BB-REG-NET

Beyond the Label

UK Public Attitudes and Policy Gaps on Bio-Based, Biodegradable, and Compostable Packaging

Lead Author: Jen Vanderhoven*

Contributing Authors: Adrian Higson**, Alex Davies***

Organisation: BBIA*, Alder BioInsights**, Higginson Strategy***

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Executive Summary

Bio-based, biodegradable, and compostable materials play a vital role in reducing pollution and lowering carbon emissions. However, public awareness of these materials, and of the policies that govern their use and disposal, remains limited and inconsistent.

In August 2025, BB-REG-NET commissioned a nationally representative survey of 2,062 UK adults to explore public understanding, attitudes, and behaviours relating to these materials.

The findings reveal:

- High trust in packaging labels but low confidence in recycling outcomes
- Widespread confusion about the disposal of compostable materials
- Limited awareness of how such materials are produced
- A policy environment still tilted toward fossil-based plastics

Key Findings

The UK public is broadly motivated to act sustainably but constrained by confusion, inconsistent information, and structural gaps. While trust in packaging claims is high, that trust is not supported by a clear understanding of recycling outcomes—creating a disconnect that risks undermining confidence over time.

1. **Confidence in Labels vs. Knowledge of Outcomes**

- 58% agree that labelling makes it easy to know how to dispose of packaging.
- 55% trust recyclability claims, and 51% trust compostability claims.
- Yet only 22% say they know what happens to waste once collected, and fewer than half (48%) feel confident their recycling is actually recycled.

This transparency gap means consumers follow the rules, but the system does not reliably reward their efforts.

2. **Persistent Confusion Around Flexible Plastics**

Public understanding of soft or flexible plastics—such as crisp packets, bread bags, and pet-food pouches—is particularly weak:

- 45% incorrectly believe these materials can be recycled at the kerbside.
- In practice, very few local authorities collect flexible plastics this way.
- Most material deposited at supermarket drop-off points is ultimately incinerated.

Mixed messages on packaging and inconsistent collection schemes reinforce confusion even among sustainability-minded consumers.

3. **Uncertainty About Compostables**

Compostable packaging faces similar challenges:

- 40% believe compostable materials break down properly when collected with food waste, but 51% are unsure.
- Local policy variation adds to the confusion—some councils accept compostables in food waste bins, while others explicitly exclude them.

This inconsistency, combined with limited public education, undermines confidence in compostables as a credible environmental solution.

4. **The Trust–Intention–Behaviour Gap**

Environmental intent is high for the general public but not translating into consistent action:

- 53% say environmentally friendly packaging is important.
- 74% want the government to encourage compostable alternatives.
- Yet only 27% have intentionally purchased a compostable-packaged product in the past year.

Barriers cited include limited availability, unclear disposal options, and price sensitivity.

5. Implications for Policy and Industry

The results highlight the need for alignment between consumer messaging, waste infrastructure, and regulation.

Public willingness to engage with sustainable packaging is evident - but current systems fail to provide clear or credible outcomes, undermining public trust.

- Misleading labelling can drive incorrect disposal behaviours.
- Government policy, including the Plastic Packaging Tax and Recycling Assessment.

The current methodology still favours fossil-based “recyclable” plastics over renewable or compostable alternatives.

If this misalignment continues, consumer trust may erode further, slowing progress toward a circular, low-carbon packaging economy. Conversely, improved labelling standards, consistent collection systems, and policy support for bio-based, biodegradable and compostable materials could help turn public intent into measurable impact.

Conclusion

Consumer confusion and policy gaps reinforce one another:

- Product labels often instruct behaviours that waste systems cannot yet accommodate eroding trust through inconsistency.
- Government frameworks continue to privilege recycled fossil plastics over renewable options.

With UK-wide food waste collections due in 2026 and a new Circular Economy Growth Plan expected in early 2026, there is a pivotal opportunity to integrate bio-based, biodegradable, and compostable materials into national policy.

