

Fashion's Plastic Paralysis

How Brands Resist Change
and Fuel Microplastic Pollution



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Executive summary

International fashion brands are doubling down on their use of synthetic fibres - a key driver of microplastic pollution - while employing distraction and delay tactics to protect their fast fashion business model. This report uncovers the industry's lacklustre support for meaningful legislation and underscores the urgent need for strong action from regulators, as half-hearted measures will only allow the fast fashion cycle to continue. Three years on from our first survey (*Synthetics Anonymous: fashion brands' addiction to fossil fuels*), this report evaluates 50 major fashion brands, with a combined market capitalisation of over \$1 trillion,¹ on their use of synthetic fibres and their policies and strategies to address microplastic pollution.

Synthetic fibres derived from fossil fuels and have become the dominant choice for both the fashion and wider textile industries. They account for over two-thirds (69%) of textile production, a figure projected to rise to 73% by 2030.² Our 2021 investigation into more than 4,000 clothing items by global fashion brands revealed that 67% contained synthetic materials. The versatility and affordability of synthetic fibres - particularly polyester, which costs half as much per kilogram as cotton - have enabled fashion brands to saturate the market with cheap clothing, fuelling the cycle of consumption

and disposal known as fast fashion. However, this addiction to synthetics comes at a steep environmental cost, significantly contributing to waste and plastic pollution while keeping the fashion industry tethered to fossil fuels. Polyester is the most widely used synthetic fibre in the fashion industry and has the largest climate footprint, accounting for 125 million tonnes of CO₂e emissions in 2022 alone.³

Synthetic clothing is also a substantial cause of global plastic pollution. The apparel industry generated 8.3 million tonnes of plastic pollution in 2019, 14% of the total from all sectors.⁴ This is also leading to potentially significant, yet not fully understood health issues. Investigations have found microplastics in various human tissues and fluids, including lung tissue, stool, stomach contents, unborn babies' placentas,⁵ brain tissue⁶ and penises.⁷ Microplastics from textiles like nylon and polyester have been linked to impaired lung tissue repair, worsened lung damage from conditions such as Covid-19⁸ and chronic inflammation.⁹ This inflammation is known to contribute to diseases like cancer, heart disease, asthma, and diabetes, as well as intestinal issues and irritable bowel disease. Microscopic plastic particles in blood vessels are also connected to a heightened risk of stroke, heart attack and premature death.¹⁰

This investigation

In April 2024, the Changing Markets Foundation and its partners - Clean Clothes Campaign, Fashion Revolution, No Plastic in My Sea and the Plastic Soup Foundation - wrote to 50 global clothing brands and retailers via email. Our questionnaire requested disclosure on several topics, including use of synthetic fibres, commitments to phase out synthetics fibres, policies to address microfibre release, and company position on elements of the legislation proposed in the EU Textiles Strategy and the global plastic pollution treaty. Where appropriate, brands and retailers

were classified into four categories: *leading the shift*, *could do better*, *trailing behind* and *red zone*.

The results, along with secondary research, reveal that despite growing evidence highlighting the environmental and health risks, fashion brands are increasingly relying on synthetic fibres, with most either ramping up their usage or concealing the true scale of their dependency. They are employing tactics similar to those used by the fossil fuel industry - denying the severity of plastic pollution, distracting the public and regulators with false solutions and actively stalling meaningful efforts to address it, particularly in the case of microplastic pollution.

Fashion brands doubling down or covering up their dependency on synthetics






- The level of corporate secrecy has more than tripled since our surveys began in 2021. More than half the companies (54%, 27 brands) failed to respond to the survey in part or full, compared to 44% in 2022 and 17% in 2021. Companies are keeping their true dependency on synthetics under wraps.
- Only two companies (4%) achieved our top category, 'leading the shift'. Reformation has committed to phase out virgin synthetics by 2030 and reduce all synthetics (virgin and recycled) to less than 1% of total sourcing by 2025, with synthetics currently comprising 2.56% of its materials. Hugo Boss plans to eliminate polyester and polyamide by 2030, but the 143% increase in its use of synthetic materials from 2020 to 2023 calls this commitment into question. To remain in the top category, Hugo Boss must establish clear milestones and show steady progress towards reducing its reliance on synthetics.
- Nearly all (45 out of 50) companies remained in the lowest two categories: 'trailing behind', marked by limited transparency and a heavy or increasing

reliance on synthetics, and the ‘red zone’, defined by minimal or no transparency. The 29 companies in the red zone included a mix of fast fashion, sports and luxury brands, department stores and companies that tout their sustainability, including Patagonia, Adidas, Boohoo, Burberry, LVMH, Shein and Walmart.

- Shein had the highest share of synthetic fibres within its total garment production portfolio at 82% (the company did not disclose its percentages in 2022). Boohoo was the second highest user at 69% (compared to 64% in 2022) of total fibres used, followed by Lululemon at 67% (up from 62% in 2022), Aldi at 60% (2022: n/a) and New Look at 56% (down from 60% in 2021).
- Inditex disclosed the highest use of synthetics by volume at 212,886 tonnes in 2023, a significant increase from 178,030 tonnes in the 2022 survey. However, Shein did not disclose its total volume; given that in 2022 Shein overtook H&M and Inditex to capture a fifth of the global fast fashion market, it is highly likely that it is also the highest user of synthetics by volume.¹¹ Nike also failed to give its total synthetics volume, but disclosed a substantial volume of polyester.
- Discouragingly, since the publication of our first survey, around half of the companies (11/23) that responded have increased their use of synthetics. Five maintained their use of synthetics with insubstantial fluctuations, and only three companies decreased it. Four companies left this section blank. Coupled with the remaining 27 companies that didn't respond to the survey, this shows a disturbing lack of transparency. Given that synthetic fibres are projected to reach 73% of textile production by 2030, it is likely that most of these brands are expanding their use of synthetics.¹²
- Four brands that promised to reduce their use of synthetics in 2022 actually expanded their synthetic share or volume from 2022 to 2024: C&A (increased synthetics by 4% as a percentage of its total fibre mix), Esprit (raised its total synthetic volume by 15%, increased the polyester share in the total fibre mix by 33%), Inditex (increased synthetic volume by 20% and the polyester

share by 26%) and Reformation (increased synthetic volume by 61%). Many other brands could be quietly increasing their reliance on synthetics despite pledges to reduce them, but fail to provide this level of transparency.

- Nearly half of the brands that responded (11/23, 47%) said they plan to decrease their use of synthetics in future, up from 27% in our 2022 survey: Asda, Benetton Group, C&A, Esprit, G-Star Raw, Hugo Boss, Inditex, Mango, Reformation, Sainsbury's, and Tesco. Considering the broken promises outlined above, these commitments should be taken with a grain of salt. Primark disclosed plans to increase its use of synthetics in the future.

Top ten users of synthetics by volume		Top ten users of synthetics as a percentage of total fibre mix	
Brand	Tonnes of synthetics/year	Brand	Synthetics as % of total fibre used
Shein	?*		
INDITEX	212,89	SHEIN	81.70%
PVH	36,28	boohoo	68.59%
	25,62	 lululemon	67%
MANGO	22,58	 ALDI	56.90%**
 ASDA George	15,17	NEW LOOK	56%
TESCO	13,57	MANGO	43.94%
boohoo	9,63	PRIMARK	43%
Sainsbury's	7,79	bon prix	42%
	6,99	LINDTX	39% ¹³
NEW LOOK	6,58	INDITEX	38%

*Shein didn't disclose volumes, but given its dominance in the fast fashion market and 81.7% synthetic fiber portfolio, it likely ranks first.

Delay and distract: Mimicking tactics from the tobacco and fossil fuel industries

The fashion industry is using tactics from the playbook of sectors such as tobacco and fossil fuels to delay and distract from meaningful transformation.

Corporate playbook tactic 1: Delaying action by inflating scientific uncertainty and relying on weak voluntary initiatives

A substantial body of scientific evidence points to the immense risks of microplastic pollution to the environment and human health. In response to our question on microplastics, 15 out of 17 companies (88%) acknowledged that microplastics from synthetic fibres create environmental problems. Yet most have found convenient ways to delay meaningful action:

- Around a third (8 out of 23; 34%) cited the need for further research as a reason to postpone action, showing their reluctance to acknowledge the mounting scientific consensus.
- Six companies - Inditex, Dressmann's parent company Varner, Primark, PVH, Tesco and Zalando - cited a need for standardised methods to measure microfibre release and more research on the impacts, even though The Microfibre Consortium (TMC) developed a standard test method to quantify fibre loss from fabrics in 2021.¹⁴

Instead of developing specific and time-bound policies and strategies, many brands use a common smokescreen tactic to address microplastic pollution: joining industry-created sustainability initiatives such as TMC, Fashion For Good, ZDHC and the Japan Clean Ocean Material Alliance.

- For 16 out of 50 companies (32%), such memberships were their only strategy to address microfibres, even though simply signing up doesn't ensure any meaningful action against microfibre pollution.
- Significantly, 21 out of 50 brands (42%) were signatories of TMC, which positions itself as a leading initiative in addressing microfibre pollution. The initiative downplays the risks of microplastics, treating them as no more harmful than natural fibres, which allows signatory brands to maintain the status quo while appearing proactive. For example, none of its signatories are actively phasing out synthetics to address microplastic release. 18 signatories (including Adidas, H&M Group, Nike and VF Corp) fall into the 'trailing behind' category when assessed on their strategy on microfibre pollution, and 12 in the 'red zone' for their lack of transparency on synthetic usage. Signatory Lululemon was one of the most pervasive users of synthetics, which represented 67% of its total fibre mix. For many, TMC membership acts as a convenient front - an attempt to deflect scrutiny by associating with a high-profile initiative without implementing real changes in their practices.

Corporate playbook tactic 2: Distract with false solutions and greenwashing

Shifting the narrative by downplaying the negative impacts

The industry is trying to shift the narrative away from the plastic problem by arguing that all microfibres, regardless of their source, are equally problematic - contrary to scientific findings that specifically highlight the dangers posed by microplastics. TMC has channelled funding into research suggesting that microfibre pollution predominantly arises from natural fibres like cotton and wool rather than synthetics, using this as an argument against focusing on synthetics. The initiative claims that "microfiber pollution should no longer be a microplastic-only debate" and such a perspective is "simplistic, and ignores the evidence".¹⁵ However, scientific findings

show that, among microfibres, microplastics pose the greatest threat to the environment and human health. These arguments are tactics by the fashion industry to distract policymakers from its contribution to plastic pollution.

Shifting the responsibility to consumers

The second most common strategy was offering consumers guidance on garment care and recommending the installation of washing machine filters to prevent microplastics from clothes entering the environment. This approach not only passes the baton to consumers, allowing brands to wash their hands of any accountability, but also focuses on cleaning up the aftermath rather than preventing the problem at its source.

Most companies (44/50, 88%) remained in the bottom two categories with regards to addressing microfibre pollution, with 22 (44%) landing in the bottom 'Red Zone' for having no public-facing policies on microfibres or simply offering consumer guidance and recommending the installation of filters on washing machines. This group included Abercrombie & Fitch, Asos, Benetton Group, Burberry, Dressmann, LVMH, Reebok, Shein, Sweaty Betty and Zalando.

Downcycling plastic bottles to clothes

Fashion brands often present shifting from virgin to recycled polyester as their key strategy for addressing synthetic fibre reliance. However, Textiles Exchange, an industry body representing over 800 brands, and the beverage industry¹⁶ has criticised this approach as ineffective and misleading.¹⁷ Recycled polyester, which is almost exclusively made from plastic bottles (99%),¹⁸ disrupts the bottle-to-bottle recycling loop. Garments produced from these bottles cannot be effectively recycled back into the same quality material due to limitations in textile recycling technologies

and are more likely to end up in landfills or be incinerated. This strategy also does nothing to address microplastic pollution and waste problems.

Still, brands and retailers remain blinkered on this strategy, with 82% (41/50) of companies pledging only to reduce their reliance on virgin synthetics rather than reduce or phase out all plastics.

Weak industry support for regulation

Fashion has long been one of the most unregulated sectors, heavily relying on voluntary initiatives, labels and certifications. Now for the first time, governments worldwide are beginning to develop regulation, signalling a critical moment for the industry to embrace genuine sustainability. While these new laws could drive real change, poorly designed regulations might end up stalling progress and extending the era of fast fashion.

The 2022 EU Textiles Strategy, for example, outlined the European Commission's plans to tackle synthetic fibre pollution across various life-cycle stages through prevention and reduction measures. This included a commitment to a "Commission initiative to address the unintentional release of microplastics into the environment," slated for presentation in 2022.¹⁹ However, the European Commission has since scaled back its ambition²⁰ and reduced the initiative to a brief brochure with just two pages dedicated to addressing microplastics from textiles.²¹

The new life-cycle assessment tool known as the Product Environmental Footprint (PEF) is supposed to help guide the EU's upcoming anti-greenwashing law. Unfortunately, it fails to adequately account for microplastic pollution and various other environmental issues linked with synthetic fibres. This gap could lead to misleading outcomes where synthetic garments appear more environmentally friendly than

those made from, for example, organic cotton. Such loopholes might even allow fast fashion brands to legally promote their products as 'green'.

Our survey explored where brands stand on upcoming EU legislation and the global plastic pollution treaty, especially regarding microplastic pollution from textiles. Only 5 out of 22 companies (22%) that answered this section of the questionnaire said they were in favour of all the measures listed. The most significant backing was for including microplastic emissions as an environmental performance indicator in the PEF. However, most brands failed to back their support with public policy statements or other concrete evidence. Notably, Inditex, the largest EU retailer, opposed all areas except the inclusion of microplastic emissions in the PEF.

This tepid response suggests that many brands are employing yet another delay tactic. Their weak support for legislation indicates a preference for maintaining the status quo rather than embracing meaningful change.

What is needed for meaningful change in the industry?

To drive meaningful change towards responsible and ethical fashion, the industry must confront the undeniable links between synthetic fibres and the environmental and human health risks of (micro)plastic pollution and climate change. This investigation shows that instead of tackling this problem head on, the industry is not only showing little progress in changing its policies, but also actively employing distract and delay tactics, ranging from false solutions to downplaying the negative impacts of microplastic pollution. Low support for legislation that would change the playing field indicates that many brands are trapped in preserving the status quo and are keen to continue the fast fashion business model that is so intrinsically linked with plastic fibres and continued reliance on fossil fuels.

The fashion industry stands at a critical crossroads. In the EU, the sector is facing regulatory measures that would address its environmental impacts for the first time. However, the level of ambition of the upcoming legislation remains to be seen and it is concerning that the industry is showing low levels of support. Meaningful change will require strong measures that decouple the sector from its continued reliance on fossil fuels and generation of large volumes of plastic waste. Although the EU Textiles Strategy acknowledged that “fast fashion is linked to the growing use of fossil-fuel based synthetic fibres” and “shifting to more sustainable business models will reduce both the dependency of clothing producers on fossil fuels and their impacts on climate change and microplastic pollution,”²² the Commission has yet to outline measures to effectively address microplastic pollution and the use of synthetic fibres.

Detailed policy and brand recommendations are presented at the end of the report.



1. Background: Fashion's addiction to synthetic fibres

The surge in synthetic fibre production over the past few decades has been central to the growth of fast fashion. At the heart of this relationship lies polyester, the most prevalent synthetic fibre that has become the cornerstone of mass-produced, disposable fashion. At half the price of cotton per kilo (see Figure 1), its affordability has allowed fashion brands to flood the market with cheap clothing, fuelling the cycle of consumption and disposal. Since the early 2000s, the rise of polyester has led to a doubling in production within the fashion industry. Polyester represents a large majority of current and future growth in fibre production and now accounts for over half (56%) of all textiles.²³ Ultra-fast fashion brands that have gained a significant market share in recent years are especially dependent on this cheap fibre, which represents 76% of the fibre mix for Shein.²⁴

Polyester is the cheapest fibre (fibre prices in September 2023)

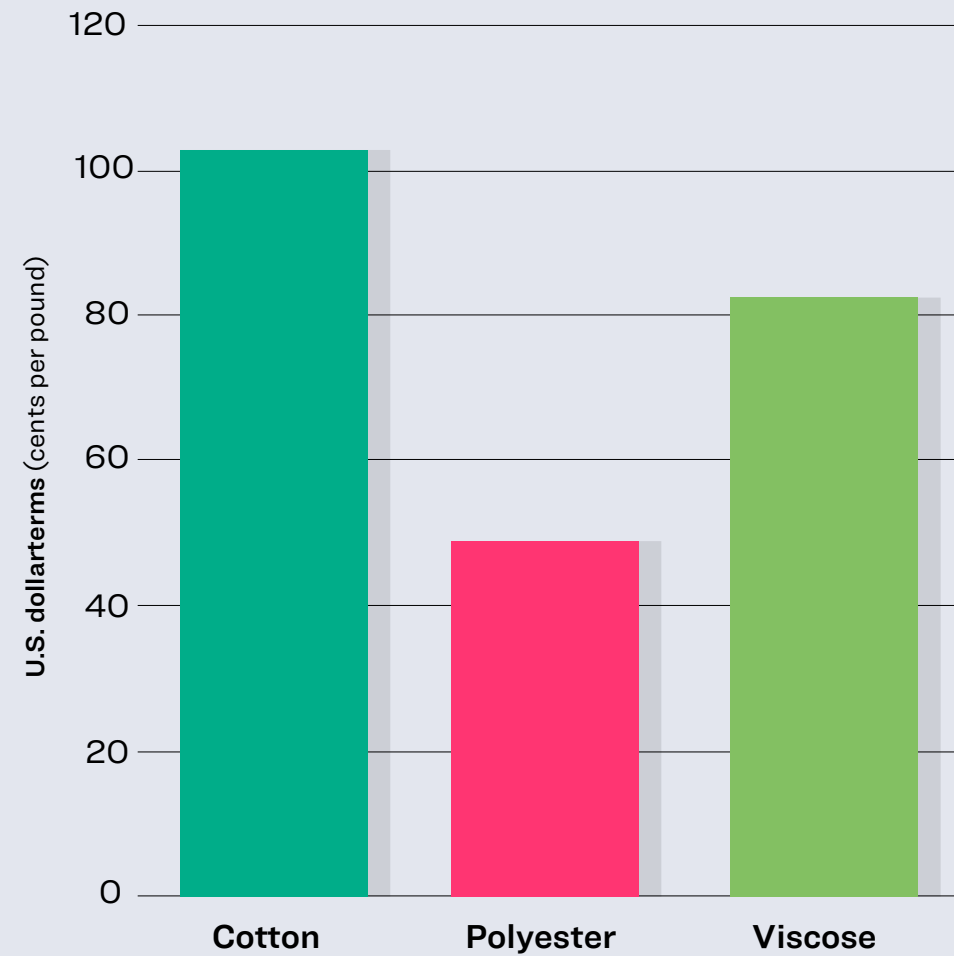


Figure 1: Fibre prices in September 2023

Source: CNCE, ZCE, Oanda, and S&P Global Comodity Insights.

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More broadly, synthetic fibres dominate the market, constituting over two-thirds (69%) of textiles, a figure projected to climb to 73% by 2030.²⁵ Fashion's overreliance on synthetics has profound consequences for the environment, as it contributes significantly to waste and plastic pollution, while perpetuating industry's reliance on fossil fuels.

