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FAST FASHION'S PLASTIC PROBLEM

Sustainability and material usage in online fashion

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60 SECOND SUMMARY

- 1 Fast fashion is awash with new plastics – with as much as 88% of recently listed items containing new plastics on some websites.
- 2 Online stores have been slow to adopt recycled materials in their clothing – for some stores just 1% of items contain recycled materials.
- 3 Fast fashion shoppers may not be aware of the amount of plastics they are buying. Previous RSA research suggests just half of those who shop at fast fashion websites say they regularly buy clothes containing synthetic materials, despite plastics being highly prevalent in online stores.
- 4 These companies are ‘greenwashing’ their images by producing small sustainable ranges, while the bulk of their output is still made from petrochemicals.
- 5 Some companies have a mountain to climb if they are to meet their own sustainability targets: Boohoo has made a commitment to using 100 percent sustainable materials by 2025, but 60 percent of its recently listed items are entirely made from virgin plastics.

BACKGROUND

Over the past few decades, fast fashion has boomed. We now buy more clothing than we ever have. The way we shop has changed dramatically too, and what was once the domain of the high street has shifted online with new companies and brands overtaking, and even buying up, traditional players in the industry.

This meteoric growth has not come without issues. Fast fashion brands have come under fire for their poor social and environmental records, and dire working conditions have been exposed in the UK and further afield. The extraordinary impact of today’s fashion industry across waste, water, soil and air pollution is well documented.

This briefing highlights a challenge that is still little known amongst the public – the scale of plastic use within fast fashion. Synthetic fibres, such as polyester, nylon, elastane and acrylic, are made using fossil fuels, and the use of these fibres in fashion has dramatically increased in recent years, doubling between 2000 and 2020. These cheap fabrics have fuelled the explosion of fast, throwaway fashion. Production of synthetic fibres uses large amounts of energy, and are part of a petrochemical industry which is fuelling climate change.

We’ve analysed 10,000 items of clothing from across some of the UK’s leading online fast fashion brands, to shed some light on what goes into the clothes we wear. Looking at over 2,500 recently-added items each from



Asos, Boohoo, Missguided and PrettyLittleThing, we've found that the average item is at least half plastic, and that as many as 88 percent of the items listed on some websites contain 'virgin' plastics. Recycled materials are only found in a vanishingly small number of products, despite retailers making big promises to shift toward sustainable materials.

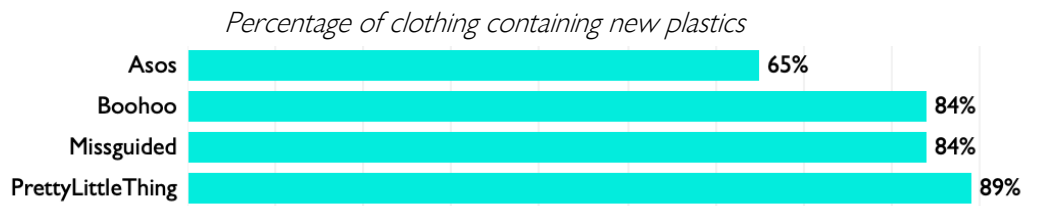
At the RSA we've been working on the impacts of fast fashion, and plastics, for some time. As part of our Regenerative Futures programme, we aim to show how the fashion system can be a source of health for people and ecosystems and are working on experimental projects which exemplify how this different future could look, act and feel. This has included supporting young design talent to design for a circular economy and working with pioneering small and medium-sized businesses, across manufacturing, marketing and design, to increase their collective influence within fashion.

KEY FINDINGS

In May of 2021, we analysed over 10,000 recently added items from across some of the UK's leading women's 'fast fashion' websites, balanced to represent different product categories.¹ We found:

1. Fast fashion is awash with new plastics

The vast majority of items listed on these websites contain fabrics derived from petrochemicals, such as Polyester, Acrylic, Nylon and Polyamide. On average, **80 percent** of items listed on our fast fashion websites contain new plastics – rising to 89% for PrettyLittleThing.