Success will depend on:

1. Consistent and clearer sector-wide labelling
2. Consistent collection routes
3. Regulatory recognition
4. Investment in composting infrastructure

These steps are essential to ensure that sustainable consumer actions produce real environmental benefits.

Introduction

Bio-based, biodegradable, and compostable materials represent a practical means of reducing pollution and carbon emissions. Unlike fossil-based plastics, which release carbon stored underground for millennia, bio-based materials release carbon that was recently absorbed by plants during growth, keeping the carbon cycle in balance.

In 2021, the UK Governments summary of responses to the call for evidence on '*Standards for bio-based, biodegradable, and compostable plastics'*, highlighted that '*bio-based, biodegradable, and compostable plastics are of increasing interest as a potential solution to some of the issues caused by plastic waste'*[1].

Since then, various current and anticipated government policies and industry initiatives, including but not limited to, The *UK's Modern Industrial Strategy 2025*[2], the *National Vision for Engineering Biology*[3], the *National Materials Innovation Strategy*, The *UK Packaging Pact*[4], the *Delivering a Net Zero National Health Service Strategy*[5] and the upcoming *Circular Economy Growth Plan*[6], all emphasise bio-based and biodegradable materials and products as being central to delivering economic and environmental benefits.

However, based on the findings of new independent research[7], tangible policy and legislative supports currently fall far short of enabling bio-based materials and product producers to achieve the Government's bio-based policy ambitions.

With UK plastic packaging recovery rates stagnating at ~50%[8], and particularly low recovery for films and small items, the case for bio-based alternatives is clear. One sector in clear need of improvement is the UK supermarkets, which use the most plastic packaging in Europe:

- 70% of food and drink items are wrapped in plastic.
- 87% of meat, 79% of breads, rice, and cereals, and 63% of vegetables are plastic-packaged[9].

Because most of this packaging is flexible plastic, recycling is rare and incineration common. Contamination makes recovery even harder. The *FlexCollect*[10] trial undertaken by 10 UK local authorities found that only clean film could be recycled, and infrastructure remains a "considerable barrier" to scaling flexible plastic reprocessing.

Certified compostable flexible plastics offer a scalable alternative. They can be processed with food and organic waste, diverting contaminated materials from landfill and incineration. When properly composted, they return biogenic carbon to the soil, closing the loop in a way conventional plastics cannot.

Yet our survey shows that most consumers remain confused about how to dispose of such materials and uncertain about what happens to their waste after collection.

Survey Methodology

BB-REG-NET commissioned Yonder to conduct an online survey of 2,062 UK Adults in August 2025.

Survey questions were designed to test:

- public understanding and trust in packaging labelling
- concerns and confusion around compostable materials and recycling systems
- consumer behaviour in relation to waste disposal
- consumer attitudes to, and understanding of, packaging feedstocks

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[1] DEFRA - Standards for bio-based, biodegradable, and compostable plastics Summary of responses to the call for evidence and Government Response.
[2] assets.publishing.service.gov.uk/media/68595e56db8e139f95652dc6/industrial_strategy_policy_paper.pdf
[3] National Vision for Engineering Biology
[4] UK Packaging Pact | WRAP - The Waste and Resources Action Programme
[5] delivering-a-net-zero-national-health-service.pdf
[6] Circular Economy Taskforce - GOV.UK
[7] bb-reg-net.org.uk/wp-content/uploads/2025/09/20250922-BB-REG-NET-Taxes-Paper.pdf
[8] UK statistics on waste - GOV.UK
[9] Retail Economics, *The Material Change Index: Unpacking the scale of plastic packaging and opportunities for change in European supermarkets*
[10] Flexible Plastic Fund, *The future of recycling flexible plastic packaging in the UK*, September 2025, p.80

Survey Outcomes

1. Labelling and Disposal

1.1 Leaning on Labels

Our survey of public perceptions around bio-based, biodegradable, and compostable materials shows strong consumer reliance on labelling but substantial uncertainty about what becomes of materials sent for recycling. A majority of people say on-pack labelling makes it easy to know how to dispose of packaging (58%), and there is substantial trust in claims to recyclability (55%) and compostability (51%).