Figure 2: Fast fashion and the rise of polyester

Source: Tecnonon Orbichem

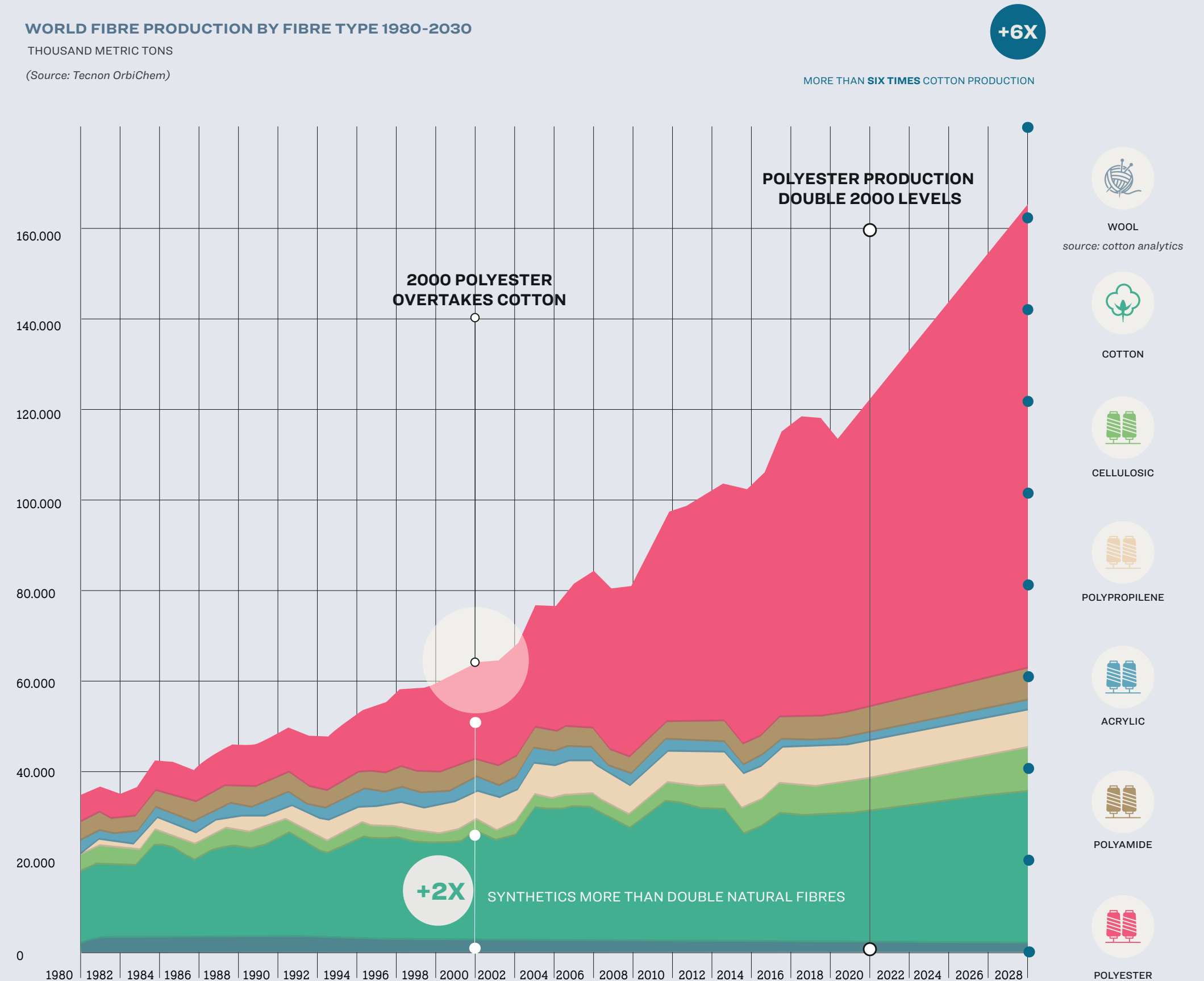
FAST FASHION AND THE RISE OF POLYESTER

THE MAJORITY OF FIBRE PRODUCTION IS SYNTHETIC AND COMES FROM FOSSIL FUELS

WORLD FIBRE PRODUCTION BY FIBRE TYPE 1980-2030

THOUSAND METRIC TONS

(Source: Tecnon Orbichem)



Synthetics are derived from fossil fuels like oil and gas, driving climate disruption while also funding totalitarian regimes and wars. Our 2022 report, *Dressed to Kill: Fashion brands' hidden links to Russian oil in a time of war*,²⁶ revealed troubling links between polyester from major fashion companies and controversial sources, including Russian oil, fracked gas and oil from Saudi Aramco, one of the world's biggest emitting companies,²⁷ as well as plans to produce polyester from coal. A recent report by the industry body Textile Exchange also revealed that polyester contributes the most greenhouse gas emissions across all fibre categories. With 47 million tonnes of polyester production in 2022, this resulted in 125 million tonnes of CO₂e emissions,²⁸ equivalent to the annual emissions of 32 coal-fired power plants.²⁹

Synthetic-dominated fast-fashion is often discarded after just seven or eight uses,³⁰ ending up in landfills, incinerators or dumped in nature. Much is shipped abroad to countries such as Chile, Ghana and Kenya. Our own investigation, detailed in the February 2023 report *Trashion: The Stealth Export of Plastic Waste Clothes to Kenya*,³¹ detailed how the export of used clothing to the Global South is effectively the export of plastic waste, fuelled by the rise in synthetic fast fashion consumption in the Global North. We found that more than one in three pieces of used clothing shipped to Kenya contains plastic and is in such a poor state that it immediately becomes waste. The majority ends up burned or landfilled, leaching microplastics, toxic chemicals and dyes into the groundwater and soil.

Ultimately, the plastic released from clothes ends up in the world's oceans. Approximately 35% of microplastics released into oceans globally originate from synthetic textiles.³² Mounting scientific evidence reveals the adverse impact of microplastics on the environment and human health (see Chapter 2).

In recent years, there has been a growing recognition among civil society, scientists and policymakers that the use of synthetics must be curbed to mitigate detrimental

effects on the environment and human health. Now, two years after the release of *Synthetics Anonymous 2.0*, our primary aim is to assess the progress made by fashion brands in addressing their reliance on synthetic fibres and the problem of microplastic pollution. This comes at a time when governments around the world are beginning to regulate the textiles industry and discussions are well under way for a global treaty to curb the impacts of plastic-based materials.



| At the end of their life, many clothes are exported to the Global South, contributing to environmental pollution there

Box 1. Findings from Synthetics Anonymous in 2021 and 2022

Our research into fashion brands' policies and strategies, documented in *Synthetics Anonymous* in 2021 and *Synthetics Anonymous 2.0* in 2022, underscored the fashion industry's growing reliance on synthetic fibres. Analysis of 55 of the world's biggest fashion brands in 2022 revealed that despite widespread recognition that we are in an accelerating climate emergency, a quarter of the largest fashion companies recorded a heavier reliance on fossil-fuel-derived fabrics. For several fashion brands, synthetics accounted for around two-thirds of their fibre composition, with Boohoo leading at 64%, followed closely by VF Corporation at 63%, Lululemon at 62% and New Look at 60%. Among the 55 global brands and retailers analysed in 2022, only one company – Reformation – committed to phase out virgin synthetics by 2030 and reduce all synthetics (virgin and recycled) to less than 1% of total sourcing by 2025.

In 2022, microplastics remained a significant oversight for fashion brands. The majority lacked transparency in their policies, with 25 out of 55 brands (45%) falling into the red zone due to either a lack of evident microfibre policies or limited available information. Many brands leaned heavily on voluntary initiatives such as The Microfibre Consortium (TMC), cross-functional working groups and research projects, citing the lack of research as a reason to delay action.





2. Microplastics: A growing threat to environmental and human health

2.1 Microfibres vs microplastics

Microfibres are tiny fibres measuring up to 5mm in length, and encompass natural, synthetic and semi-synthetic fibres. Microfibre pollution has become an increasingly significant priority area across several sectors. In the context of textiles and clothing, microfibres can be released or detached from garments throughout their life cycle, including production, use and end-of-life. These fibres can be transported by air or carried into water during washing/cleaning processes.

Specifically, the spotlight on microplastics - microfibrils from synthetic textiles or other types of plastic products - has intensified. There is increasing evidence that the apparel industry is a significant yet often overlooked source of plastic pollution. Studies estimate that more than 14 million tonnes of microplastics have accumulated on the ocean floor and that 200,000 to 500,000 tonnes of microplastic fibres enter the ocean each year.³³ A study published in *Nature* estimates that the apparel industry, primarily due to its reliance on synthetic clothing, generated 8.3 million tonnes of plastic pollution in 2019, corresponding to 14% of the estimated 60 million tonnes from all sectors.³⁴

As evidence mounts of the dangers of microplastics, some in the industry are keen to shift the debate, arguing that action should address the environmental challenges of all microfibrils. For example, in 2021 the industry body Textile Exchange argued that shedding of fibre fragments is not only about the physical presence of non-biodegradable fibre fragments in the environment, but also about the chemicals they carry.³⁵ However, its most recent report puts the focus firmly on microplastics: “As synthetics are the most-used fibers across the industry today, meaningful action should be prioritized to reduce fiber fragment shedding within this category specifically.”³⁶

TMC, the main initiative set to deal with microfibre pollution, has been crucial in pushing the narrative that all microfibrils are problematic. In 2023 it stated that “microfiber pollution should no longer be a microplastic-only debate,” arguing that this ignores the evidence.³⁷ TMC’s own research off the eastern coast of Africa found that the majority of microfibrils found come from natural fibres, such as cotton and wool, rather than synthetics.³⁸

The CEO of TMC suggests that instead of eliminating synthetic clothing, we should instead focus our efforts on the redesign of textiles to reduce microfibre loss at source.³⁹ The concern with relying on this is the painfully slow progress in imple-

menting effective solutions, compared to the rapid expansion of fast fashion, which heavily relies on synthetic production. Shifting focus away from synthetics risks failing to address the urgent issue of microplastic pollution.

This industry narrative is a typical distract-and-delay tactic, asking for more research before policymakers consider proposing specific measures on microplastic pollution. This tactic also led to the exclusion of microplastics as a key impact category in the Product Environmental Footprint (PEF) (see Chapter 4.D). While regulating all microfibre shedding is necessary, prioritising measures on microplastics is crucial for several reasons:

1. **Dominance of synthetic fibres:** Synthetics make up over two-thirds of fibre production and are expected to reach 73% by 2030, making them a major source of microfiber pollution and should be the primary focus of strict regulatory measures.
2. **Biodegradability:** The debate on biodegradability is frequently intertwined with discussions about toxicity, often serving as a distraction tactic. While synthetic dyes and processing chemicals can affect the biodegradability of natural fibres, industry’s claiming that natural fibre microfibers pose an equal environmental threat due to these chemicals is flawed.⁴⁰ Studies show natural and cellulosic fibres can biodegrade if toxicity is managed. A study from April 2024 found that wool and viscose biodegrade readily in marine environments, unlike synthetics.⁴¹ A 2021 study showed cellulosic fibres degraded completely within 30 days, while polyester remained largely intact after over 200 days in seawater.⁴² It is crucial for the industry to eliminate synthetic dyes and toxic chemicals in all fibre production.

3. **Plastic pollution is an imminent threat to the environment and human health:** Plastic pollution can disrupt habitats and diminish ecosystems' ability to adapt to climate change. It directly impacts people's livelihoods, food production capabilities and social well-being.⁴³ Microplastics contaminate our food chains, water and air - studies increasingly find them in various parts of our bodies with potentially significant but not yet fully understood health implications.⁴⁴

For these reasons, measures to curb microplastic pollution should no longer be delayed.

2.2 Environmental and health impacts of microplastics



In 2019, the apparel industry, largely reliant on synthetic clothing, generated 8.3 million tonnes of plastic pollution, accounting for 14% of all sectors

Credit: shutterstock

Over the past years, the response from the industry regarding microplastics has been underwhelming. Fashion brands have often cited the need for more research before taking action, allowing them to kick the can down the road. For instance, in our 2021 questionnaire, Adidas suggested that it was premature to legislate on microplastics, stating that further research was necessary to understand where fibre fragmentation occurs and how to measure it objectively. Similarly, in 2022 Puma expressed uncertainty about legislation to address release of microplastics from textiles, indicating that the available information was insufficient and the objectives unclear. Although VF claimed to have engaged with consumers by investing in research on microfibre shedding and providing educational material, this effort has not yielded any tangible results or specific targets on microplastics.⁴⁵ Patagonia, while listing comprehensive microfibre research projects online, lacked a clear policy with specific targets for reducing microplastic release.⁴⁶

This reluctance to act stands starkly against the backdrop of a mounting body of research on the environmental and health impacts of microplastic release. Thousands of research papers have been published on the topic, indicating a growing concern within the scientific community. These studies primarily focus on quantifying the presence of microplastics and nanoplastics across various environmental areas and evaluating their effects on and potential risks to plants, animals, microorganisms and humans.^{47, 48, 49}

Both air and water ecosystems are becoming increasingly contaminated with microplastics. Synthetic textiles are emerging as a significant contributor to ocean pollution, responsible for roughly 35% of microplastics released into the oceans worldwide.⁵⁰ Studies have shown that microplastics are also prevalent in the air we breathe. A comprehensive review published in May 2023 collated data on microplastic concentrations in ambient air, deposition, dust and snow from numerous peer-reviewed articles. The findings indicate that microplastics are present in both outdoor and indoor air, with concentrations reaching significant quantities (from



| Approximately 35% of microplastics released into oceans globally originate from synthetic textiles.

| Credit: shutterstock

<1 to >1000 microplastics per cubic metre in outdoor air and <1 to 1,583 microplastics per cubic metre in indoor air). These primarily consist of materials such as polyethylene terephthalate or PET (which polyester is made from), polyethylene and polypropylene, raising concerns about human exposure and associated health risks.⁵¹ Growing evidence also suggests that microplastics in the atmosphere contribute to climate change.⁵²

Microplastic contamination of soil and farmlands is also well recorded. According to a recent whitepaper, an estimated 8-10 million tonnes of sewage sludge is produced across Europe each year, of which roughly 40% is spread on farmland. The paper notes that between 31,000 and 42,000 tonnes of microplastics, or 86 trillion to 710 trillion microplastic particles, contaminate European farmland each year. Microplastics can penetrate deep into soils, potentially contaminating groundwater, or enter aquatic environments via runoff. They have been found up to 90cm below the surface on agricultural fields where sewage sludge had last been applied 34 years ago.⁵³

Further research underscores the widespread contamination of natural and human systems by microplastics. Investigations have identified microplastics in various human tissues and fluids, including lung tissue, stool, stomachs and even unborn babies' placentas. A study by the University of New Mexico Health Sciences found microplastics in every human placenta tested after birth.⁵⁴ Another 2024 study published in *Nature* found that microplastics, predominantly PET, have been found in human penises, raising concerns about a potential link to erectile dysfunction.⁵⁵ Most PET production is for synthetic textile fibres, with bottle production accounting for about a third of global demand.⁵⁶ In addition, microplastics have been found in bone marrow⁵⁷ and brain tissue.⁵⁸

Research on the health impacts of microplastics reveals concerning links between exposure and various health problems. Microplastics from textiles, such as nylon and polyester, have been associated with inhibiting lung tissue repair and exacerbating lung damage caused by diseases like Covid-19.⁵⁹ A 2022 study concluded that inhalation or ingestion of microplastics causes chronic inflammation of the lungs (known to be a leading cause of diseases such as cancer, heart disease, asthma and diabetes) and intestinal inflammation, as well as irritable bowel disease.⁶⁰ A recent European Chemicals Agency (ECHA) study found childcare products containing substances causing cancer, genetic mutations or harming reproduction. These were most often found in synthetic polymers and textiles.⁶¹ In terms of the most vulnerable demographics, a research study from Australia looking at microplastics present in people's homes warned that children under six inhale around three times more microplastics than the average adult.⁶²

Microscopic plastic particles in blood vessels have been linked to an increased risk of stroke, heart attack and early death. Patients with arterial disease containing microplastics or nanoplastics in their arterial buildups were nearly five times more likely to experience adverse cardiovascular events compared to those without plastic contamination.⁶³

Microplastics: Infiltrating Our Bodies and Health



Brain

POTENTIAL LINK TO DEMENTIA

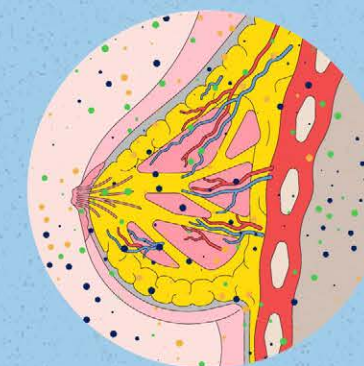
(National Institutes of Health 2024)



Lung

INHIBITS LUNG AND TISSUE REPAIR

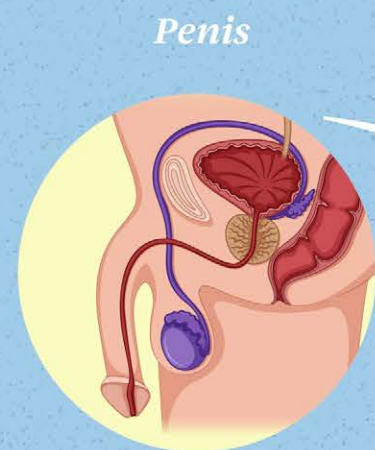
(Plastic Soup Foundation 2021).



Breast

FOUND IN HUMAN BREAST MILK, CAUSING CONCERN OVER THE POTENTIAL HEALTH IMPACTS ON BABIES

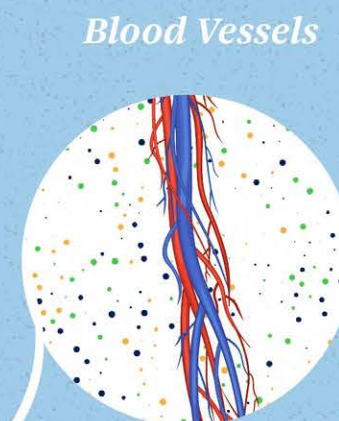
(Polymers 2022)



Penis

FOUND IN HUMAN PENISES, A POTENTIAL LINK TO ERECTILE DYSFUNCTION

(Nature Study 2024)



Blood Vessels

LINKED TO INCREASED STROKE AND HEART ATTACK RISK

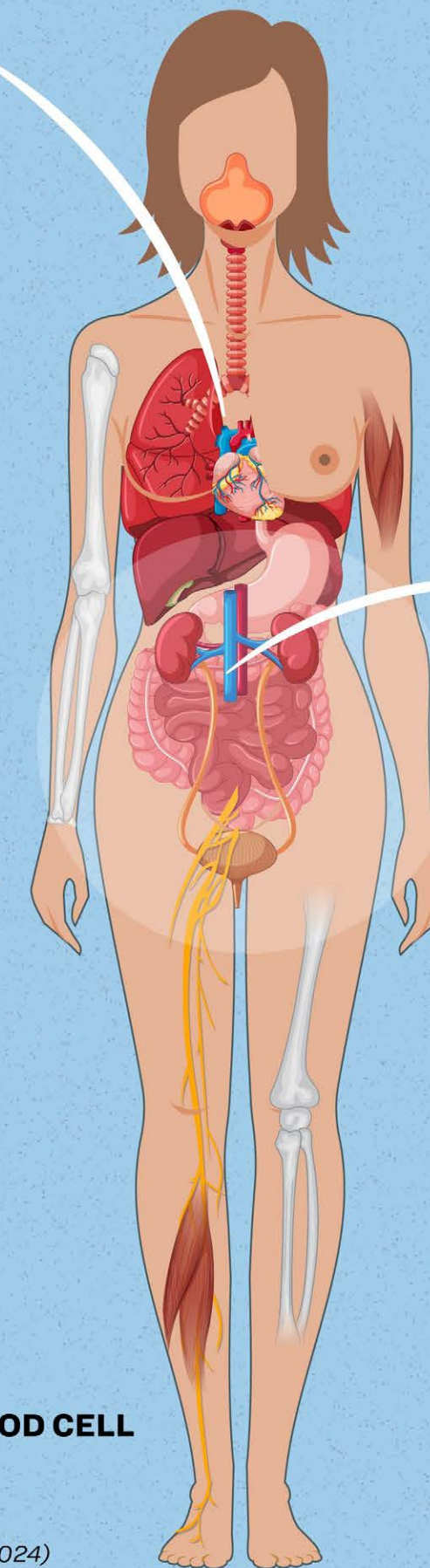
(New England Journal of Medicine 2024)



Stomach

PRODUCES INTESTINAL INFLAMMATION

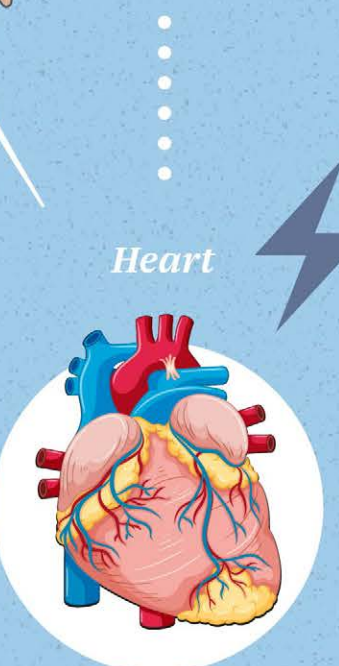
(Plastic Soup Foundation 2024)



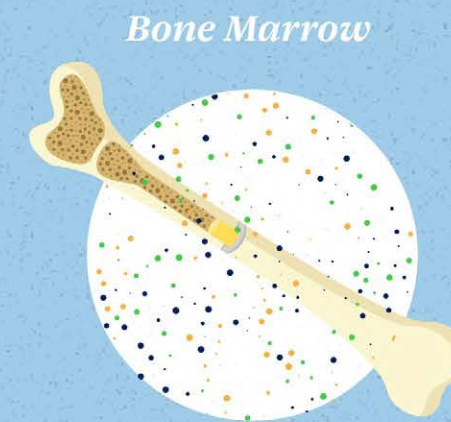
Placenta

FOUND IN 100% OF HUMAN PLACENTAS TESTED

(University of New Mexico).



