means by ‘avoidable plastic waste’. The 25 Year Environment Plan defines it as what is ‘Technically, Environmentally and Economically Practicable’^{vi}, which leaves significant room for interpretation and dispute over what is truly avoidable plastic waste. It will likely see significant volumes continuing to be generated needlessly.

3.2. Even with a more clear definition, this target on its own will not address the root causes of a throwaway society and is more likely to result in material substitutions which could have unintended negative consequences for the environment.

4. Will the UK Government be able to achieve its shorter-term ambition of working towards all plastic packaging placed on the market being recyclable, reusable or compostable by 2025?

4.1. Green Alliance believes that the government and the plastic supply chain will struggle to achieve this target. We also believe that it is important to adjust the target, to ensure all plastic packaging placed on the market is actually recycled, reused or composted, as opposed to it being technically feasible for it to be recycled, reused or composted, which is already the case in many instances.

4.2. There are significant barriers to getting recycled content on the market at pace. First, plans for extended producer responsibility are running years behind schedule, with Defra proposing a phased approach commencing in 2023 and the system not fully operational until 2025.^{vii} Plans for a deposit return scheme, which would deliver high quality, source separated material for recycling are even further behind and the government’s ambition for this effective approach to both reducing litter and driving recycling appears to be waning.

4.3. Second, the UK will lack the infrastructure to actually recycle, reuse or compost the plastics, even if they technically meet criteria. While there are signs that businesses are preparing to increase recycling facilities it does not appear to be at the scale required. Our 2018 report with the Resource Recovery from Waste project, *Building*

a circular economy, shows the UK would require between 54 and 62 new closed loop recycling plants to recycle the amount of plastic packaging currently placed on the market.^{viii} A more transformative approach that looks to promote reuse and reduction ahead of recycling would still require between 21 and 31 recycling plants, as well as infrastructure and logistics for refilling and reuse. While there is no centralised database for recycling facilities, the government does not track the reuse, refill, etc, infrastructure needed to create a truly circular economy.

- 4.4. Similarly, the infrastructure needed to adequately collect and treat compostable packaging that is rapidly making inroads into the market (often at the expense of preferable reduction in material use) will not be in place. Anaerobic digestion (AD) is the default treatment for food waste in the UK, but the process is too fast to handle material like compostable plastic, for which an additional composting stage is required, which is relatively rare in the UK. This step is mandated in some parts of Europe where digestate is considered a waste unless it is composted, not least as the process results in a more stable and less polluting product. This can then more easily be used as a fertiliser and is more likely to prevent the loss of nitrogen and avoid air pollution during the spreading of digestate. Cross-contamination of conventional and compostable plastic – due to both consumer confusion and a lack of separate collection infrastructure – also renders recycled material unusable for many applications and means compost can become contaminated with polluting plastic.^{ix}
- 4.5. Finally, the government’s short term ambition will likely be hampered by the length of retail and production line cycles: one supermarket we interviewed for *Plastic promises* described a four-year process to switch from unrecyclable expanded polystyrene pizza bases to cardboard alternatives.^x With less than four years to go to meet the ambition, changes to production systems need to be initiated now.

5. Does the UK Government need to do more to ensure that plastic waste is not exported and then managed unsustainably? If so, what steps should it take?

- 5.1. The UK is a signatory to the Basel Convention which prohibits the export of waste to developing countries if there is reason to believe the waste will not be managed in an environmentally sound manner. However, enforcement is inadequate and, at the same time as discussing new plans to ban the export of plastic, the UK is failing to live up to its existing international obligations that mean it already should not be exporting plastic that is not sustainably managed.
- 5.2. Polluting waste slips through our borders in two main ways: either accidentally as contamination, or deliberately as mislabelled or disguised waste. Contamination can easily occur when materials are not adequately kept separate or if the public accidentally mixes non-recyclables in with recycling. Fixing this will require addressing the longstanding problems – including inconsistency – of the UK recycling collection system.
- 5.3. Mislabelling or disguising waste is more malicious. So called ‘waste cowboys’ seeking to avoid the costs of properly disposing of waste in this country can misdescribe mixed waste as ‘green list’ waste – recyclable material that isn’t subject to prior authorisation from receiving countries. In some cases, a thin layer of green list material is added to the front of shipping containers to disguise the waste behind it.

- 5.4. But a poorly resourced Environment Agency in England is unable to carry out adequate checks in any case. Government funding to the EA to protect the environment was cut from £120 million in 2010 to £52 million in 2019, a 57 per cent drop. This has reduced the agency's capacity to carry out compliance checks - in 2016-17, for instance, the EA only conducted 124 compliance visits to recyclers and exporters against a target of 346. The figures for unannounced inspections are much more startlingly low: in 2017-18, it only carried out three, according to the National Audit Office.^{xi} To prevent contaminated and poorly sorted waste, the origin of much plastic pollution abroad, the Environment Agency needs adequate resources to regulate waste shipments.
- 5.5. With many countries following China's lead and banning or restricting imports of plastics as countries like the UK have failed to prevent contamination, it is also becoming increasingly challenging to find a country willing to take our plastic exports. This could drive increases in landfilling or incineration of plastic, as well as further crime like disguising or describing plastic as other material, again highlighting the need for adequate enforcement.
- 5.6. It also strengthens the case for redoubling efforts to reduce plastic waste generation in the first place and ensuring there is adequate UK infrastructure in place to handle the remainder. High quality, source separated material is needed for high quality recycled content. At the moment, downcycling to lower grade applications is common. Several government proposals could improve this in the UK, including standardising recycling systems across the country and the all-in deposit scheme, though the timelines for these reforms are slipping dangerously.

September 2021

ⁱ Green Alliance, 2020, *Fixing the system: why a circular economy for all materials is the only way to solve the plastic problem*

ⁱⁱ Ibid

ⁱⁱⁱ WRAP, *The UK Plastics Pact* <https://wrap.org.uk/taking-action/plastic-packaging/the-uk-plastics-pact>

^{iv} McKinsey, 2018, *How plastics waste recycling could transform the chemical industry* <https://www.mckinsey.com/industries/chemicals/our-insights/how-plastics-waste-recycling-could-transform-the-chemical-industry>

^v Green Alliance, 2020, op cit

^{vi} Defra, 2018, *A green future: our 25 year plan to improve the environment*

^{vii} Defra, 2021, *Extended producer responsibility for packaging: consultation document*

^{viii} Green Alliance, 2019, *Building a circular economy: how a new approach to infrastructure can put an end to waste*

^{ix} Green Alliance, 2020, op cit

^x Green Alliance, 2020, *Plastic promises: what the grocery sector is really doing about packaging*

^{xi} National Audit Office, 2018, *The packaging recycling obligations*