1.2 Traditional Flexible Films

However, that confidence contrasts sharply with the reality of what happens to flexible plastics.

When asked how they dispose of items such as films and pet food pouches, respondents were divided between general waste (29%) and supermarket drop-off points (28%), revealing that even among engaged consumers there is no single, trusted disposal route for flexible packaging.

Notably, one in four respondents believed that flexible plastics could be recycled through household plastic collections, yet only a very small number of local authorities currently provide such services. Plastic films - particularly those contaminated with food - are generally unrecyclable[11].

Evidence from an Everyday Plastic tracker study of front-of-store schemes at two major supermarkets found that 70% of the flexible plastics that reached an identifiable end destination were burned rather than recycled[12]. Post-consumer flexible plastics are lightweight, often food-contaminated and variable in polymer type, all of which depress yield and value of post-consumer films. RECOUP emphasises that film needs to be “as clean as possible”, which is often impractical since films are frequently deployed in food contact applications where food will adhere to the packaging during use. Where recycling does occur, outputs are typically used for lower-value applications such as refuse sacks and damp-proof membranes, with no closed-loop back into food contact packaging[13].

Our data shows that people lean on labels, but they also lack knowledge of, and therefore confidence in, outcomes of recycling, with only 22% saying they know what happens once waste materials are collected for recycling. In short: the public do what labels ask of them, but the system does not yet consistently reward that effort.

1.3 Compostable Materials

In the case of compostable materials, consumer confusion shown by our data can be traced back to an ambivalence in public policy around these products and their proper collection and processing - in particular the refusal to mandate collection of compostable materials with food waste.

Responding to attempts to make collection of compostable materials with food waste a mandatory waste stream, during the passage of the Environment Bill in 2021, then Minister Lord Goldsmith expressed the (continuing) departmental view that:

‘Compostable packaging is not generally collected for recycling at present. In fact, it is frequently stripped out from food waste before processing to avoid cross-contamination or machine damage…If a plastic is genuinely compostable and not going to break down into small particles of plastic that will do even more harm, including it in food waste to compost would make perfect sense. However, we are not there yet from a technological point of view[14].’

When respondents were asked how they would dispose of items labelled “compostable”, responses were varied. A total of 42% indicated either garden waste (typically sent to industrial-scale

[11] See, for example, Recoup, *Household Packaging Collection* Survey, 2022 which states “materials that are generally considered difficult to recycle, or unrecyclable, include metallised packaging such as crisp packets and pet food pouches”
[12] S. Laville, ‘Most soft plastic collected for recycling is burned, campaigners say’, in *The Guardian*, 1 October 2024
[13] RECOUP, UK Household Plastic Packaging Collection Survey, 2022, p. 24
[14] HL Deb in *Hansard* 30 June 2021, col. 918

composting) or home composting, while only 22% selected food-waste collection routes (9% food waste and 13% mixed food and garden waste).
These findings highlight significant confusion around appropriate disposal routes for compostable materials. While the results suggest a need for clearer labelling and more consistent, well-publicised collection pathways if certified compostables are to realise their potential, this must be balanced against current guidance, which directs compostable items into residual waste. Without careful framing, attempts to clarify disposal could unintentionally reinforce requirements for compostables to be labelled "*do not recycle*" in order to avoid contamination and misunderstanding.

Public concern centres primarily on whether compostable items actually break down as claimed (45%), followed by uncertainty over correct disposal (31%) and cost (31%), underscoring the importance of coherent policy and consistent communications aligned with existing waste management practices.