Heart



Bone Marrow

HARMS THE BODY'S BLOOD CELL PRODUCTION SYSTEM

(The Journal of Hazardous Materials 2024)

Box 2. Polyester: A lifeline for the plastics and fossil fashion industry

Synthetic fibres derived from petrochemicals play a crucial role in sustaining the plastics industry. Plastic production has seen exponential growth over the past seven decades, doubling in the last 25 years alone.⁶⁴ In 2017, petrochemicals accounted for 14% of global oil demand, with synthetic fibre production for the textile sector contributing 15% to overall plastic production. This makes the sector the third largest consumer of plastic, trailing only packaging and construction, according to the International Energy Agency (IEA).⁶⁵

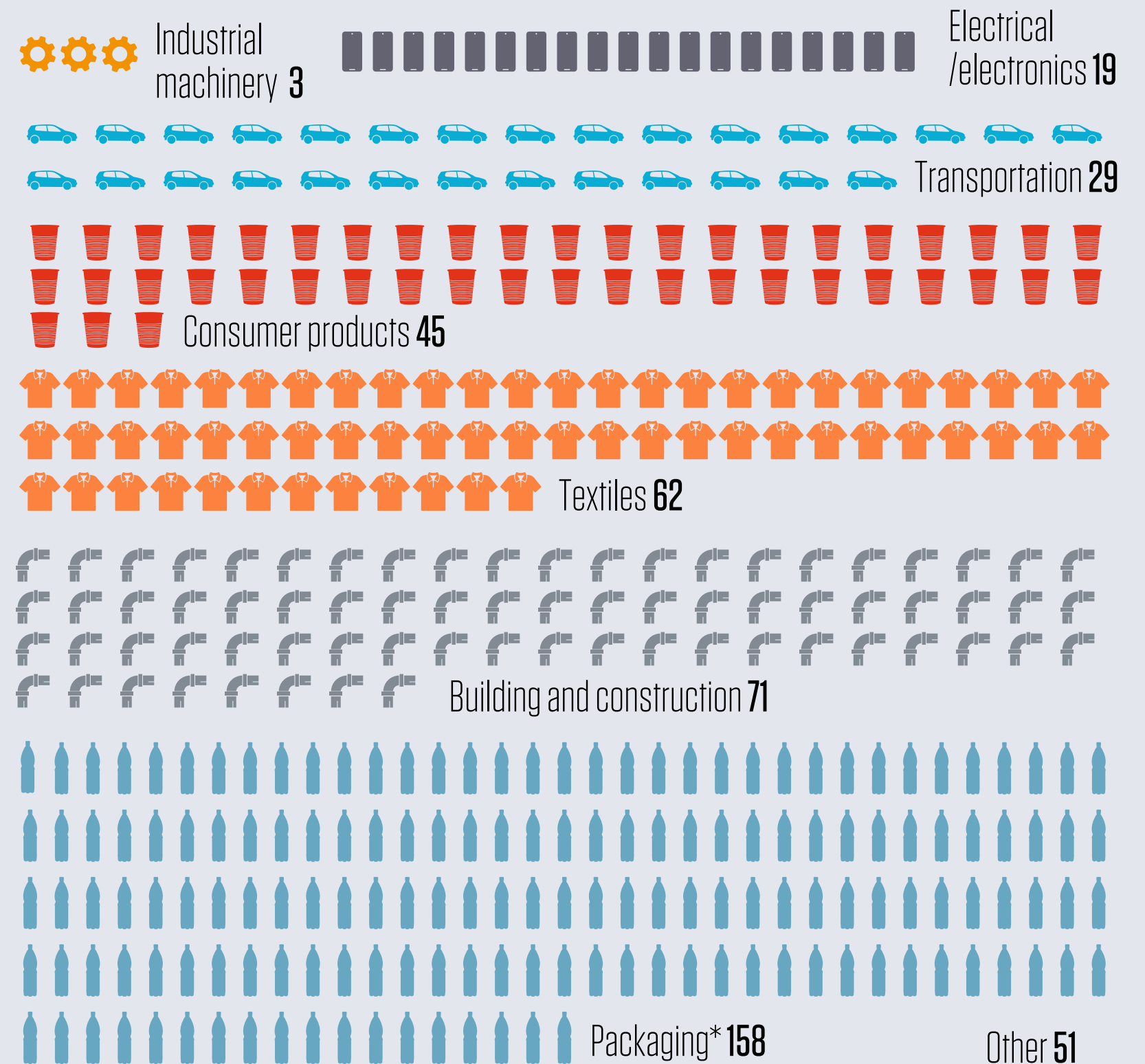


Almost all polyester is composed of PET. In 2019 alone, over 83 million tonnes of PET was produced, constituting about 19% of all plastics production. Two-thirds of this PET is used in the form of polyester fibre for clothing and other textiles.⁶⁶

Looking ahead, the IEA predicts that petrochemicals will continue to drive oil demand, particularly as demand in transport and other sectors is expected to peak by 2030. The chemical sector is expected to drive over a third of the total oil demand growth by 2030, with the demand for oil in plastic product manufacturing playing a significant role in sustaining this demand for decades to come.⁶⁷ Given that less than 1% of clothing is recycled, this extractive approach contributes significantly to the ever-increasing plastics demand, benefiting the fossil fuel industry. Projections indicate that plastics production, including PET, will double again by 2040. Among this, polyester production is expected to grow by 8% annually through 2027.⁶⁸

WHAT DO WE USE PLASTIC FOR?

Usage by industrial sector, total volume 438 million tonnes, each symbol represents 1 million tonnes, 2017



*Mostly single use



3. Fashion brands 2024: Evaluating current stance on synthetic fibres and microplastics action

3.1 Methodology

In April 2024, the Changing Markets Foundation and its partners Clean Clothes Campaign, Fashion Revolution, No Plastic in My Sea and the Plastic Soup Foundation wrote to 50 global clothing brands and retailers, requesting information about their synthetic fibre use, plans to phase out fossil fuel feedstocks, policies on microfibre release and support for legislation on these issues.

The 50 companies included brands and retailers that have previously featured in our research in *Synthetics Anonymous* (2021) and *Synthet-*

ics Anonymous 2.0 (2022). To round up to a full 50, this year three new companies were added: Abercrombie & Fitch, LVMH and Mango, three major global players chosen for their significant market influence and global reach representing different segments of the industry. Additionally, responses were limited to group and parent companies, where previously responses were collected for each individual brand within a group. This applied to Kering Group, PVH and VF Corp.

The brand questionnaire requested disclosure on the following topic areas:

- **Use of synthetic fibres:** how much they use each year, what percentage of their clothing is made with synthetics, whether they have experienced an increase or decrease in synthetic fibre use and whether they anticipate a rise or a fall in the future, as well as any risks associated with synthetics.
- **Commitments to phase out reliance on fossil fuels:** policies or commitments to decrease or phase out reliance on synthetic fibres, any implementation of alternative business models to move away from overproduction.
- **Policies to address microfibre release:** phase out of synthetics as precautionary principle, measures or maximum thresholds for release, rules on pre-washing, wastewater filtering, research and development initiatives, membership of multistakeholder initiatives, consumer guidance and recommendations on washing filters.
- **Support and position on EU legislation and international treaties:** legislation to address the unintentional release of microplastic from textiles, eco-modulated fees and design criteria tied to microplastic release and volume of product put on the market, PEF to include microplastic emissions, global plastic pollution treaty.

In total, 23 out of 50 brands (46%) completed the survey either fully or to a meaningful extent. Additionally, five companies (10%) sent an email response containing some information. However, email responses without answers to the questionnaire were not counted as proper engagement. This level of engagement is lower than previous years where 31/55 (56%) responded in 2022 and 39/46 (85%) responded in 2021.

The findings from the questionnaire were supported with secondary research, collected throughout April-June 2024. This secondary information was obtained through researching publicly available information, including company reports, press releases, websites and any disclosure related to climate commitments.

See Annex I for methodology on ranking.

3.2 Still hooked on synthetics

Three years on from our first investigation into synthetic fibre usage in the fashion industry, little has changed. Brands and retailers are increasing their addiction to polyester, nylon, acrylic and elastane, with more respondents growing than decreasing their use. Usage is justified through the fibre's properties of being functional and durable, brands say. No single brand in our study has cut synthetics entirely from its collections and only two companies have made the commitment to phase out synthetics by 2030.

This chapter explores the ongoing reliance on synthetics and evaluates trends over the last five years to see if brands who made promises have reduced their dependency.

I. An overview of fashion's use of synthetics in 2024

Despite years of calls for increased transparency over synthetic fibre usage, production volumes and data for these fibres remain opaque, limiting comprehensive analysis. Only 16 of those who responded disclosed information on the volume of synthetics.

Major companies like Adidas, Bonprix, Burberry, H&M Group, Primark and Uniqlo (Fast Retailing) did not share their latest synthetic fibre volumes. Additionally, 30 out of 50 brands (60%) provided either no information or only partial data on synthetic volumes and their percentage of the total fibre mix. This group included high-profile brands and retailers with significant market share and global presence, such as Abercrombie & Fitch, Gap Inc., Kering Group, LVMH, Patagonia and Walmart.

The high level of opacity suggests that while some companies appear to be the worst performers based on available data, there are likely other actors performing equally poorly or worse, but their lack of disclosure keeps this hidden. For example, Shein, the highest user of synthetics as a percentage of total fibres, does not disclose volumes.

Use of synthetics

Among the 50 companies reviewed, only six (12%) shared volumes publicly: Benetton Group, C&A, Inditex, Lululemon, Mango and Nike. Some companies shared only partial information on leading synthetics such as polyester and nylon. For instance, Nike only shares volumes on polyester and Lululemon only shares volumes on polyester and nylon.

From information disclosed, Inditex used the most synthetics by volume at 212,886 tonnes in 2023. Similar players like H&M Group did not disclose this set of infor-

mation, nor did ultra-fast fashion companies like Shein. Given that synthetics comprise 82% of Shein's fibre portfolio, it is likely that it would rank first if volumes were disclosed. Shein is the leading fast fashion company in the US and has grown twentyfold since its entry in the US market in 2018.⁶⁹

Public data highlights Shein's increased dominance in the fast fashion retail market and suggests the company is also the largest user of synthetic fibres by volume.

Shein corners nearly a fifth of fast-fashion retail market

Global fast-fashion market share by leading companies for 2022 and 2027

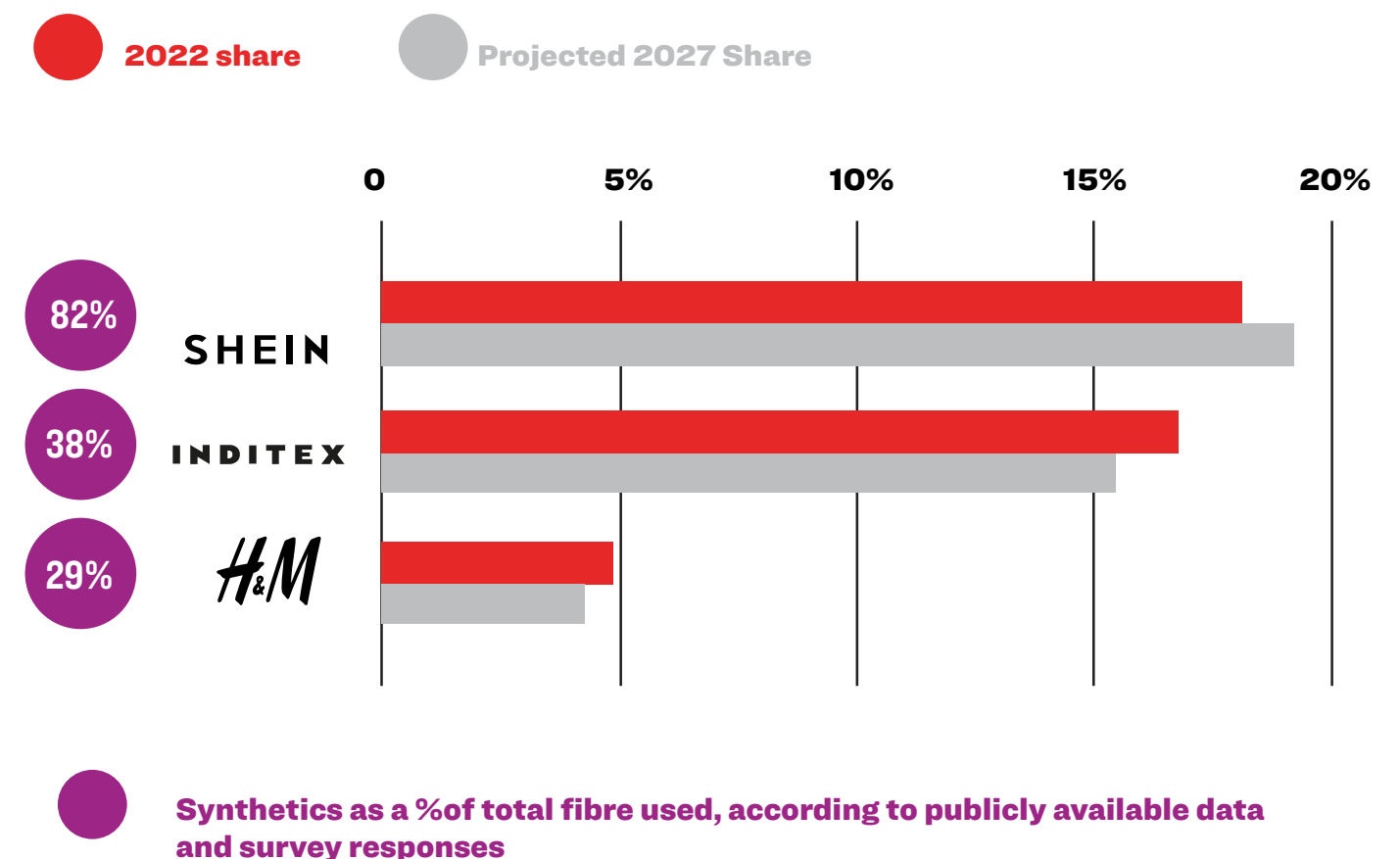


Figure 3: Global fast-fashion market share by leading companies

Note: Market shares are based on estimates.

Source: Coresight Research, Credit: Reuters

In the first quarter of 2024, Inditex recorded \$8.9 billion in revenue,⁷⁰ surpassing H&M Group, which recorded the equivalent of \$5 billion net sales⁷¹ in the same period.

While Shein does not disclose quarterly financial performance, the company was reported to have recorded \$32.2 billion revenue in 2023 and is projected to hit \$50 billion in 2024, with a notable dominance in the US, which accounted for 28.2% of sales in 2023.⁷²

At the other end of the spectrum, Reformation used the lowest volume of synthetics, totalling just 17.24 tonnes. The table below highlights the top ten users of synthetics by volume, according to available information.

Table 1: Top ten users of synthetics by volume*

Brand	Engaged SA3 - 2024	Ranking	Tonnes of synthetics/year	Synthetics as % of total fibre used
SHEIN	No	4	?	81.70% ⁷³
INDITEX	Yes	3	212,89	38%
PVH	Yes	3	36,28	27%
C&A	Yes	3	25,62	30%
MANGO	Yes	3	22,58	43.94%
ASDA George	Yes	3	15,17	30.10%
TESCO	Yes	3	13,57	34%
boohoo	Yes	4	9,63	68.59%
Sainsbury's	Yes	3	7,79	37%
Levi's	Yes	2	6,99	7.70%
NEW LOOK	Yes	3	6,58	56%

*According to questionnaire feedback and publicly available information

Companies were also evaluated on their reliance on synthetics as a percentage of their total fibre mix. From publicly available information, Shein was identified as

using the highest proportion of synthetics at 71%. This includes polyester (65%, 1% of which is recycled), nylon (3%) and spandex (3%).⁷⁴ This figure could in fact



| Shein leads in synthetic use by proportion of total fiber mix, while Inditex is the largest user by volume.

| Credit: shutterstock

be higher if the “other” category, which represents 13% of Shein’s fibre portfolio, includes additional synthetics such as elastane.

Boohoo was the second highest user of synthetics at 69% of total fibres used. In 2022, Boohoo was the brand with the highest percentage of synthetics in our research, at 64%. However, Shein did not disclose its percentages at the time. John Lyttle, CEO of Boohoo, which has recently been one of the three companies subject to the UK Competition Markets Authority (CMA) investigation into fashion’s greenwashing practices,⁷⁵ stated that “*We remain committed to working with others to find collective solutions to the shared challenges of sustainability within the fashion industry.*”⁷⁶ However, the company’s reliance on fossil fuel derived synthetics says otherwise.

In 2024, other notable results included Lululemon (67%), Aldi (59.6%) and New Look (56%). The below table illustrates how prevalent synthetics are in different companies’ collections.

Table 2: Top ten users of synthetics as a percentage of total fibre mix*

Brand	Engaged SA3 - 2024	Ranking	Tonnes of synthetics/year	Synthetics as % of total fibre used
SHEIN	No	4	?	81.70%
boohoo	Yes	4	9,63	68.59%
lululemon	No - only email response	4	23,31 ⁷⁷	67%
ALDI	No - only email response	4	NA	56.90%**
NEW LOOK	Yes	3	6578	56%
MANGO	Yes	3	22,58	43.94%
PRIMARK	Yes	3	NA	43%
bonprix	Yes	3	NA	42%
LINDEX	No	3	NA	39% ⁷⁸
INDITEX	Yes	3	212,89	38%

*According to questionnaire feedback and publicly available information

**Data disclosed in email correspondence from Aldi – figure is inclusive of clothing and home textiles








Use of polyester

We also looked specifically at companies’ use of polyester. Although Nike did not participate in the questionnaire, it publicly discloses its top five most-used materials, among which polyester is dominant. In the financial year 2023, Nike used 172,412 tonnes of polyester, representing 35% of the total volume of its top five materials in 2023; 56% of this was recycled.⁷⁹ Competitors Adidas and Puma do not disclose this information, making it difficult to draw meaningful comparisons between the global sports giants.

The below table indicates the top ten users of polyester by volume, derived from disclosed and publicly available information. Sports giant Nike and fast fashion

leader Inditex use nearly identical volumes of polyester in their production processes, highlighting how heavily different segments of the fashion industry depend on synthetic fibres.

Table 3: Top ten polyester users by volume*




Brand	Engaged SA3 - 2024	Ranking	Tonnes of synthetics/year	Synthetics as % of total fibre used	Polyester (tonnes)
	No	4	NA	NA	172,412 ⁸⁰
INDITEX	Yes	3	212,886	38%	165,956
PVH	Yes	3	36,275	27%	23,080
	Yes	3	25,617	30%	19,643
MANGO	Yes	3	22,582	43.94%	16,402.74
	Yes	3	15,163.90	30.10%	12,186.90
	Yes	3	13,572	34%	11,279
boohoo	Yes	4	9,625	68.59%	7,091
Sainsbury's	Yes	3	7,792	37%	5,930
	Yes	2	6,990.8	7.70%	5,783.7

*According to questionnaire feedback and publicly available information

To ascertain how dependent companies are on polyester, we reviewed this as a percentage of all fibres used. The top user of polyester within its total fibre basket was Shein (65%), where a mere 1% was recycled. It was followed by Boohoo (50.5%), Esprit (48.12%) and New Look (42%). The brands least reliant on polyester were G-Star Raw (10.19%), Wrangler & Kontoor Brands (7.8%), Levi Strauss & Co (6.4%) and Reformation (0.48%). The first three focus primarily on denim, which is derived from cotton and naturally less dependent on polyester.

The results indicate that fashion’s problematic reliance on petroleum-derived polyester persists without any signs of improvement. Global brands continue to heavily rely on this material, whether virgin or recycled.

Table 4: Top ten users of the most polyester as a percentage of total fibre mix*

Brand	Engaged SA3 - 2024	Ranking	Tonnes of synthetics/year	Synthetics as % of total fibre used	Polyester (tonnes)	Polyester % of all fibres
SHEIN	No	4	NA	71%	NA	75.70% ⁸¹
boohoo	Yes	4	9,625	68.59%	7,091	50.50%
ESPRIT	Yes	3	3,388	26%	NA	48.12%
	Yes	3	6,578	56%	4,880	42%
	Yes	4	NA	NA	NA	37%
PRIMARK	Yes	3	NA	43%	NA	35.23%
	No - only email response	4	23.31	67%	12,138 ⁸²	34%
MANGO	Yes	3	22,582	43.94%	1,6402.74	31.92%
next	No	3	NA	35% ⁸³	NA	30%
INDITEX	Yes	3	212,886	38%	165,956	29%






*According to questionnaire feedback and publicly available information

Use of nylon

While not the most used material in collections, nylon is often the second most popular synthetic fibre. In the financial year 2023, Inditex used the most nylon by volume, totalling 30,029 tonnes. This is significantly more than other companies, nearly five times the amount procured by PVH, the second-largest user of nylon. Additionally, Inditex’s nylon usage exceeds the total volume of all synthetics used by a global company like C&A, which stands at 25,617 tonnes.