Asos fares somewhat better than its competitors on how much new plastic goes into its clothing – listing fewer items containing plastics, and having a lower average plastic content per item.

Looking at what proportion of clothes are *entirely* made from plastic, Boohoo and PrettyLittleThing continue to fare poorly - 60 percent of items recently listed on Boohoo are exclusively made from virgin plastics. On average, an astonishing **49 percent** of clothes listed on these websites are wholly produced from new petrochemicals.

¹ See page 8 for a full methodology.



Percentage of clothing entirely made from new plastics



The data also allows us to estimate how much plastic, recycled and non-recycled, goes into the average item listed on each website. Across these four brands, new products are on average **61 percent** plastic.

Estimated average plastic content per item



With dresses being sold for little as £5, and Asos and Boohoo both posting [billion-pounding revenues](#), it's not difficult to imagine the volume of plastic being created by the fast fashion industry. Online shopping has boomed during the pandemic – Boohoo Group's [sales increased by 41 percent](#) over the last financial year.

Synthetic textiles are creating significant environmental damage in terms of emissions and waste. An MIT study found that the [average polyester shirt produces 5.5kg of CO₂](#), 20 percent more than its cotton equivalent, and the same emissions as driving 13 miles in a passenger car. In 2015, polyester production was responsible for 700 million tonnes of CO₂, the equivalent of the annual carbon emissions of Germany.

Deficiencies in the UK's recycling system means that a large majority of this plastic will likely end up in landfill. Some of it will reach our environment before then: petroleum-derived fabrics make up a large amount of the trillions of microfibres that are showing up in our rivers, oceans and food systems – a recent study found that an average 6kg wash releases [half a million fibres from polyester fabrics, or 700,000 from acrylic](#).

In the fight against climate change, oil and gas production needs to be curtailed, but petrochemical companies are banking on increasing demand for plastics, including synthetic textiles, as other uses for oil decline.



2. A small fraction of fast fashion is made from recycled materials

These websites have paid lip-service to becoming more sustainable – but the amount of recycled fabrics used in their clothing remains vanishingly small.

Percentage of clothing containing recycled materials

Asos	4%
Boohoo	2%
Missguided	5%
PrettyLittleThing	1%
Average	3.0%

This trend continues when we look specifically at recycled plastics. Boohoo and PrettyLittleThing, which share a parent company, are again the worst offenders here – for every garment produced that contains recycled plastics, scores are produced from entirely new petrochemicals. Across all websites, we found items that contain both recycled and virgin plastics, which still add ‘recycled’ to the product’s title.

Percentage of plastic-containing clothing that use recycled plastics

Asos	6%
Boohoo	2%
Missguided	4%
PrettyLittleThing	1%
Average	3.2%

3. Fast fashion shoppers may not be aware of the extent of how much plastic goes into their clothing

[RSA research](#) from earlier this year shows that there is an ‘awareness gap’ when it comes to how much plastic goes into our clothing.

Just 49 percent of those who regularly buy fast fashion admit to buying clothing that contain synthetic materials, despite our research showing that as much as 88 percent of the products listed on some websites contain virgin plastics. Young people – the target market for these websites - are marginally less likely to feel like plastics are a problem in fashion (66 percent, vs 76 percent for the population as a whole).

The public as a whole (76 percent) want to see fewer plastics and petrochemicals used in the production of clothing, and 67 percent say that they try to reduce the amount of plastic they use in their day to day lives. Whether this can extend to their clothes-buying habits remains to be seen.



4. Fast fashion companies continue to flaunt their 'eco' credentials in their marketing

Following trends across the industry, these companies focus on their sustainable ranges in their advertising and feature them prominently on their websites, despite making up a small fraction of the overall number of products that they list.

These small, high-visibility sustainable ranges could even be seen as examples of 'greenwashing', misleading the public as to the full environmental impact of fast fashion. Whether these environmentally-friendly ranges can be scaled across websites at large, and make real change to the production and afterlife of products, remains to be seen.