2. Chemicals and Feedstocks

In today's world, "chemicals" often carry a negative connotation. But this widespread aversion to chemicals is rooted in misunderstanding. The reality is far more nuanced: chemicals are not only unavoidable, but they are also essential to life as we know it. Everything in the universe, from the air we breathe to the water we drink, is made of chemicals. Our bodies rely on countless chemical reactions to function, from metabolising food to carrying oxygen in our blood.

However, in recent years many every-day products have received a bad press owing to their "chemical content", but all the ingredients used in everything we use in modern society, whether natural or man-made, are chemicals. In fact, nature is the biggest producer of chemicals, and one of the most successful producers of natural poisons. Some of the deadliest substances on Earth are entirely natural, like botulinum toxin or ricin. On the other hand, synthetic chemicals, such as vaccines or certified biodegradable plastics, have transformed health outcomes and sustainability.

Our questions on chemicals and feedstocks point to a pattern of co-existing beliefs about "chemicals" that shape how people interpret packaging claims. Half of respondents agree that "everything we use is made of chemicals" (50%), yet almost as many say chemicals are "inherently harmful" (49%). Some 44% say they feel reassured by a "chemical-free" label.

The regulatory environment is now moving against such vague claims. UK advertising guidance now requires environmental statements to be specific, evidenced and contextualised; blanket labels such as "chemical-free" are at risk of being considered misleading because they are ambiguous and imply an absolute that cannot be substantiated. For brands, the lesson is to replace reassurance-seeking phrases with plain, testable statements about substance identity, safety standards, and end-of-life routes.

Manufactured chemicals are in everything we use in our daily lives – plastics, food, textiles, energy, batteries, defence products, mobile phones, and medicines. They are vital to our food security, the clothes we wear, heating our homes, national security, enabling communications, and delivering treatments for diseases.

Today, almost all chemicals are manufactured from fossil oil-and-gas[15], and are responsible for ~10% of global greenhouse gas (GHG) emissions[16]. On the other hand, bio-based and biodegradable chemicals and materials are derived from renewable biological resources like plants, algae, mycelium and organic waste – known as 'biomass', reducing dependence on fossil oil and gas[11].

The UK chemicals industry has an ambition. By 2050, it will have doubled in size whilst sourcing 30% of its carbon feedstock from biomass[2]. With the right support bio-based and biodegradable chemicals and materials have the potential to generate upwards of £204 billion annual revenue for the UK by 2050[17] and significantly contribute to the UK's Net Zero commitment. In addition, evidence has shown that starting with the adoption of just fifteen high-potential bio-based chemicals will

[15] The Royal Society: Catalysing change: Defossilising the chemical industry Policy Briefing - defossilising-chemical-industry-report.pdf (royalsociety.org)
[16] Innovate UK: Sustainable carbon ambition for the UK chemicals industry - Sustainable carbon ambition for the UK chemicals industry - Innovate UK Business Connect (ktn-uk.org)
[17] Data from reference no.2, extrapolated to 2050 at CAGR of 9% (Chemicals Global Market Report 2024, research and markets)

achieve more than 5.2 million-tonnes CO_2eq GHG-savings annually[18]. This is greater than the CO_2eq GHG-savings generated through the Road Traffic Fuel Obligation in 2021[19].

On feedstocks, our survey shows that the picture is one of consumer openness to bio-based and biodegradable alternatives but constrained by knowledge and price. Awareness that most plastic packaging is fossil-based is only at parity (49% agree; 48% unsure), and a slim majority say that knowing more about what packaging is made from would influence purchases (52%). This infers a sizeable group for whom origin transparency (fossil- or bio-based) could shift choices.

Price sensitivity is, however, the key determinant. Only 27% say they are prepared to pay more for bio-based packaging, but support for policy to close the gap is strong – with 64% agreeing government should provide incentives when renewable options cost more. The polling should steer policymakers toward measures that level the playing field between bio- and fossil-based material costs.