The below table illustrates the main users of nylon by volume and how significant a material it is in their total fibre mix.

Table 5: Top ten users of nylon by volume*

Brand	Engaged SA3 - 2024	Ranking	Tonnes of synthetics/year	Synthetics as % of total fibre used	Nylon (tonnes)	Nylon % of all fibres
INDITEX	Yes	3	212,886	38%	30,029	5%
PVH	Yes	3	36,275	27%	6,844	5%
 C&A	Yes	3	25,617	30%	3,200	3.80%
 TESCO	Yes	3	13,572	34%	2,001	5.00%
MANGO	Yes	3	22,582	43.94%	1,978.89	3.85%
 ASDA George	Yes	3	15,163.90	30.10%	1,750.3	3.48%
HUGO BOSS	Yes	1	6,170	25%	1,220	5%
 UNITED COLORS OF BENETTON	Yes	3	4,671	21%	962	4.2%
Sainsbury's	Yes	3	7,792	37%	920	4.3%
 NEW LOOK	Yes	3	6,578	56%	512	4%

*According to questionnaire feedback and publicly available information

II. Where do brands rank on their use of synthetics?

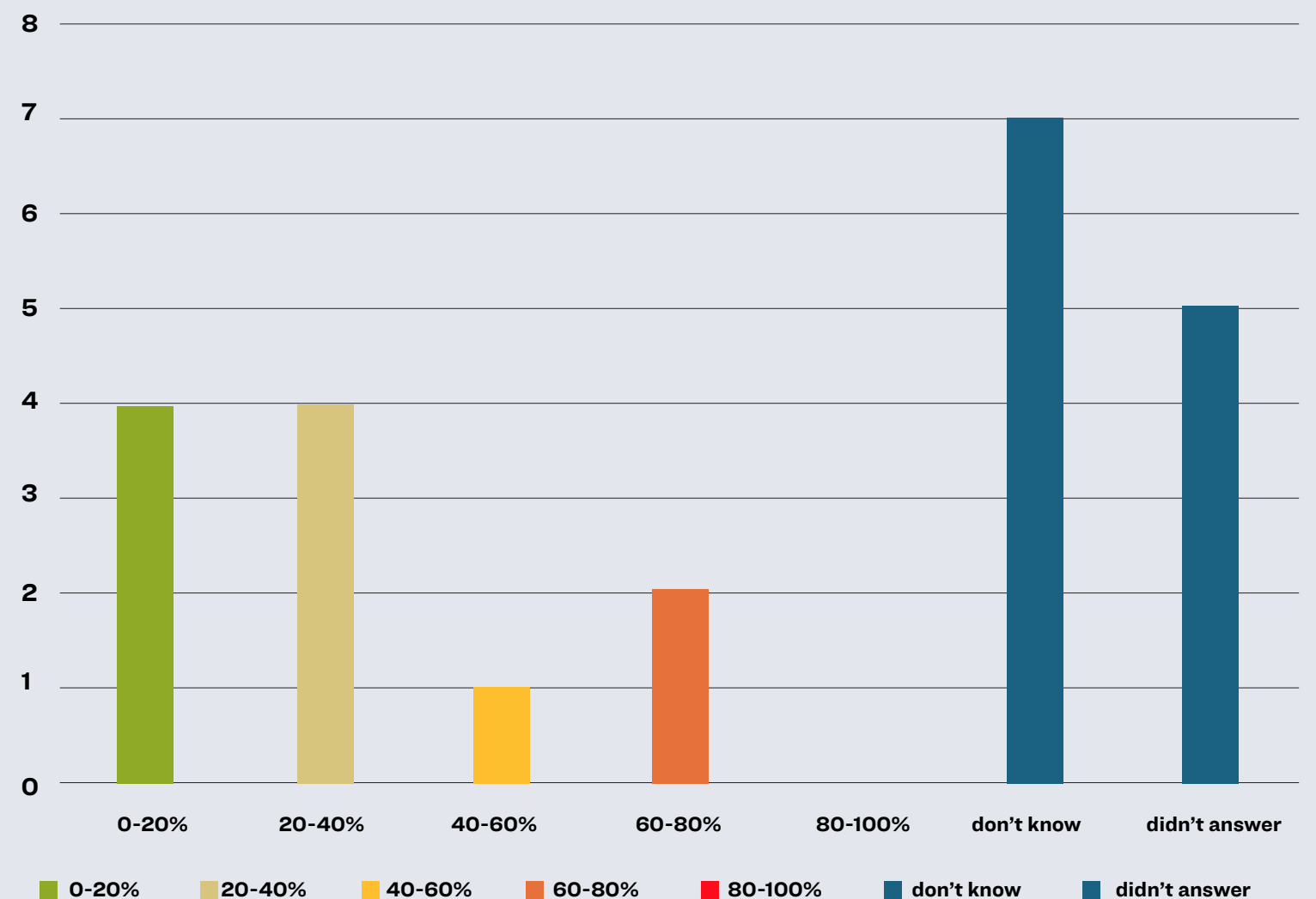
As with previous investigations, this research sought to categorise brands according to their use of synthetics. Ranking considerations include clear commitments to phase out synthetic fibres, transparency about production volumes and relatively low use in fibre portfolios. For the full ranking methodology, see Annex I.

Box 3. Assessing average synthetic content in garments

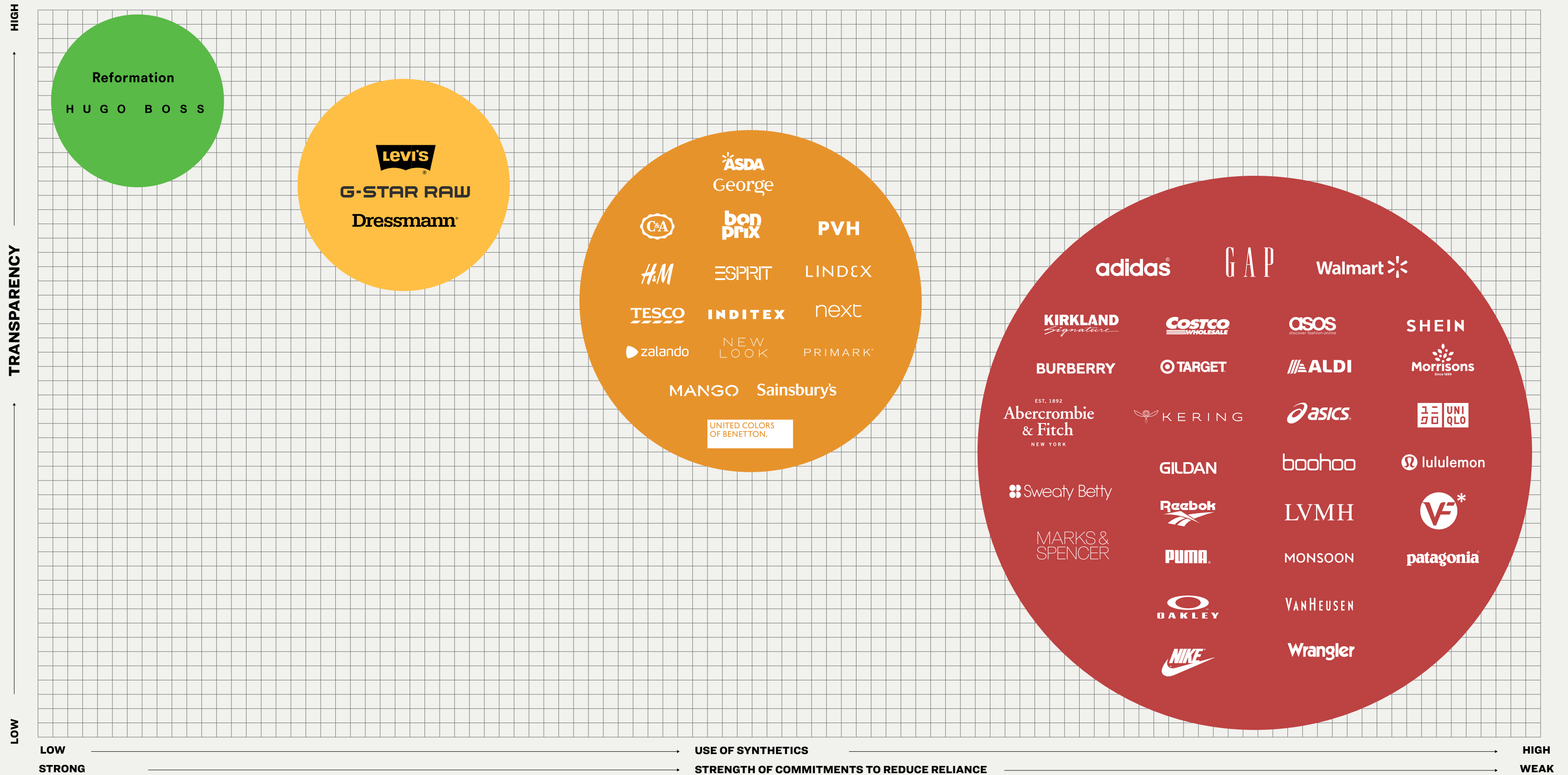
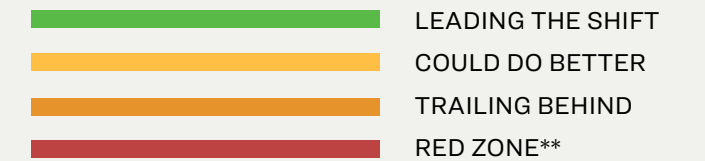
This year, Changing Markets sought to ascertain the average amount of synthetic mass per garment from each brand and retailer too. From the 23 brands that engaged with the survey, five left this blank (Adidas, Burberry, H&M Group, Hugo Boss, Uniqlo (Fast Retailing)) and seven said they didn't know (Asda, Esprit, G-Star Raw, New Look, Primark, PVH, Sainsbury's). The remaining responses are therefore not fully representative of the total sample of companies. Four companies (Dressmann, Levi Strauss & Co, Reformation and Zalando) stated the average synthetic mass per garment was less than 20%, and four more recorded an average of 20-40% - Benetton Group, C&A, Inditex and Tesco. Bonprix was 40-60% and Mango and Boohoo 60-80%.

Figure 4: Average synthetic content per garment according to questionnaire responses

WHAT WAS THE AVERAGE AMOUNT OF SYNTHETIC MASS PER GARMENT?



Where do brands stand on transparency, use of synthetic fibres and commitments to phase them out?



This is a simplified representation of companies' performance and not a ranking. More detailed information is available on the report landing page.

Many brands in the Red zone landed there due to lack of transparency and disclosure, rather than necessarily high use.

As illustrated above, it is disconcerting that the majority of brands fall into the 'red zone' for their lack of transparency or high level of dependency on synthetics. Of the 50 companies, 29 (58%) fell into this category: Abercrombie & Fitch, Adidas, Aldi, Asics, Asos, Boohoo, Burberry, Gap Inc., Gildan, Kering, Kirkland - Costco, Lululemon, LVMH, M&S, Monsoon, Morrisons, Nike, Oakley, Patagonia, Puma, Reebok, Shein, Sweaty Betty, Target, Uniqlo (Fast Retailing), VF Corp, Van Heusen, Walmart, Wrangler (Kontoor).

Brands that are set on extensive growth but fail to publicly disclose any meaningful information on synthetics, such as Abercrombie & Fitch and Shein, are worth spotlighting. In 2024, Abercrombie & Fitch has experienced sales of \$4 billion⁸⁴, its best annual performance since going public in 1996.⁸⁵ Recent research has found that around 60% of the company's products contain polyester.⁸⁶

Similarly, and unsurprisingly, ultra-fast fashion brand Shein does not disclose the volume of synthetics it uses. It disclosed that as of 2022, polyester accounts for 65% of its fibre portfolio, with 64% virgin and 1% recycled.⁸⁷ Research from the University of Delaware recorded that Shein launched a catalogue of over 1.2 million styles over a 12-month period, selling between two and three billion units according to the latest reports.⁸⁸ Bloomberg suggests that oil consumption in China, the world's biggest emitter, is driven by the country aggressively moving its petrochemicals sector onshore, among others to supply Chinese-owned fast fashion giants Shein and Temu. China's output of synthetic fibres alone rose by 21 million tonnes between 2018 and 2023 – enough to spin more than 100 billion T-shirts a year.⁸⁹ Synthetic production on this scale is alarming, especially given that the brand has no plans to phase out synthetics in the future.

Almost one-third of companies (16/50, 32%) were categorised as 'trailing behind' for their limited transparency or, when they did disclose information, a rising volume

and high percentage of synthetics. These companies were Asda, Benetton Group, Bonprix, C&A, Esprit, H&M Group, Inditex, Lindes, Mango, New Look, Next, Primark, PVH, Sainsbury's, Tesco and Zalando.

Only three companies (6%) were classified in the 'could do better' category for a higher level of transparency and lower rate of synthetic usage in their clothing collections. These brands were Dressmann, G-Star Raw and Levi Strauss & Co.

Unlike our surveys in 2021 and 2022, this year we did not have a 'frontrunner' category because no brand committed to phasing out synthetics while also reducing its synthetic use over the past year. The two most advanced brands, Reformation and Hugo Boss, were placed in the 'leading the shift' category for their phase-out commitments. Reformation was already the leader in our 2022 assessment for committing to phase out virgin synthetics by 2030 and reducing all synthetics (virgin and recycled) to less than 1% of total sourcing by 2025. In 2024, Hugo Boss was also ranked within this category for its plans to eliminate polyester and polyamide by 2030 - but the volume of synthetics it uses increased by 143% from 2020 to 2023, and if this trajectory continues it will jeopardise the brand's status as a leader.

III. How has the industry's relationship with synthetics changed over the last five years?

Our findings reveal that a significant portion of brands are still increasing their use of synthetics. Regardless of how much recycled material is used, this underlines fashion's addiction to fossil-based fibres. In this year's report, 11 out of 23 companies were found to have increased their use of synthetics over the last few years: Benetton Group, Bonprix, Boohoo, C&A, Esprit, H&M Group, Hugo Boss, Inditex, PVH, Reformation and Zalando.

Among these 11 companies, the use of synthetics as a proportion of total fibres within their portfolios grew by 2.77% on average from 2022 to 2024, based on data reported to us for those years.^A

While some brands, such as Boohoo, Benetton Group and Bonprix, were transparent in 2022 about their plans to increase their use of synthetics, others had the intention in previous investigations to reduce their reliance, but in fact failed to do so.

Bonprix increased the share of synthetic fibres used from 33% in 2021 to 42% as of its response in 2024. Hugo Boss also significantly increased its volume of synthetics, from 2,531 tonnes as of financial year 2020 to 6,170 tonnes disclosed in 2024, representing a 143% increase. Benetton Group's synthetic usage jumped from 3,177 tonnes in its 2022 disclosure to 4,671 tonnes, according to publicly available data - a 47% increase.⁹⁰

C&A also increased its synthetic fibre usage from 23,524 tonnes in 2022 to 25,617 tonnes in 2024. While H&M Group does not disclose volumes, it reported that synthetics accounted for 29% of its total fibres in 2024, up from 26.6% in its 2022 disclosure.

A handful of brands (5/23) maintained their use of synthetics with minor fluctuations. These were Asda, Dressmann, Levi Strauss & Co, Primark and Tesco.

Three brands decreased their use of synthetics, whether intentionally or not: G-Star Raw, Mango and New Look. Adidas, Burberry, Sainsbury's and Uniqlo (Fast Retailing) left this question blank so are excluded from the analysis in the graph below.

^A Figures for Hugo Boss are derived from 2021 disclosure as it did not engage in 2022.

USE OF SYNTHETICS OVER LAST 5 YEARS

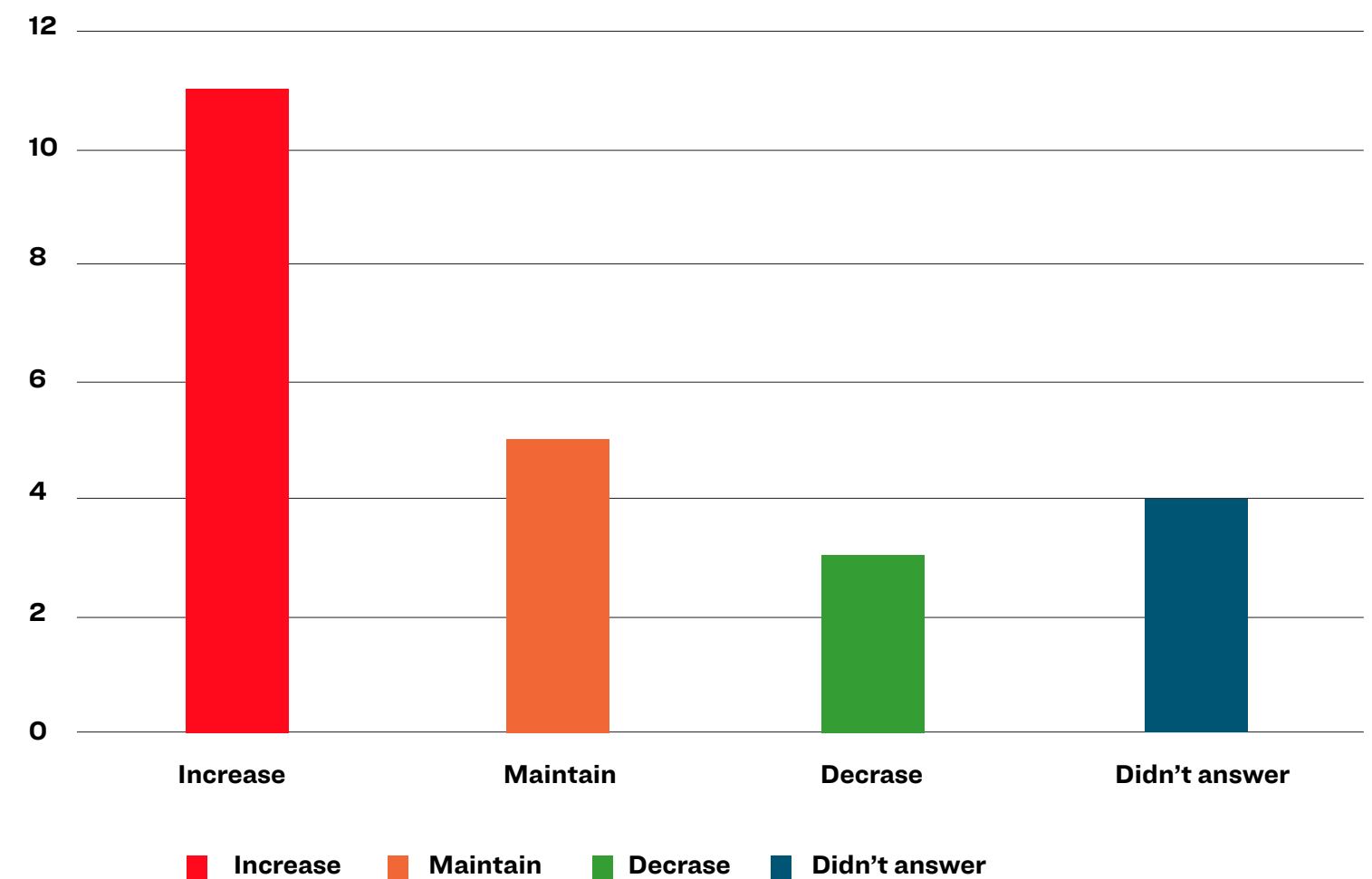


Figure 5: How the use of synthetics has changed over the last five years according to questionnaire responses

The graphs below highlight several brands and how their use of synthetics has evolved since our initial inquiry in 2021. While there may be other examples of significant decreases in synthetic reliance, a lack of public disclosure prevents us from profiling them. Figures are indicative of the year the information was disclosed to Changing Markets unless stated otherwise.