5. Fast fashion companies risk failing to meet their own sustainability targets

Boohoo has set itself a target of using 100 percent recycled or 'more sustainable' polyester by 2025. With that date looming, it has a mountain to climb. PrettyLittleThing's sustainability page is more focused on what consumers can do to reduce plastic waste, rather than specific commitments from the company itself.

Asos has made incremental steps towards sustainability, and is a signatory of the Global Fashion Agenda's call for a circular fashion economy. It has made some progress toward this, such as the creation of its 'marketplace' for second-hand clothing, and rolling out a doorstep recycling scheme. The retailer has committed to phasing out plastic packaging by 2025. Our research shows that while they are not the worst offenders in terms of sustainability, there is still more to be done to reduce the amount of virgin plastic that goes into their clothing.

A 2019 enquiry found that Boohoo and Missguided [are among the least sustainable companies in the entire UK fashion industry](#). We were unable to find clear environmental figures or targets from the latter. Our results show that little has changed since then: despite growing public scrutiny of the environmental impacts of fast fashion, and the conditions clothes are produced under, these companies have been slow to change.

NEXT STEPS

Action is needed at all levels to reduce the amount of plastic going into our clothing, and to create a sustainable, circular fashion system:

1. **The government** should explore a per-item 'plastics tax' on clothing imported into or produced in the UK containing virgin plastics, in order to disincentivise the extraction of fossil-fuels destined to become clothing. Income from the tax could be used to invest in new innovations in biomaterials and circular economy infrastructure. The government should further introduce Extended Producer Responsibility commitments, which are currently being discussed in a Defra consultation. They should explore routes



for supporting businesses which take steps towards circular economy business models, such as reviewing VAT rates on repair services.

2. **Fast fashion brands** should explore new ways to promote second-hand clothing following the model of Depop and Asos' 'marketplace', alongside different business models, such as rental and repair services. They should regularly publish statistics on how much plastic goes into their clothing, as part of greater transparency reporting about their social and environmental impacts and commitments.
3. **Consumers** should think differently about their clothing and commit to buying less and buying better – shopping for more durable garments, making fewer impulse purchases as well as sharing, repairing and caring for their current clothing.

We are not calling for the eradication of all new plastic from clothing – durable synthetic fibres may form part of a future circular fashion system. But cheap, throwaway items, likely destined for landfill, are harming the environment. We hope that these findings shed some light on the extent of fast fashion's plastic problem, and that real change is possible – at all levels of the fashion industry.

For more information, please contact Josie Warden, josie.warden@rsa.org.uk.



Methodology:

Data was collected from the websites of Asos, Boohoo, Missguided and PrettyLittleThing between the 11th-29th of May. The study looked recently added women's items, to provide a snapshot of current clothes production. In order to maintain a representative sample, data was balanced to reflect the relative sizes of different product categories across the website, avoiding sub-categories or categories with high levels of cross-categorisation (e.g. we looked at 'jeans' rather than 'denim'). Information on the composition of clothes was taken from publicly available descriptions on each website. This study looked exclusively at women's clothing, with accessories, footwear, homeware and other items sold by these websites excluded.

Any fabrics not labelled as recycled were assumed to be virgin materials. For the minority of items consisting of smaller elements of different materials, the 'main' element was presumed to account for almost all of the fabric used, with any additional components accounting for 1 percent of the item. For items with separate and significant components, the composition was calculated proportionally – see the below table for examples.

<i>Item</i>	<i>Composition</i>	<i>Estimated Plastic Content</i>
<i>T-shirt</i>	<i>'79% cotton, 21% polyester'</i>	<i>21%</i>
<i>Coat</i>	<i>'Body: 100% cotton, lining: 100% polyester, cuffs: 100% elastane'</i>	<i>2%</i>
<i>Tracksuit</i>	<i>'top: 60% cotton, 40% polyester; bottoms: 80% cotton, 20% polyester'</i>	<i>30%</i>

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