The communication challenge is to move beyond the generic framing of chemicals as inherently 'bad'. It is more credible to explain what a product is made from than to rely on "*free-from*" labels. If 52% say more knowledge of material origin would influence purchases, there is value in practical cues about origin alongside simple percentages (e.g. "minimum 85% bio-based content").

[18] DESNZ: Project contract PS22436 - Economic and climate benefits to the UK of an increased use of bio-based chemicals (RAF097/2223) 2024, unpublished
[19] HMG: The Renewable Transport Fuel Obligation – an essential guide Road Traffic Fuel Obligation https://assets.publishing.service.gov.uk/media/65a8113db2f3c60013e5d4ce/rtfo-essential-guide-2024.pdf

Conclusion

The UK government maintains an unduly cautious stance on compostable and biodegradable materials, with an increasing proportion of recycled content within traditional fossil-based plastics the apparent priority.

The Plastic Packaging Tax exempts plastics which are self-certified by their manufacturers as containing at least 30% recycled plastic but makes no provision for those which come entirely or substantially from renewable sources, or which can be composted at the end-of-life.

Under the Recycling Assessment Methodology (RAM) for EPR, compostable packaging, even when independently certified to the rigorous international standard BS EN 13432, are treated as not recyclable (RED).

Since RAM measures recyclability – and is feedstock agnostic – there is a perverse advantage for fossil derived traditional plastics over bio-based and compostable materials. Fossil materials self-certify recycled content while bio-based content is susceptible to independent third-party testing.

The fundamental challenge in making bio-based alternatives competitive with their fossil-based packaging counterparts is stark. Bio-based raw materials cost two to three times more to produce than fossil-based equivalents. This represents a significant economic barrier that current policy measures fail to bridge.

Recent BB-REG-NET[20] analysis of the impact of the Emissions Trading Scheme (ETS), Extended Producer Responsibility (EPR), and the Plastic Packaging Tax (PPT) schemes points to a policy misalignment with stated environmental goals[8]:

- The EPR scheme actually penalises bio-based alternatives by classifying materials like PLA as "hard to recycle". Under current plans this will result in a doubling of base EPR fees to ~£520 per tonne, effectively increasing production costs by ~20%.
- The PPT treats bio-based plastics in exactly the same way as virgin fossil plastics, while exempting fossil plastics with 30% recycled content - creating a perverse incentive against pure bio-based solutions.
- Under current policy proposals the extension of ETS to waste incineration offers the only meaningful advantage for bio-based plastic products, but makes little inroad into increasing cost competitiveness, particularly when EPR and PPT costs are applied to bio-based alternatives.
- The research concludes that even if bio-based products were exempted from all fees and charges (EPR, ETS, PPT) they would still be twice as expensive to produce on average than their fossil-based counterparts.

The hardest-to-recycle plastic packaging (films, single-use tableware, small sachets, certain types of pots, tubs and trays, fruit and vegetable labels) represent approximately 50% of total plastic packaging waste by volume. Yet they also have among the highest cost premiums for bio-based alternatives – effectively creating a 'policy-trap' in which solutions to the most environmentally problematic products face the greatest economic barriers.

Increasing Demand for Industrial Composting

If industrial composting is the intended end-of-life for compostable materials, but collections rarely accept it, citizens will default to a patchwork of routes, as our data shows. Yet recent enforcement, such as the Advertising Standard Agency's action against "compostable" claims on coffee pods could drive demand for the effective industrial composting facilities British consumers need to deal with compostable materials properly[21]. WRAP's latest guidance reflects this nuance: saying 'compostables have real potential when well-designed, clearly labelled and supported by the right infrastructure[22].

[20] Home - BB-REG-NET
[21] ASA ruling on Lavazza Coffee Ltd (UK), April 2025
[22] WRAP, Considerations for compostable packaging, June 2025

Against this backdrop, our respondents' concerns are pragmatic rather than ideological. BB-REG-NET therefore sees significant opportunities ahead with widespread public support for compostable materials, a market for them to replace (in particular, food contaminated) traditional plastics and a clear consumer desire to dispose of them effectively.