While Lululemon did not respond to our questionnaire this year, publicly available figures show that its use of synthetics, in particular polyester, has increased significantly.⁹¹

C&A - ANALYSIS OF SYNTHETIC USAGE OVER TIME

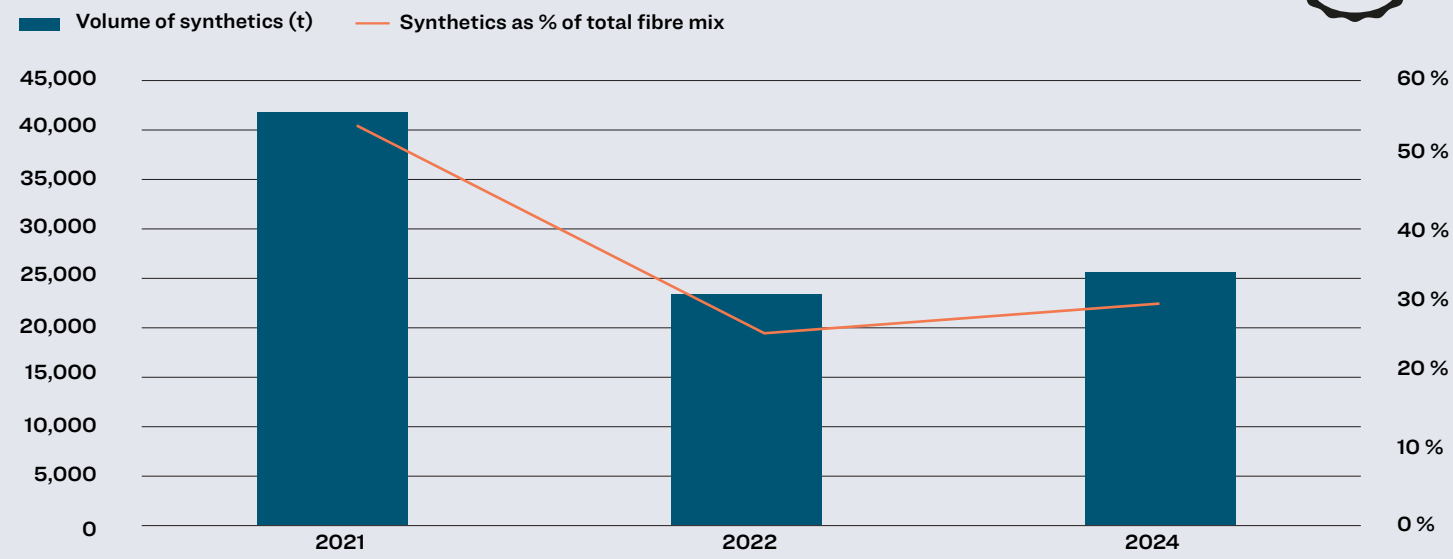


Figure 6: C&A analysis of synthetic usage over time

DRESSMANN - ANALYSIS OF SYNTHETIC USAGE OVER TIME

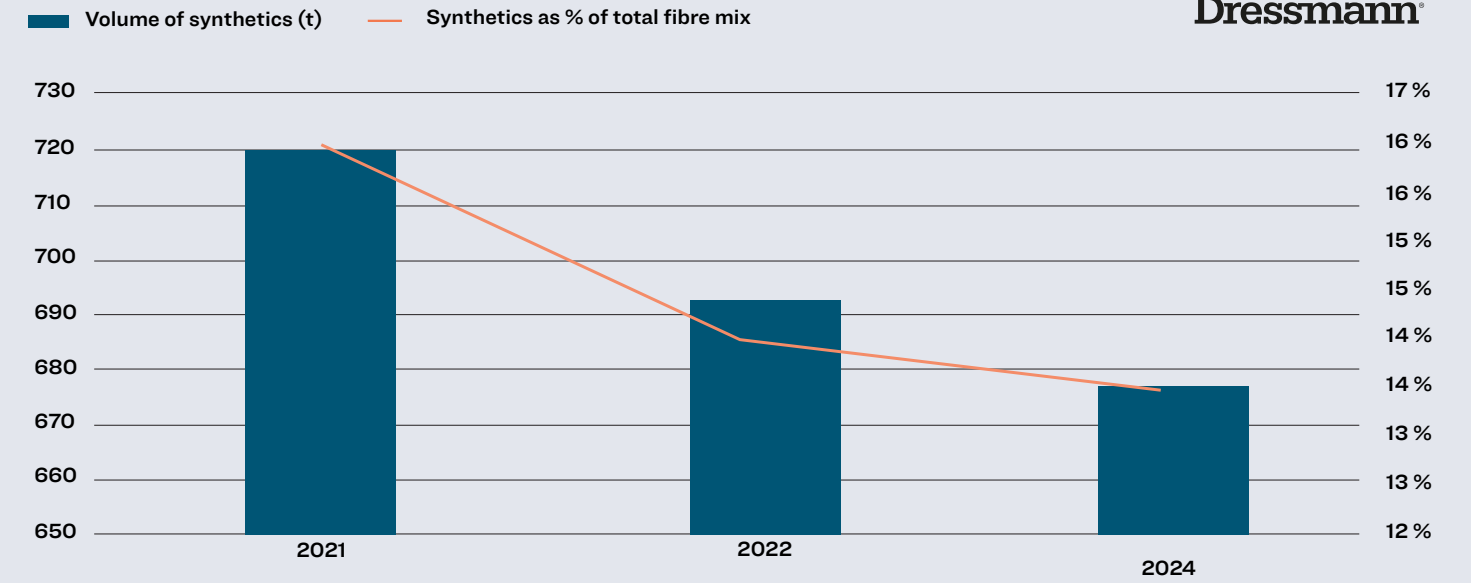


Figure 9: Dressmann analysis of synthetic usage over time

INDITEX - ANALYSIS OF SYNTHETIC USAGE OVER TIME

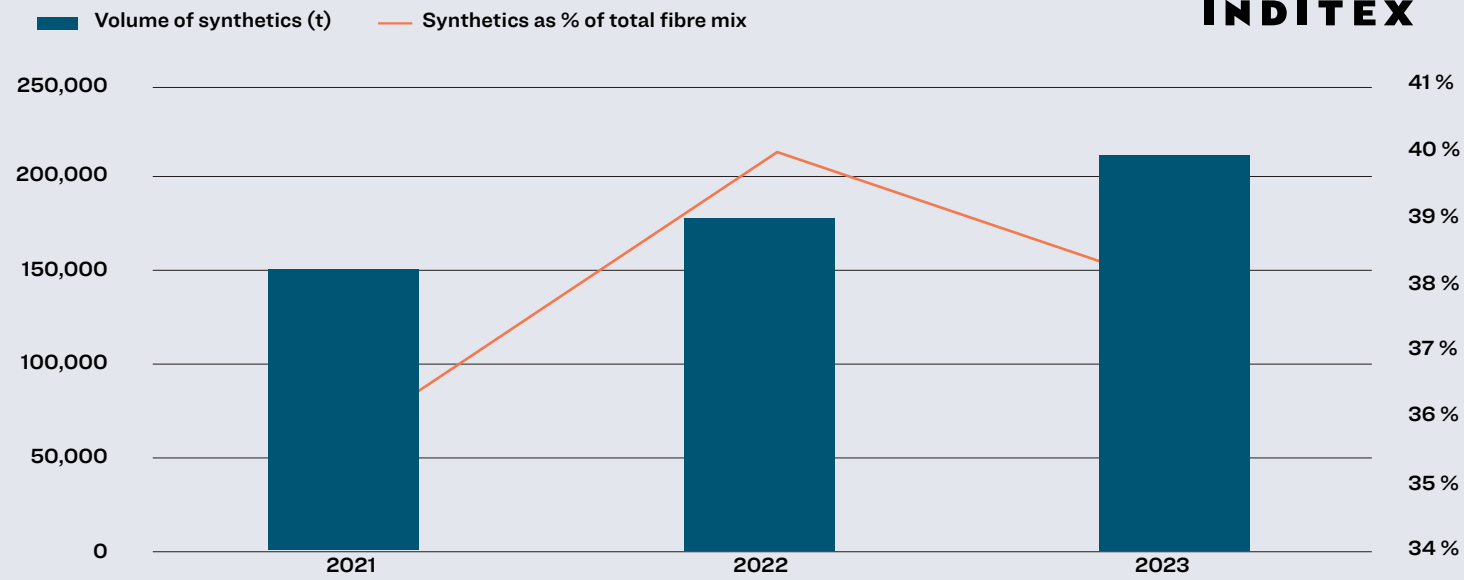


Figure 7: Inditex analysis of synthetic usage over time

GSTAR- ANALYSIS OF SYNTHETIC USAGE OVER TIME

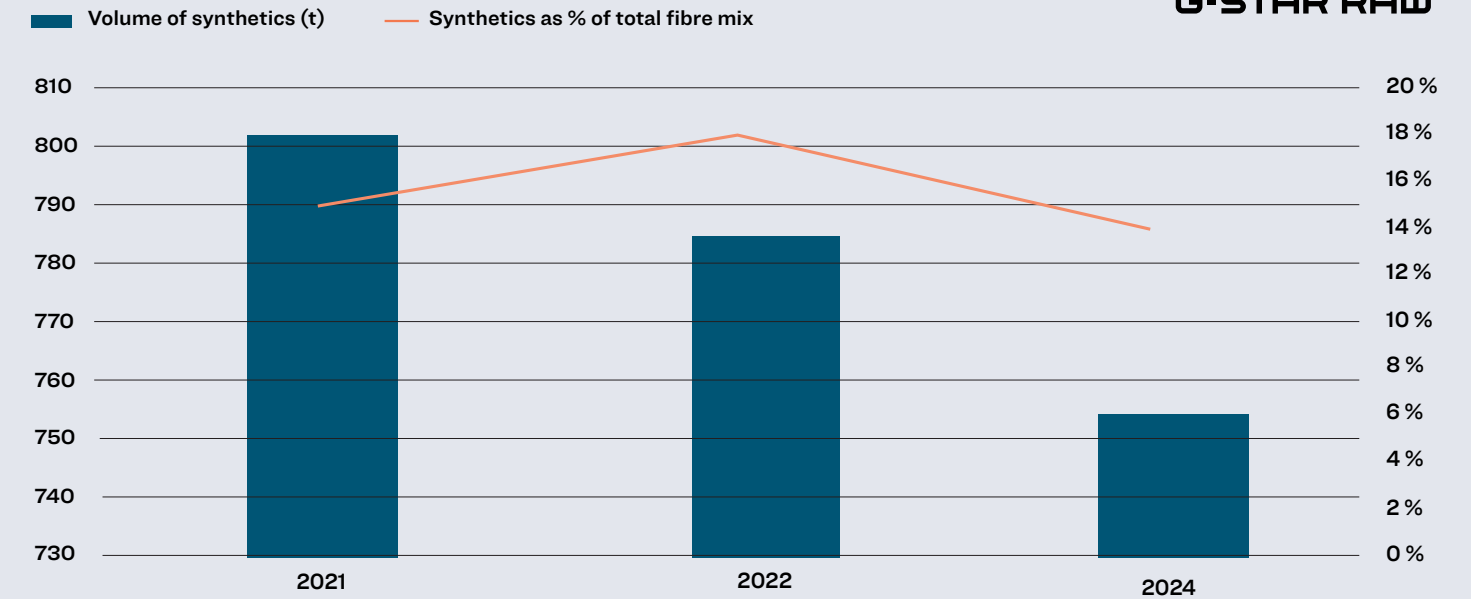


Figure 10: G-Star Raw analysis of synthetic usage over time

LULULEMON - ANALYSIS OF SYNTHETIC USAGE OVER TIME

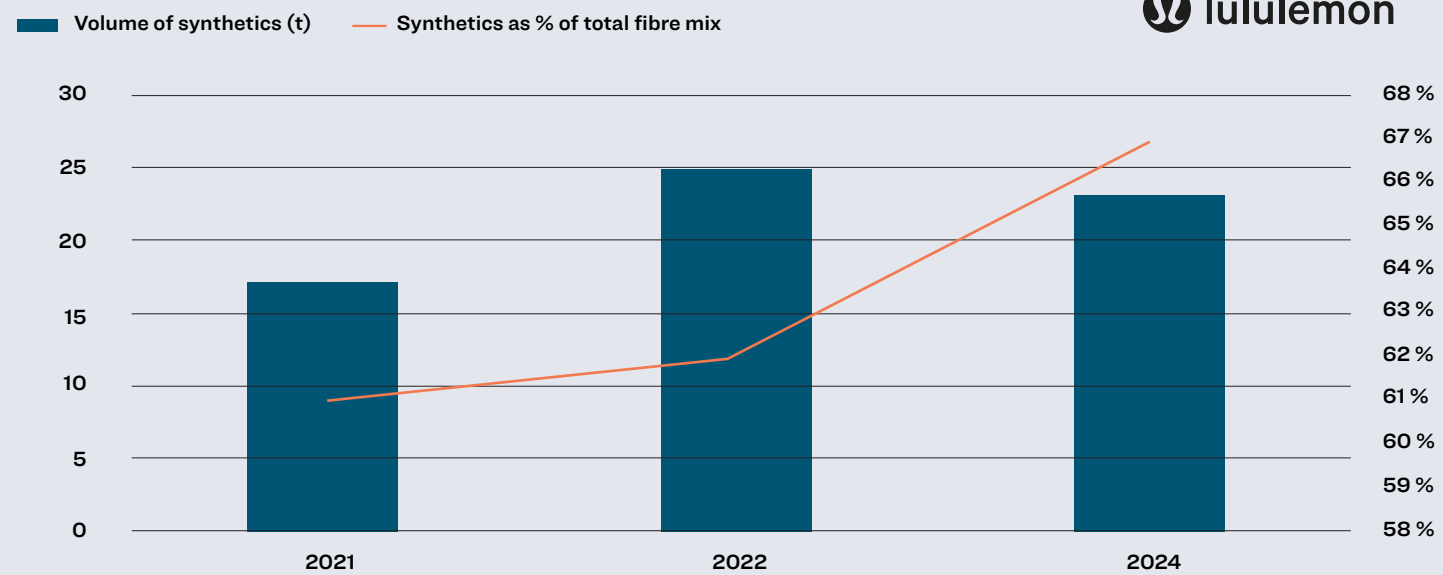


Figure 8: Lululemon analysis of synthetic usage over time

NEW LOOK - ANALYSIS OF SYNTHETIC USAGE OVER TIME

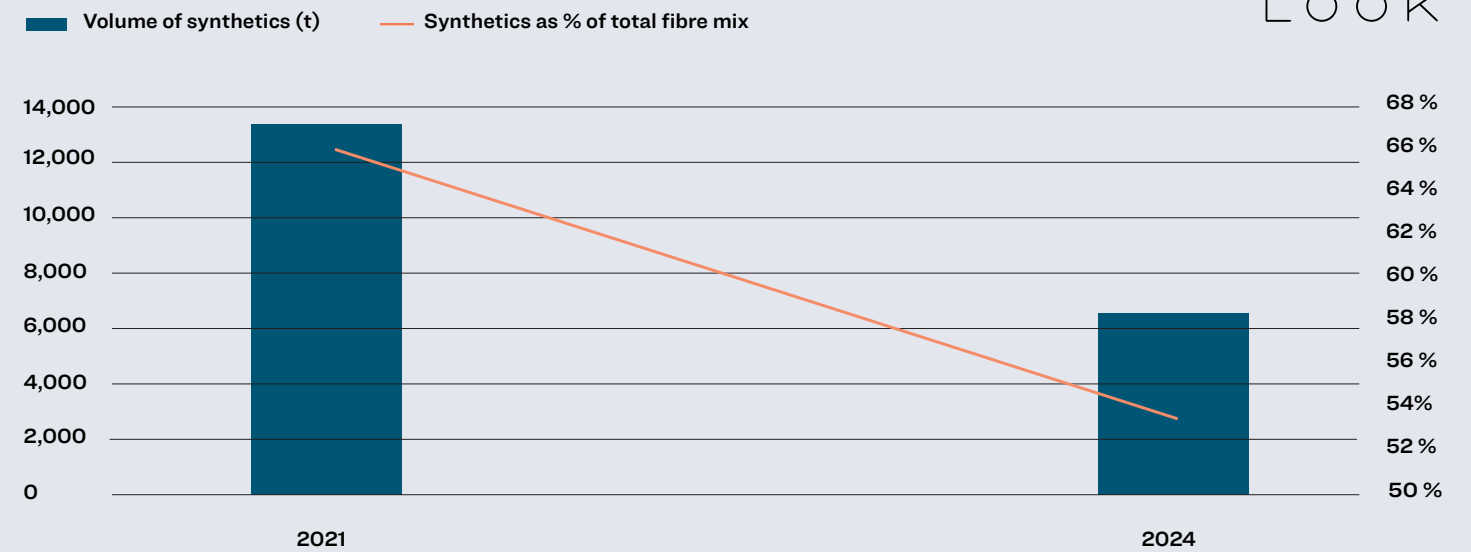


Figure 11: New Look analysis of synthetic usage over time

IV. Empty promises: Who failed to decrease their use of synthetics when they said they would?

In 2022, a number of brands promised to decrease their use of synthetics - but many have failed to do so. While this section casts a spotlight on C&A, Esprit, Inditex and Reformation, this is because they have disclosed information with a good level of transparency - there could be many other brands who are increasing their reliance, we simply don't know. A table with full details on how each company's relationship with synthetics has changed is available on the report landing page at www.changingmarkets.org/report/fashions-plastic-paralysis

- **C&A:** Despite stating its objective in 2022 to continue decreasing synthetics, C&A increased the percentage of synthetics in its total fibre mix from 26.1% to 30% from 2022 to 2024. Additionally, its polyester usage rose by 18%, from 16,644 tonnes to 19,643 tonnes. However, C&A was one of the few companies to publicly disclose its fibre mix by volume and percentage, demonstrating a good level of transparency.⁹²
- **Esprit:** Although Esprit aimed to keep synthetic fibre consumption at the lowest possible level, its total synthetic fibre usage increased by 15%, from 2,951 tonnes to 3,388 tonnes between 2022 and 2024. More significantly, polyester grew from 14.5% to 48.15% of its fibre mix. The brand's website notes that in FY19/20, it produced over 65 million pieces, more than half of which were made with 'sustainable materials'.⁹³ Regardless of whether this is recycled or virgin synthetics, the sheer scale of production is troubling.
- **Inditex:** The company recorded a 20% increase in total volume of synthetics used from 2022-2024, increasing from 178,030 tonnes to 212,886 tonnes. In conjunction, the group's use of polyester has increased by 26% from 131,538 tonnes to 165,965 tonnes. Information on the use of polyester is publicly disclosed by volume and portion of total fibre mix in its latest sustainability report,⁹⁴ reflecting a good level of transparency.

- **Reformation:** Even the only frontrunner from our investigation in 2022 has increased its use of synthetics, though the total volume is small. Since 2022, it increased by 61% from 10.72 tonnes to 17.24 tonnes.

V. How will fashion's relationship with synthetics change in the future?

Nearly half of the brands that responded (11/23, 47%) said they intended to decrease their use of synthetics, most without providing detailed plans and timelines. These brands include Asda, Benetton Group, C&A, Esprit, G-Star Raw, Hugo boss, Inditex, Mango, Reformation, Sainsbury's, and Tesco. Within its response, Inditex caveated this intention by adding that it would reduce the use of synthetics where they didn't provide specific functionality, but that in categories like jackets or outerwear they are still required to maintain performance qualities. Notably, only Hugo Boss and Reformation have committed to phasing out synthetics by 2030. However, past trends show that intentions often remain unfulfilled, as highlighted by broken promises from *Synthetics Anonymous 2.0* in 2022 (see Chapter IV).

Another six brands stated their plans to roughly maintain current levels of synthetic use: Bonprix, Dressmann, H&M Group, New Look, Uniqlo (Fast Retailing) and Zalando. By contrast, Primark disclosed plans to increase its use of synthetics in the future. Burberry, Adidas, Levi Strauss & Co and PVH did not respond to this question.

3.3 Status check: Progress to phase out reliance on fossil fuel feedstock

We also reviewed whether brands and retailers have specific targets and timelines to end their reliance on fossil fuel feedstock. Across the industry, little progress has been made since 2022.



| 41 out of 50 companies (82%) pledge only to reduce reliance on virgin synthetics, namely by switching to recycled polyester.

3.3.1. Laser focused on recycled content and certified materials

Most companies plan to phase out fossil fuel feedstock by increasing recycled synthetic content and focusing on certified synthetic materials. However, direct engagement and secondary research reveal that 7 out of 50 companies (14%) have no policies or commitments regarding synthetics phase-out. These companies are Aldi, Bonprix, Boohoo, Kirkland - Costco, Oakley, Reebok and Van Heusen.