With UK-wide household food waste collections mandated by 2026 and the Circular Economy Strategy set for publication this autumn, the organisation believes there is scope for compostable solutions to become a proper part of the country's waste strategy, if supported by appropriate regulatory change and infrastructure investment.

Appendix

Table 1

We'd like you to think about the packaging the products you buy come in, how you dispose of the packaging, and where you think it goes once collected. To what extent, if at all, do you agree or disagree with the following statements?

Statement	NET: Agree	NET: Disagree	Neutral / Don't know
Labelling on packaging makes it easy to know how to dispose of it	58%	18%	24%
I know what happens to my waste and recycling once it is collected by the council	22%	46%	32%
I am confident that most of what I put in my recycling bin is actually recycled	48%	22%	30%
I believe that soft flexible plastics (e.g. crisp packets, bread bags) can be recycled	45%	26%	29%
I think compostable packaging breaks down properly when collected with food waste	40%	9%	51%
I trust companies when they claim their packaging is recyclable	55%	14%	31%
I trust companies when they claim their packaging is compostable	51%	14%	35%
The UK government should encourage the use of compostable packaging	74%	4%	22%
It is important to me that I can find products packaged in the most environmentally friendly way	53%	14%	33%
In the past 12 months, I have intentionally purchased products that come in compostable packaging	27%	38%	35%

Table 2

How do you think you should dispose of products labelled as compostable?

Disposal Method	Response
In my home composting bin	26%
With garden waste	16%
With mixed food and garden waste	13%
With household recycling for plastics	10%
With food waste	9%
In a separate dedicated bin	8%
With general waste	6%
Supermarket collection points in store	2%
Don't know	9%

Table 3

Packaging made from compostable materials is able to be broken down into carbon dioxide, water, and biomass within a specific timeframe under specific conditions. What concerns, if any, do you have about compostable packaging? (Tick all that apply)"

Concern	%
It may not actually degrade as claimed	45%
I don't know how to dispose of it properly	31%
It's more expensive	31%
No concerns	23%
Other (please specify)See below	2%

Summary of 'other' responses

"It takes a long time to break down in cold compost bins."

"My local authority doesn't collect this type of packaging separately and they don't appear to run their recycling scheme well, so I have no confidence in them."

"Microplastics."

"It will degrade too soon and leak."

"Lack of clear labelling makes it hard to know whether an item is home-compostable or requires industrial composting."

"Each council has different recycling abilities, needs to be implementable UK wide"

"It may be biodegradable technically, but how long does it take to biodegrade? If it takes 5 years, it's not really biodegradable in the truest sense as I couldn't put it on the compost bin."

Table 4

“Which waste bin do you think flexible plastic films such as bread bags and pet food pouches should go in?”

Disposal Method	Total
With general waste	29%
Supermarket collection points in store	28%
With household recycling for plastics	24%
In a separate dedicated bin	7%
With food waste	2%
With mixed food and garden waste	1%
In my home composting bin	1%
With garden waste	1%
Don’t know	7%

Table 5

To what extent, if at all, do you agree or disagree with the following statements?

Statement	NET: Agree	NET: Disagree	Neutral / Don't know
Everything we use is made of chemicals	50%	14%	36%
I feel reassured when a product is labelled ‘chemical free’	44%	16%	40%
Chemicals are inherently harmful	49%	20%	31%
Most plastic packaging is made from fossil fuels (e.g. oil, gas)	49%	3%	48%
Knowing more about what packaging is made from would influence my buying decisions	52%	17%	31%
I am prepared to pay more for packaging that is made from renewable sources (e.g. plants) and not fossil fuels.	27%	39%	34%
If packaging made from renewable sources (e.g. plants) is more expensive than fossil-based, then the government should provide financial incentives for me to do the right thing.	64%	8%	28%

Full data tables including demographic and regional splits are available on request.