A majority, 41 out of 50 companies (82%), are addressing their use of synthetics by focusing on recycled content and certified materials. Thirteen of these brands are members of Textile Exchange's 2025 Recycled Polyester Challenge: Adidas, Dressmann, G-Star Raw, Gap Inc., H&M Group, Lululemon, Mango, M&S, Puma, Reformation, Target, Tesco and VF Corp.⁹⁵

However, the number of signatories to this challenge has decreased by 17% from 151 in 2022 to 124 in 2023. In its 2024 report *'The Future of Synthetics'*, Textile Exchange acknowledges that the challenge has not accelerated industry-wide progress towards recycled polyester fast enough and that the industry should prioritise fibre-to-fibre recycling.⁹⁶ Brands and retailers differ on the levels of ambition and timelines with regards to the Recycled Polyester Challenge.

Examples of a slow pace towards recycled content include:

- **Abercrombie & Fitch:** Aims to use 25% recycled polyester in collections by 2025 but currently stands at only 1% as of 2022.⁹⁷
- **Gildan:** Plans to source 30% recycled polyester or alternative yarns by 2027, with only 1.6% recycled yarns used as of 2022.⁹⁸
- **Asics:** Plans to switch 100% of polyester in its shows and sportswear products to recycled materials but gives no timeframe.⁹⁹
- **Nutmeg by Morrisons:** Aims for all of its garments to contain recycled polyester but lacks clear targets for recycled content per garment, with only 3% recycled content reported as of 2020.¹⁰⁰

Instances of a faster pace towards increasing recycled content include:

- **Patagonia:** Aims to eliminate virgin petroleum material by 2025, using only "preferred materials", including recycled polyester and nylon. The goal is to source 50% of synthetic materials from secondary waste streams by 2025.¹⁰¹
- **Lindex:** Plans that by 2025, 100% of its materials will be recycled or sustainably sourced, designed for longevity and circularity. By 2026, 70% of all products will include at least 15% recycled content.¹⁰²

Brands have differing views on recycled synthetics. Some see recycling as a solution to justify increased production, while others recognise limitations in recyclability, availability and microfibre shedding. Recently, as the search and use of 'environmentally preferred fibres and materials' has surged, brands often provide their own rankings on materials. The comparison of G-Star Raw's responsible material ranking and Reformation's fibre standards offers a distinction in how they view recycled fossil fuel feedstock.

G-Star Raw places recycled synthetics like polyester, nylon and elastane in its top category. Interestingly, virgin synthetics are not placed in the lowest category of 'do not use', as illustrated below.

Figure 12: G-Star Raw responsible material ranking¹⁰³

In contrast, Reformation does not put recycled synthetic content on a pedestal. Here, Econyl (regenerated nylon) and REPREVE (recycled polyester) sit in category C of its fibre standards methodology. Reformation states that ‘We use recycled synthetics to lessen our environmental impact, but these potentially shed microfibers too.’¹⁰⁴

Figure 13: Reformation fibre standards¹⁰⁵

A - ALL STARS 32 %

Key fibers: Tencel Lyocel™, Recycled cotton, Regeneratively grown cotton, Deadstock, NAIA™ Renew



B - BETTER THAN MOST 59 %

Key fibers: Linen, Organically grown cotton, Better Viscose, TENCEL™ Modal, NAIA™ Acetate



C - COULD BE BETTER <1 %

Key fibers: Econyl® Regenerated Nylon, REPREVE™ Polyester



D- DON'T USE UNLESS CERTIFIED 7 %

Key fiber: Silk, LWG Certified Leather, RWS Merino Wool



E - EWW, DON'T USE 1 %

Key fibers only used in blends: Spandex, Cashmere, Polyester



RECYCLED FIBERS OR MOSTLY RECYCLED FIBERS	ORGANIC, BIO BASED OR COMPOSTABLE FIBERS	BETTER THAN CONVENTIONAL FIBERS	CONVENTIONAL FIBERS	DO NOT USE
NATURAL Cotton (Recycled)	NATURAL Cotton (Recycled)	NATURAL Linen True hemp	NATURAL Cotton	NATURAL Unethical Cotton
SYNTHETICS Polyester (Recycled) Polyamide (Recycled) Elastane (Recycled)	SYNTHETICS LYCRA® (Recycled) ELASTANE (ROICA™ V550)	SYNTHETICS Elastomultiester (T400® Eco Made)	SYNTHETICS Elastane Polyester Polyamide Acrylic Polyurethane Polyacryl Polyester (Sorona®)	
MAN MADE Lyocell (LENZING™ x REFIBRA)	MAN MADE Lyocell (TENCEL™) Viscose (LENZING™ ECOVERO) Modal (LENZING™ ECOVERO)		MAN MADE Lyocell Modal Viscose Cupro	
ANIMAL Wool (Recycled)			ANIMAL Leather Wool Alpaca Silk	ANIMAL Leather from real exotic animal Angora Down Mohair Fur

Box 4. Why recycled polyester is not a sustainable solution

Changing Markets and other NGOs have been exposing the greenwashing behind the use of recycled polyester for years. Even the European Commission in its Textiles Strategy recognised that “A specific source of growing concern is the accuracy of green claims made on using recycled plastic polymers in apparel where these polymers do not come from fibre-to-fibre recycling, but in particular from sorted PET bottles. Beyond the risk of misleading consumers, such a practice is not in line with the circular model for PET bottles, which are fit for being kept in a closed-loop recycling system for food contact materials and are subject to extended producer responsibility obligations, including fees, with a view to meeting the objectives of the EU rules on single-use plastic products and on packaging.”¹⁰⁶

Most notably, in its report “The Future of Synthetics”, Textile Exchange, an industry body with a membership of over 800 brands, manufacturers, farmers and retailers, acknowledged that the industry needs to rapidly end its reliance on polyester made from plastic bottles, for several reasons:¹⁰⁷

- **Waste management:** The fashion industry is grappling with a significant waste problem, with massive amounts of used textiles ending up in landfills or incinerated, often in the Global South. The industry must take responsibility for this waste, and making clothes from bottles does nothing to address this issue.
- **Circularity:** Using bottle-based feedstocks for textiles is not genuinely circular, as it relies on waste from the food and beverage industry rather than addressing the vast amounts of waste generated by the fashion industry. This practice hinders the circularity efforts of the food and beverage industry: it is easier to recycle bottles into new bottles than convert bottle-based textiles into new textiles
- **Supply constraints:** Recycled content targets set by food and beverage companies could reduce the availability of inputs for the textile industry. EU legislation aims for 25% recycled plastic content by 2025 and 30% by 2030
- **Regulatory pressure:** Potential regulatory changes may discourage using polyester from bottles. The EU Commission has indicated it may no longer consider bottle-based polyester as environmentally friendly.

Textile Exchange acknowledges that the primary focus should now be on developing textile-based feedstocks rather than relying on bottle-based materials.

Recycled polyester is also not a solution to the microplastic pollution problem, even though TMC claims that recycled polyester contributes less to microfibre pollution compared to virgin polyester. Its methodology to quantify fibre release from fabrics during simulated domestic laundering, used in its report ‘Recycled polyester within the context of fibre fragmentation’, lacks transparency. According to the scientists from the Microplastic Research Group from Cukurova University, Turkey, the report has several significant limitations that affect the robustness and reliability of its findings.¹⁰⁸

- **Methodological Concerns:** The report excludes certain outliers without clear justification and lacks details on yarn spinning methods, which affects fibre release rates.
- **Missing Fabric Details:** Important fabric construction details, like weight, rib, stitch length and finishing processes are omitted.
- **Testing Standards and Definitions:** There’s a lack of clarity on the washing standards used and parameters such as temperature, duration, detergent composition, pH, which directly affect fibre release.
- **Recycling Process Uncertainty:** Details on the recycling methods and processes are missing, creating uncertainty and potentially skewing results.

Given the growing concerns about microplastic pollution, a more effective solution is to mitigate all plastic in non-essential usages, such as textiles, while focusing on how best to curb new plastics production.



3.3.2. Brands acknowledge microplastics and microfibres as major environmental risk of synthetics

Despite only two brands committing to phasing out synthetics, many are aware of the risks associated with these fibres. This year, a new element of the enquiry asked companies to identify sustainability or other risks related to synthetic fibres. Among the respondents, 17 provided answers: Asda, Benetton Group, Bonprix, Boohoo, C&A, Dressmann, Esprit, G-Star Raw, Hugo Boss, Levi Strauss & Co, Mango, Primark, PVH, Reformation, Tesco, Uniqlo (Fast Retailing) and Zalando.

Common themes emerged in disclosed risks and touched on topics including:

- Microfibre shedding and microplastic pollution as well as subsequent impacts on marine ecosystems and biodiversity
- Carbon emissions and the use of non-renewable resources and brands' ability to reach greenhouse gas emissions reduction targets
- Biodegradability
- Chemicals in processing
- Reputational risk

Brand responses identified a number of risks. Bonprix stated that use of synthetics jeopardised reaching science-based targets and mentioned reputational risk from using PET bottles as feedstock as well as the risk of microplastic and microfibre release. Boohoo, one of the most pervasive users of synthetics in this study, noted that these fibres are a form of plastic, use fossil fuels, emit microfibres and are energy intensive to produce. G-Star Raw had a comprehensive list of risks associated with synthetics, namely high energy consumption, pollution and the discharge of toxic chemicals, microplastic pollution and carbon emissions. Benetton Group

also spotlighted the threat microplastics can pose to marine life and entering the food chain as well as the limited biodegradability which can contribute to landfill waste.

It was notable that 15 out of 17 (88%) companies included microfibres or microplastics in their answers on the risks of synthetics. This suggests a certain level of awareness among the most engaged brands about the impacts of fossil fuel feedstock on microfibre shedding and microplastic pollution. However, two brands are willing to commit to a complete synthetic phase-out.

ACKNOWLEDGED RISKS OF SYNTHETICS

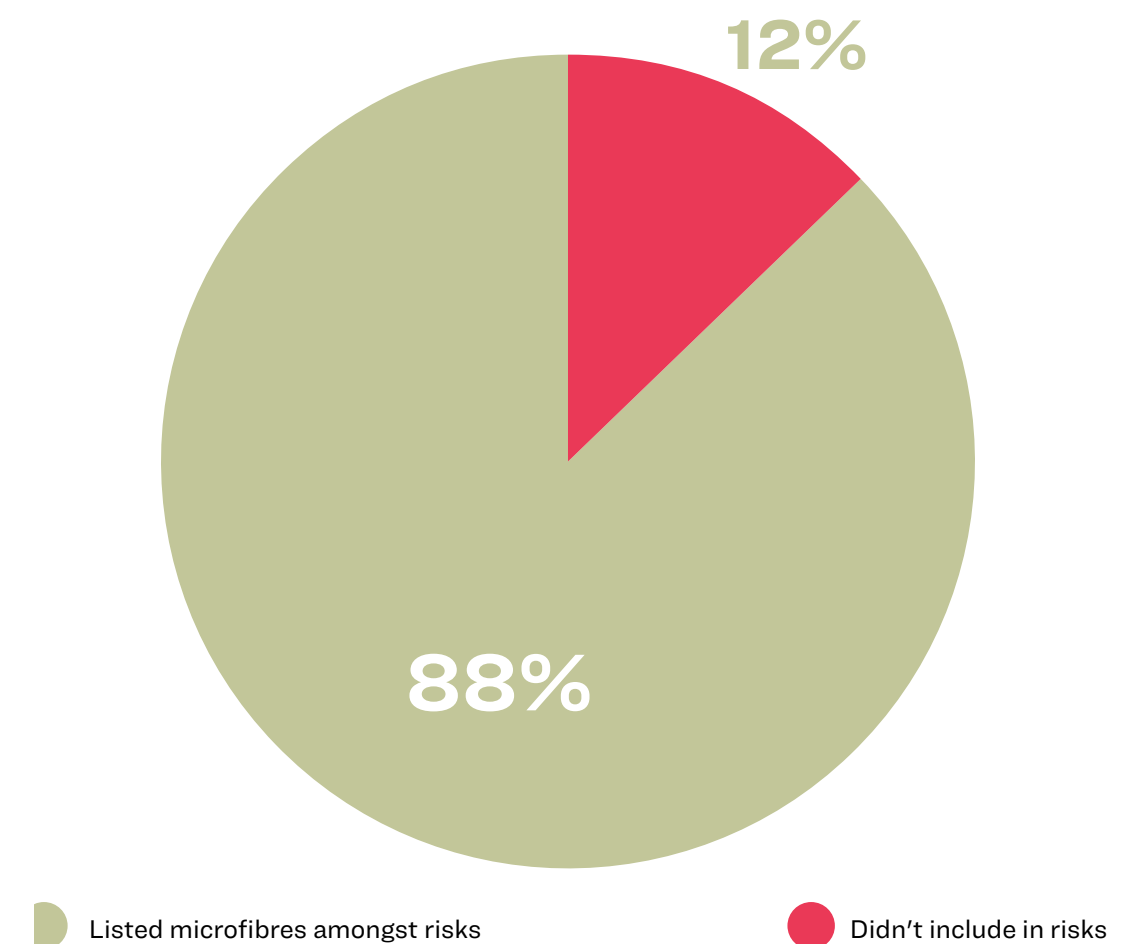


Figure 14: How many brands include microfibres and microplastics among the risks of using synthetics?

Box 5. **Circularity initiatives mask the lack of progress on pursuing alternative business models**

Many of the fashion industry's key players have become fixed on 'circularity' as we witness the rise in rental, repair and resale services across mass market and luxury segments. The Ellen MacArthur Foundation says that fashion's circular business models could be worth \$700 billion by 2030, making up 23% of the global fashion market. While meaningful circularity initiatives should be applauded, it is unclear how the strategies discussed below encourage brands to prioritise quality over quantity. It is predicted that by 2030, apparel consumption will increase by 63% to over 102 million tonnes.¹⁰⁹ Without changes to the business model of rapid production of low-quality clothing, the impact of circularity initiatives will be limited.

Limitations have been exposed through previous Changing Markets investigations on take-back programmes, highlighting that these schemes are not always what they appear to be.

This year's research sought to ascertain which companies are working towards a transformation of their business model by focusing on reducing production volumes, acknowledging that repair, resale or rental on their own are not sufficient to curb current levels of production.

As in *Synthetics Anonymous 2.0* in 2022, Patagonia stands out as one of the only companies that frames its resale offering as a way to replace future production of new products. The brand says it has been '*aligning the organisation and resale growth targets with that goal in mind*'.¹¹⁰ This is complemented by the brand's Worn Wear strategy, devised to extend the useful life cycle of products. This year, Hugo Boss also communicated it wants to avoid overproduction along the entire value chain by using digital technology platform to plan products and procurement processes more efficiently and in a more customer-oriented way. The company referred to its goal of 80% circular products by 2030 and actions like resale and repair services.¹¹¹

However, the stark majority of responses or publicly available information did not present clear evidence on how brands are working towards alternative business models that would encourage a move away from overproduction.



Credit: shutterstock

Inventory management and supply chain strategies were often cited as ways brands are addressing this. For example, Boohoo told us that '*The Group buys small ratios on styles, so we are not stock holding excessively*'. Inditex responded that its model means it is '*able to produce small batches in very short lead times adapted to specific customer needs. Waste in terms of excess end-of-season inventory or overproduction is not a feature of Inditex's business model.*'

Similarly, New Look stated that it had been actively purchasing on a tighter stock model and Sainsbury's commented that it is committed to longer sale periods to sell through and increasing the total buy of core products for more efficient production planning. Zalando shared its work on better forecasting with close ties to suppliers and Reformation discussed designing out waste through better inventory management.

Answers also focused on designing for longevity and durability, even though these qualities do not prevent brands from producing more in total – the items may simply have a longer lifespan.

C&A relayed its commitment to adopt the principles of circular design in 70% of the range by 2028 alongside its Cradle-to-Cradle certified collection. Nike has recently piloted the B.I.L.L. (Bot Initiated Longevity Lab), a robot-augmented system that has been designed to clean and repair shoes with selected customisations to improve the life of its products.¹¹²

H&M Group detailed new initiatives like the launch of Looper Textile Co, which it claims *'provides local municipalities and retailers with solutions to extend the useful life of unwanted garments via reuse and recycling'*¹¹³ as well as its investment in recycled materials like Syre (\$600 million)¹¹⁴ and Infinited Fiber Company.¹¹⁵

However, H&M Group does not disclose its volumes of synthetics so it cannot be ascertained if it is increasing overall production levels in tandem with these investments. At times, it can appear that circularity initiatives from brands without addressing production volumes are a fig leaf for tangible change.

A striking example of this is Shein. Despite being the most pervasive user of synthetics within its fibre portfolio, the company has attempted to cultivate a narrative that it is reducing textile waste. It publicises its partnership with Queen of Raw, a company whose software, Material MX, helps to manage supply chains' excess inventory issues by using unsold 'deadstock' fabric and turning it into more collections. It hopes to *'repurpose high-quality leftover fabric inventory from other brands towards a more circular model that mitigates textile waste and reduces the use of new raw materials'*. However, this is extremely misleading given the brand's vast levels of production, with an estimated 2-3 billion units of its synthetic clothing placed on the market each year.¹¹⁶

Shein has also recently announced a commitment to invest €200 million to build a 'future-ready fashion industry' through the establishment of a Circularity Fund.¹¹⁷ Such initiatives should not hide the truth behind the ultra-fast production model of this company, or that it has experienced growth of 20 times since its entry in the US market in 2018.¹¹⁸

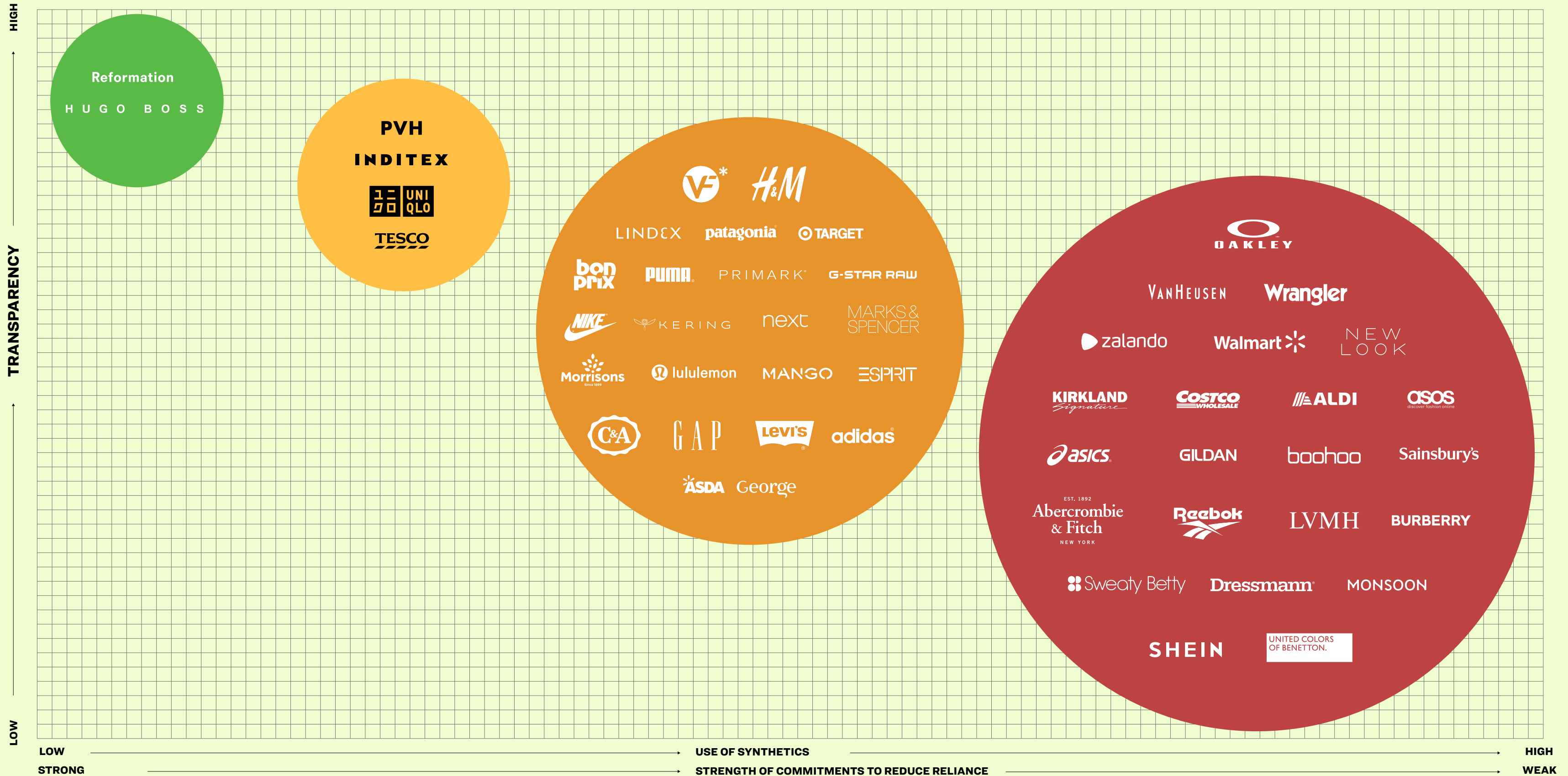
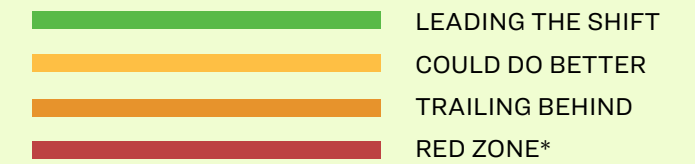
3.4 How are brands addressing microfibre release?

As scientific research continues to detail the prevalence of microplastics from synthetic textiles and the harm they cause to human health and ecosystems,¹¹⁹ it is imperative players in the fashion industry move to proactively address this issue. In 2022, we looked into brands' microfibre policies, and two years on, this chapter assesses what progress has been made.

We reviewed what policies and strategies brands have in place to address microfibre release, and whether these include:

- a. Phasing out the use of synthetic fibres, in line with the precautionary principle, to address their impact on environment and human health
- b. Phasing out the use of synthetic fibres in children's collections
- c. Setting measures and maximum thresholds for the number of microfibres released during production, use phase and end of life
- d. Setting rules on industrial pre-washing and wastewater filtering
- e. Implementing research and development initiatives for reduction of fibre release
- f. Addressing the problem through membership of a relevant multis-takeholder initiative
- g. Offering consumers guidance on garment care and recommending the installation of washing machine filters to prevent microplastics from clothes entering the environment.

Where do brands stand on policies and strategies to address microfibre pollution?



This is a simplified representation of companies' performance and not a ranking. More detailed information is available on the report landing page.

*Many brands in the Red zone landed there due to lack of transparency and disclosure, rather than necessarily lack of policies.

I. Snapshot: Where do brands rank on policies to address microplastic release?

The 50 brands and retailers were evaluated based on their responses and publicly available information and assigned a category based on performance. This year, only two companies received ‘leading the shift’ status: Hugo Boss and Reformation. Both have clear policies to phase out synthetics, with a clear timeframe.

Four companies (Inditex, PVH, Tesco and Uniqlo - Fast Retailing) were assigned to the ‘could do better’ category for having at least three of five more ambitious policies.

Disappointingly, most brands remain in the bottom categories. Of these, 22 fell into ‘trailing behind’ for having only one of the less ambitious microfibre policies out of the seven listed, or being overly reliant on multistakeholder initiatives like TMC. These companies were Adidas, Asda, Bonprix, C&A, Esprit, G-Star Raw, Gap Inc., H&M Group, Kering, Levi Strauss & Co, Lindex, Lululemon, Mango, M&S, Morrisons, Next, Nike, Patagonia, Primark, Puma, Target and VF Corp. Seventeen of these lean on membership of a multistakeholder initiative as their only policy.

Similarly, 22 brands were categorised in the ‘red zone’ for having no policies on microfibres or simply offering consumer guidance and recommendations surrounding filters on washing machines. These companies were Abercrombie & Fitch, Aldi, Asics, Asos, Benetton Group, Boohoo, Burberry, Dressmann, Gildan, Kirkland - Costco, LVMH, Monsoon, New Look, Oakley, Reebok, Sainsbury’s, Shein, Sweaty Betty, Van Heusen, Walmart, Wrangler (Kontoor brands) and Zalando.

Despite greater awareness and scientific evidence of microplastic harm since our 2022 survey, 2024 performance remained largely unchanged. In 2022, 45% of brands lacked public microplastic policies compared to 44% in 2024. Membership in multistakeholder initiatives was consistent, with 52% in 2022 and 50% in 2024.

See Annex I for the ranking methodology on microfibre release.

II. Under the microscope: Fashion falters on microfibre release policies again

From the research, 22/50 companies had no clear policies on microfibres. While they may have mentioned microfibres on their websites or in external-facing communications, there is no clear action or statement stipulating what they are doing to remedy the problem. These brands were Abercrombie & Fitch, Aldi, Asics, Asos,

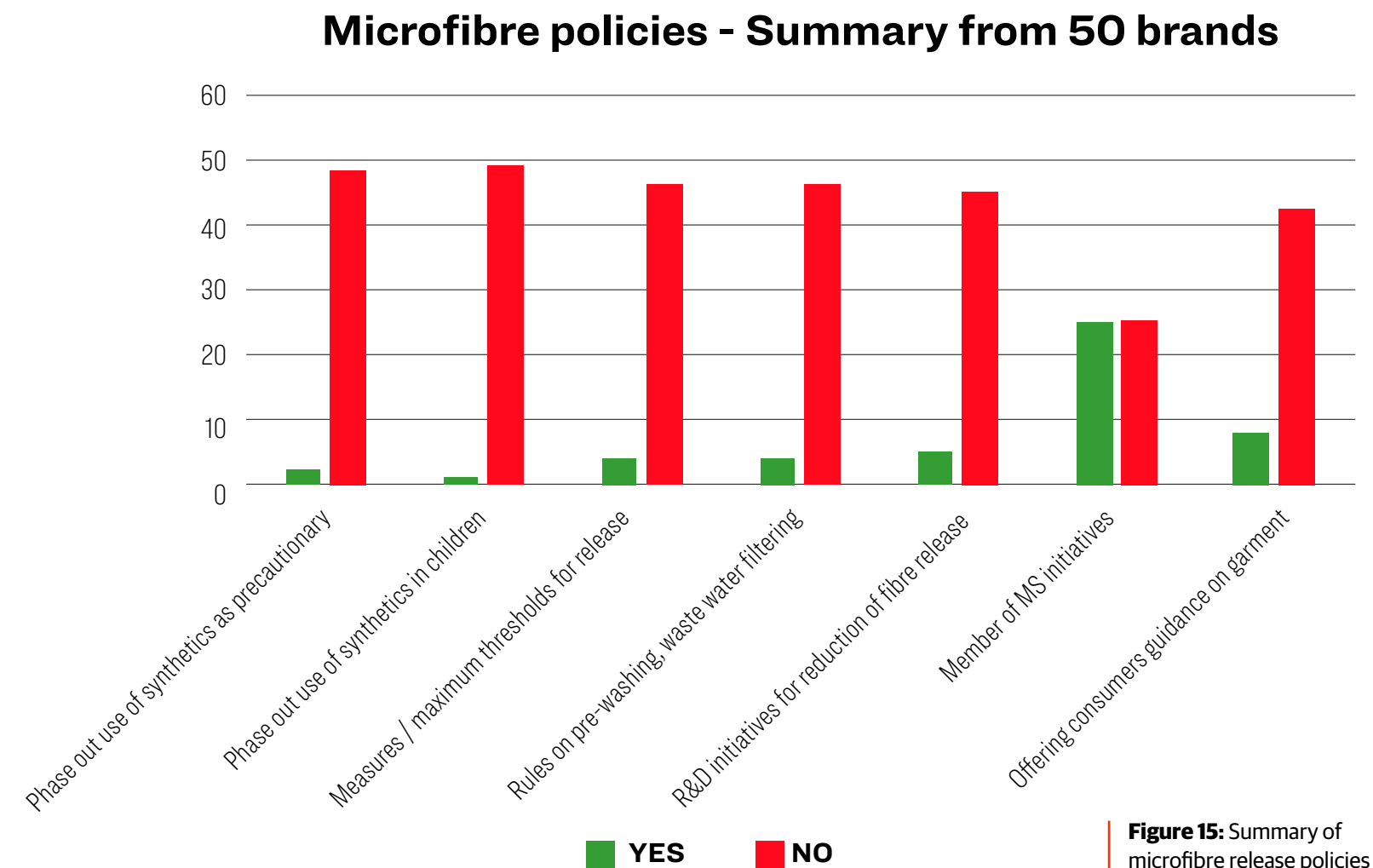


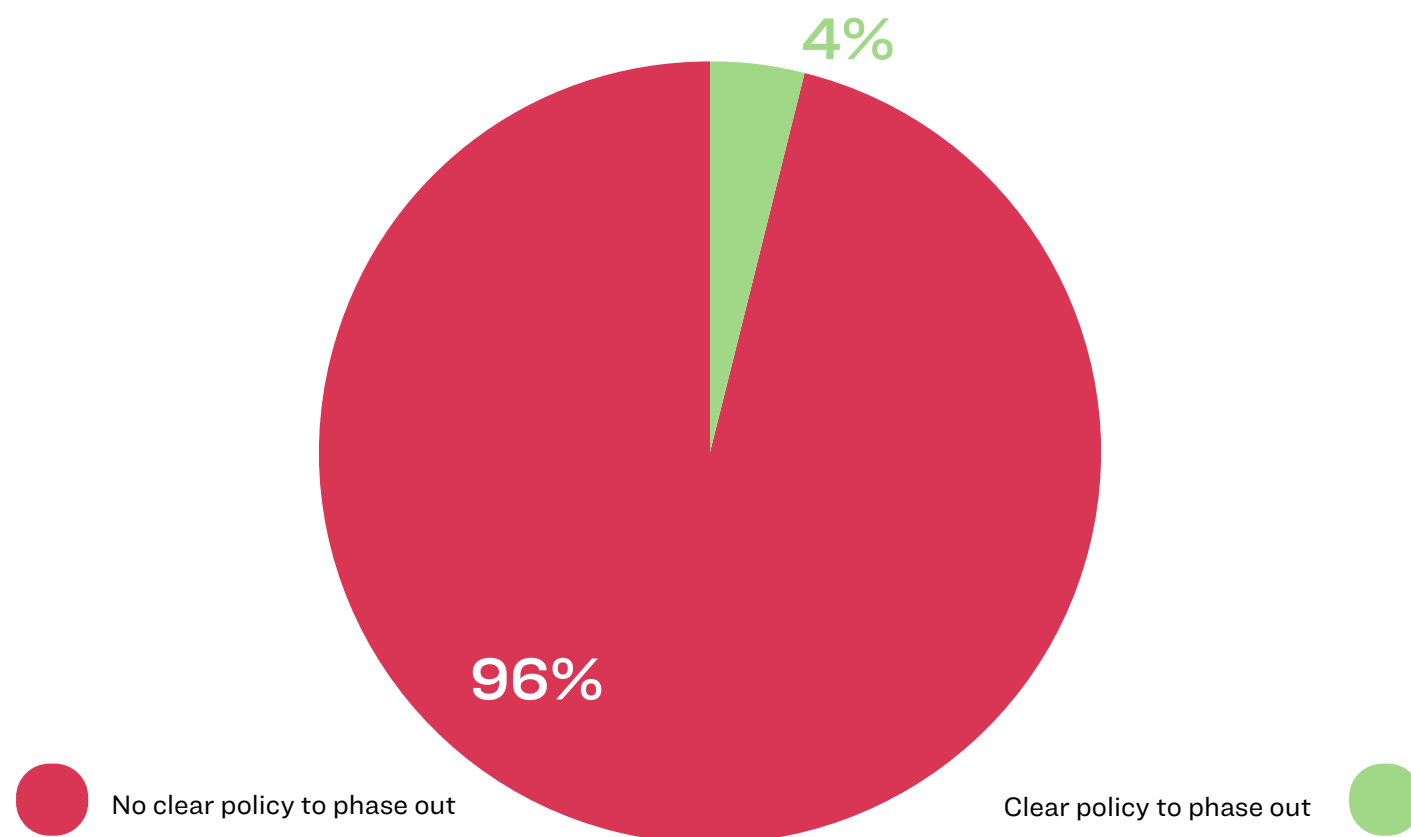
Figure 15: Summary of microfibre release policies

Benetton Group, Boohoo, Burberry, Dressmann, Gildan, Kirkland - Costco, LVMH, Monsoon, New Look, Oakley, Reebok, Sainsbury's, Shein, Sweaty Betty, Van Heusen, Walmart, Wrangler (Kontoor) and Zalando. Among these, six brands that engaged with the questionnaire had no microfibre policies whatsoever: Benetton Group, Boohoo, Burberry, Dressmann, New Look and Sainsbury's.

A. *Phasing out the use of synthetic fibres, in line with the precautionary principle, to address their impact on environment and human health*

Only Hugo Boss and Reformation had policies to phase out synthetics. Hugo Boss aims to use no polyester and polyamide by 2030.¹²⁰ Reformation plans to phase them out by 2030 too, noting 'We're working hard to phase out all synthetics, recycled or not, from highly washed garments like tops, bottoms, and dresses.'¹²¹

COMMITMENT TO PHASE OUT AS A PRECAUTIONARY PRINCIPLE



Credit: shutterstock

B. *Phasing out the use of synthetic fibres in children's collections*

In its response to the questionnaire, Uniqlo (Fast Retailing) was the only company to say that it has a policy to phase synthetics out of children's collections; however, no evidence of this was found online.

C. *Setting measures and maximum thresholds for the number of microfibres released during production, use phase and end of life*

Just four brands had a policy to set measures for maximum thresholds for microfibre release. These companies were Kering Group, PVH, Tesco and Uniqlo (Fast Retailing). For instance, in its circularity strategy, Kering targets zero microfibre leakage by 2030.¹²² The company clearly stipulates to its suppliers that they must

Figure 16: Companies with a commitment to phase out synthetics as a precautionary principle

implement mitigation measures to reduce microfibre leakage during the manufacturing phases, including using certain dyeing, washing, finishing and cutting processes, or measures to increase pre-washing and filtering of products.¹²³

Fast Retailing writes that *'We collaborate with our production partners to verify the impact of microplastics in the materials production processes and devise solutions jointly. Specifically, initiatives will be implemented through communication with suppliers and other means in relation to the products which have been verified to our own standard based on the verification result.'*¹²⁴ Details of specific supplier-facing initiatives were not included online.

Elsewhere, PVH targets eliminating hazardous chemicals and microfibres in the near term. Its 2022 corporate responsibility report states that *'Water leaving our key wet processors will have zero hazardous chemicals and be filtered for harmful microfibers by 2025.'*¹²⁵

D. Setting rules on industrial pre-washing and wastewater filtering

Few companies had public-facing rules on pre-washing and wastewater filtering. Four brands said they had this in place: Esprit, Inditex, PVH and Tesco. However, Esprit did not provide significant supporting evidence and does not mention microfibres in its latest sustainability report.

In collaboration with Jeanologia, Inditex is piloting an industrial air system called Air Fibre Wash. They claim that this system can extract microfibres during garment manufacturing and minimise shedding during domestic washing, and that the machine can collect up to 325kg of microfibres annually.^{126,127}

SETTING MEASURES AND MAXIMUM THRESHOLDS

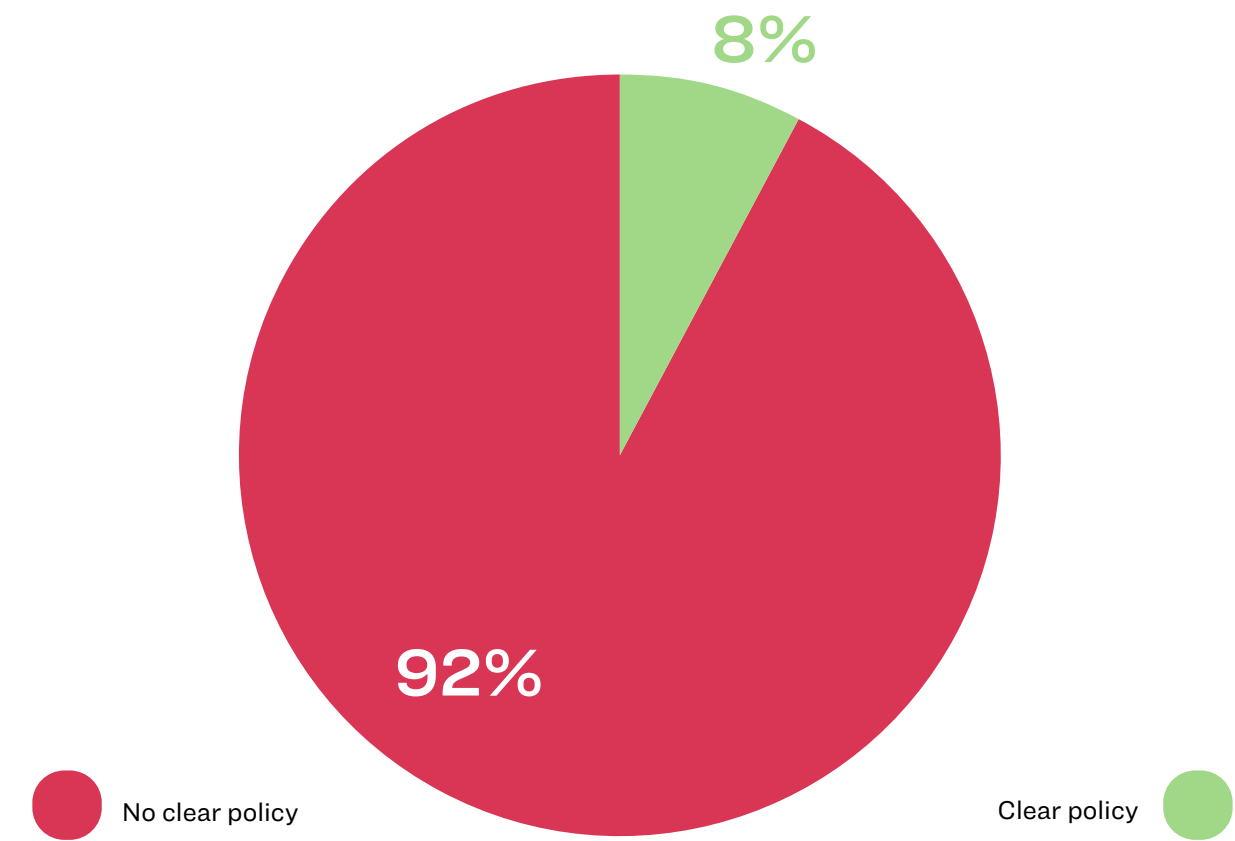


Figure 17: Companies setting measures and maximum thresholds for the number of microfibres released during production, use phase and end of life

E. Implementing research and development initiatives for reduction of fibre release

Research and development initiatives to accelerate the reduction of microfibre release remain in their nascent stages for most companies. Five companies mentioned research initiatives - H&M Group, Inditex, Patagonia, PVH and Tesco. However, Tesco's research was mostly reliant on its involvement with TMC and shed tests, as

RULES ON PRE-WASHING AND WASTEWATER FILTERING

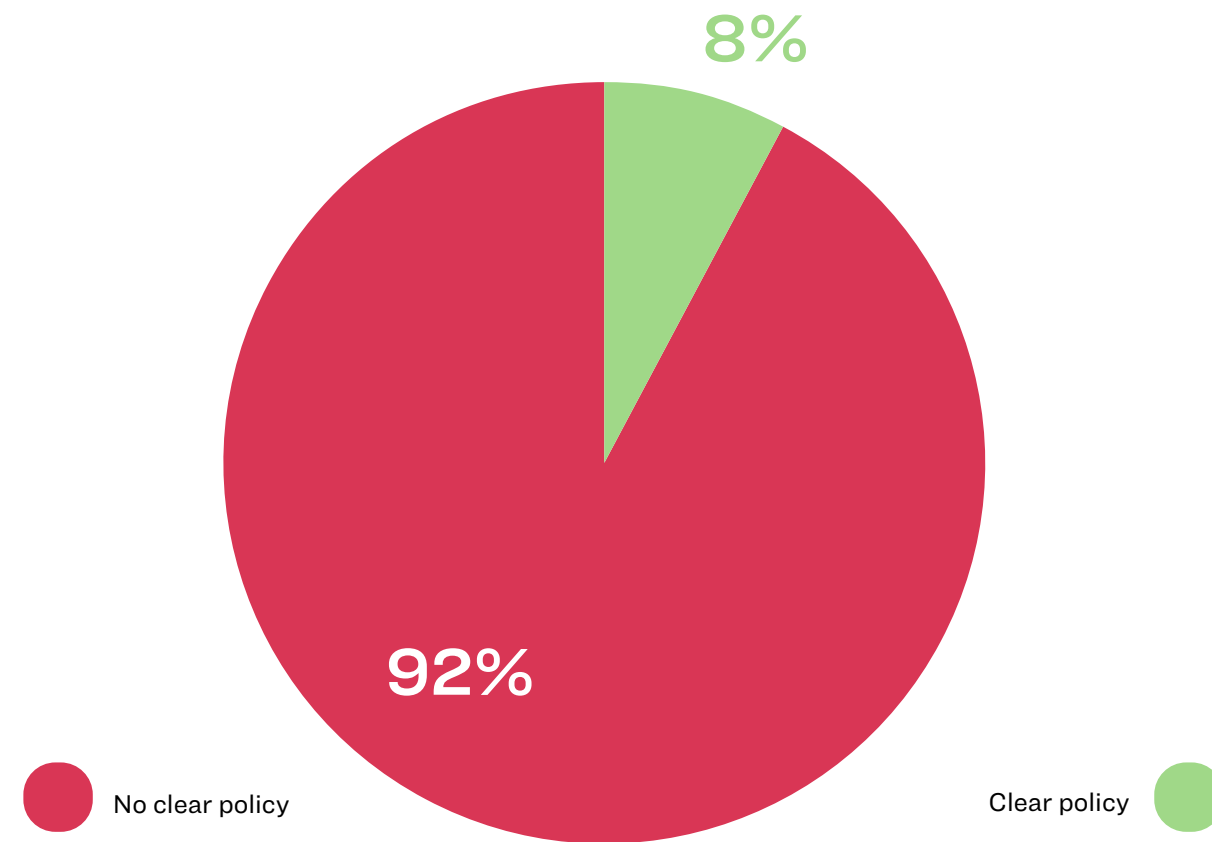


Figure 18: Companies setting rules on industrial pre-washing and wastewater filtering

IMPLEMENTING R&D INITIATIVES

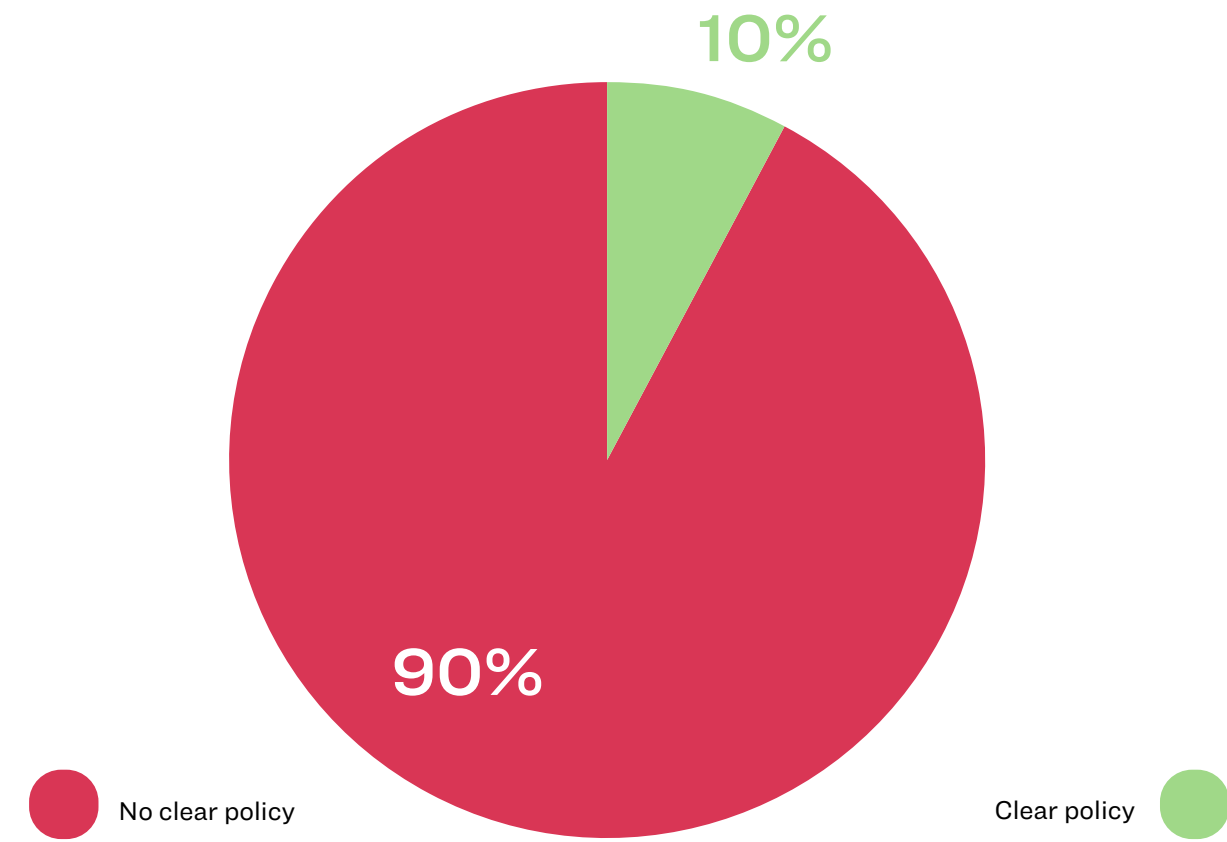


Figure 19: Companies with R&D initiatives on reducing fibre release

opposed to higher scales of innovation demonstrated by the likes of H&M Group, Inditex and Patagonia.

F. Addressing the problem through membership of a relevant multistakeholder initiative

Membership of multistakeholder initiatives remains the dominant option when it comes to adopting any form of microfibre release policies. In total, 25/50 brands (50%) were identified as members of at least one multistakeholder initiative. These brands were Adidas, Asda, Bonprix, C&A, Esprit, G-Star Raw, Gap Inc. H&M Group,

Inditex, Kering, Levi Strauss & Co, Lindex, Lululemon, Mango, M&S, Morrisons, Next, Nike, Primark, Puma, PVH, Target, Tesco, Uniqlo (Fast Retailing), VF Corp.

For 16/50 companies (32%), membership of a multistakeholder initiative was their only microfibre policy. Initiatives noted through the research and responses included TMC, Fashion For Good (Levi Strauss & Co, Bonprix), Textile Exchange (G-Star Raw, Levi Strauss & Co), ZDHC (G-Star Raw, Tesco), European Outdoor Group (M&S), Outdoor Industry Association (Target) and the Japan Clean Ocean Material Alliance

ADDRESSING THE PROBLEM THROUGH MEMBERSHIP OF A RELEVANT MULTI-STAKEHOLDER INITIATIVE

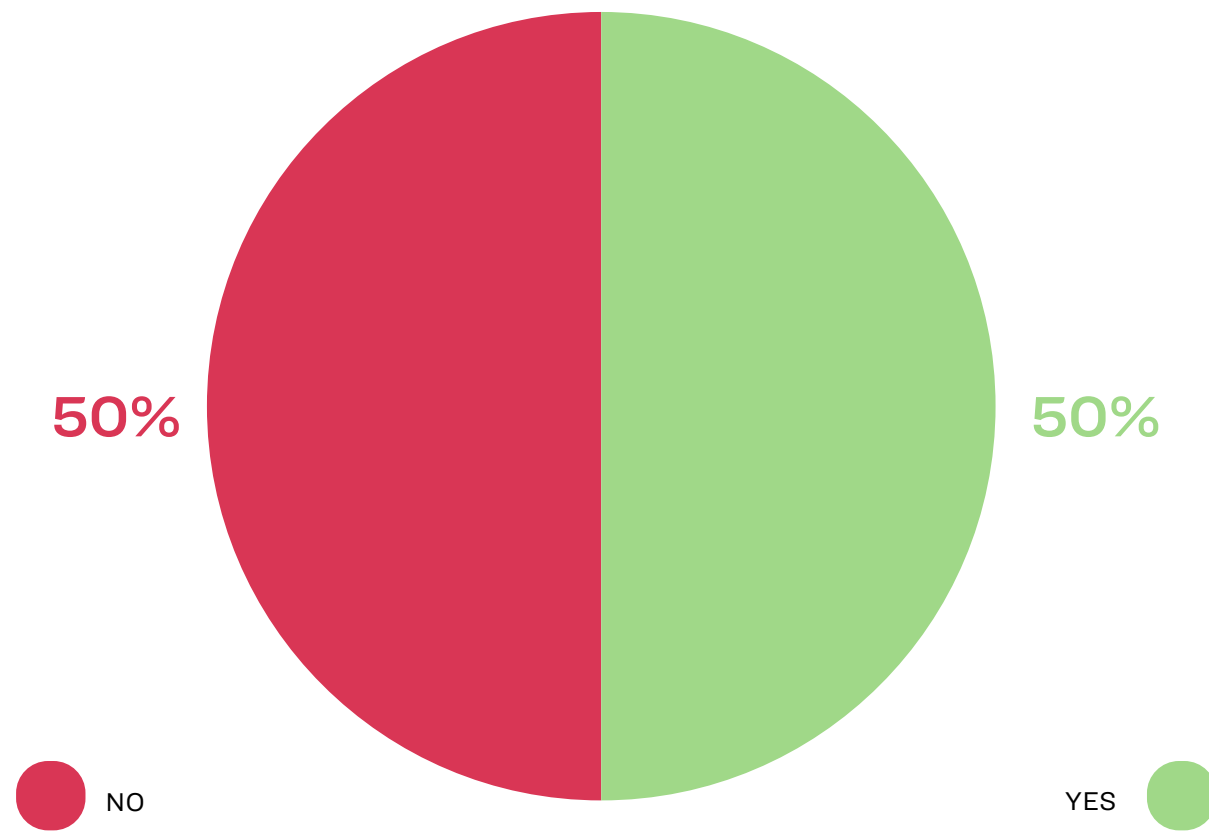


Figure 20: Companies that are members of a relevant multistakeholder initiative

(Uniqlo - Fast Retailing). While a number of initiatives were listed, it was unclear how some were addressing microfibre release in an ambitious and binding way.

A total of 21/50 (42%) brands were members of TMC, according to publicly available reports and the organisation’s official signatory page: Adidas, Asda, C&A, Gap Inc. H&M Group, Kering, Levi Strauss & Co, Lindex, Lululemon, Mango, M&S, Morrisons, Next, Nike, Primark, Puma, PVH, Target, Tesco, Uniqlo (Fast Retailing), VF Corp¹²⁸.

None of these companies aims to phase out synthetics as a precautionary principle. In fact, five TMC members increased their use of synthetics by volume or as a percentage from 2022. These companies were C&A, H&M Group, Lululemon, PVH and Tesco. As other members are not publicly transparent about their use of synthetics, this number could be significantly higher.

Ranking of TMC members on their use of synthetics

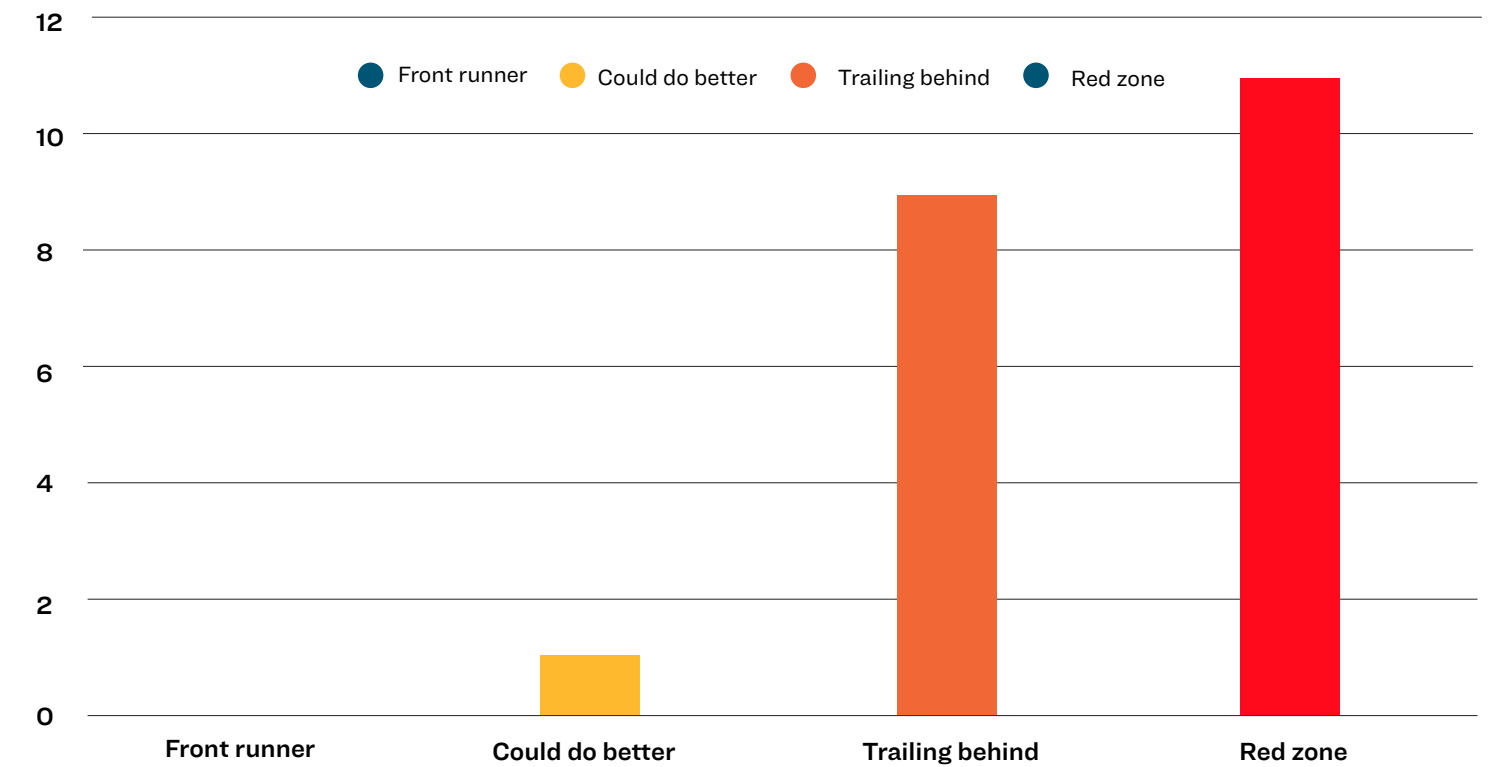


Figure 21: Ranking of TMC members on their use of synthetics

Ranking of TMC members on their microfibre release policies

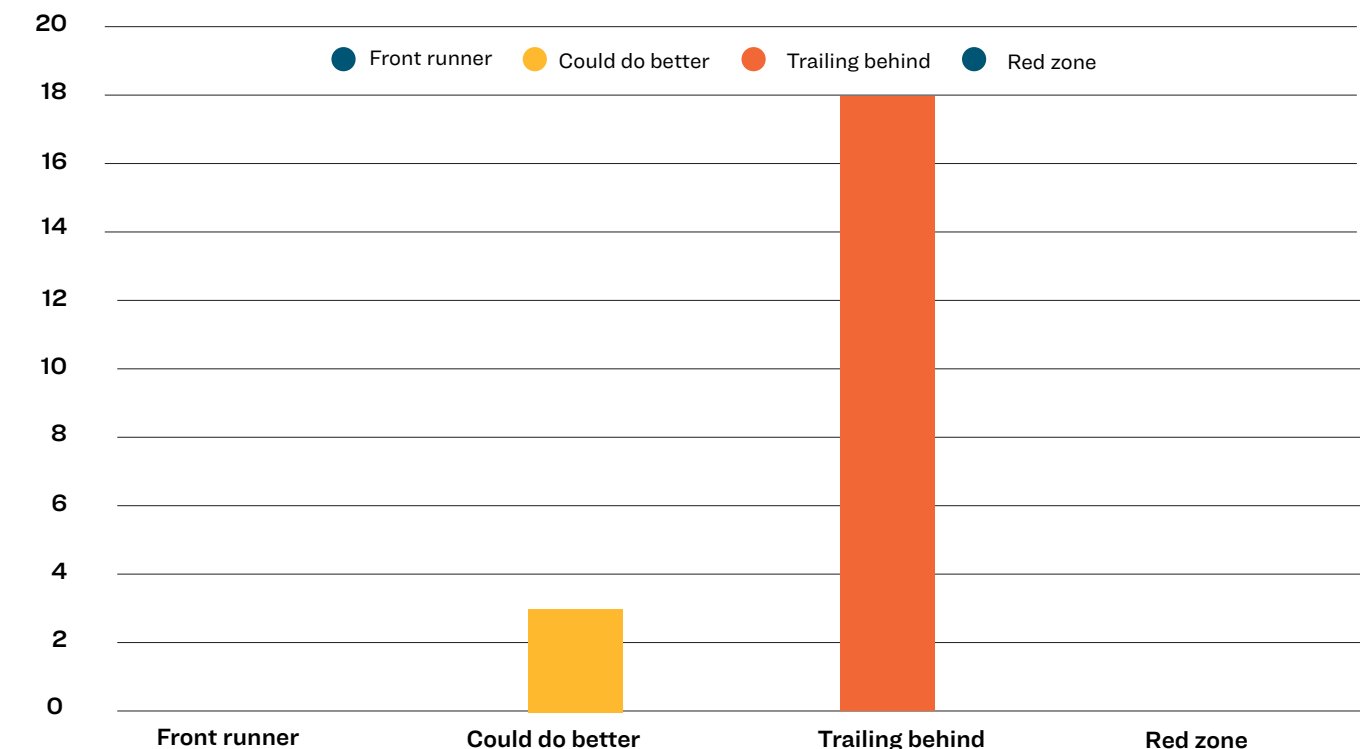


Figure 22: Ranking of TMC members on their microfibre release policies

TMC members' rankings on the use of synthetics and microfibre release policies are shown below.

G. Offering consumers guidance on garment care and recommending the installation of washing machine filters to prevent microplastics from clothes entering the environment

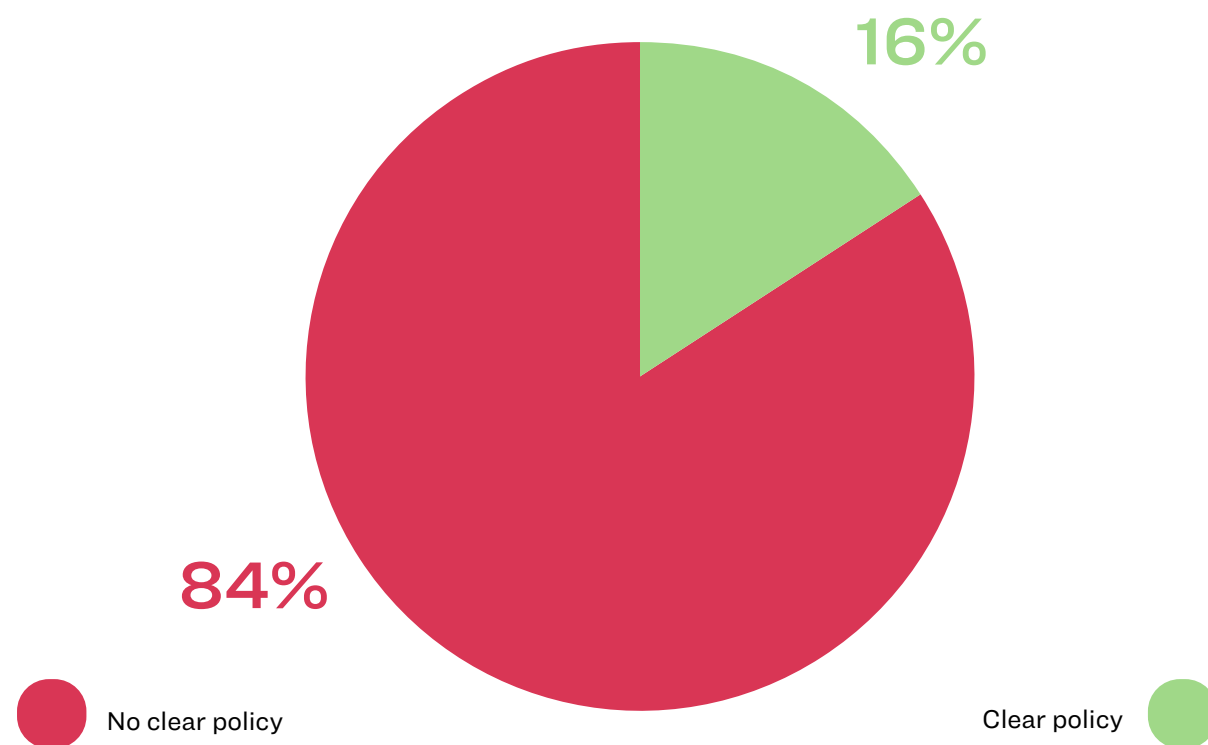
Eight companies offered guidance on garment care or recommended the installation of washing machine filters to prevent microplastics from clothes entering the environment. These companies were Esprit, G-Star Raw, H&M Group, Lindex, Pa-

tagonia, Reformation, Tesco and Uniqlo (Fast Retailing). None of these companies relied on providing consumer guidance as their only policy to address microfibre release.

For instance, H&M's website says that all polyester fabrics shed microplastics during washing and recommends using laundry bags to filter them out, which are available in their its stores.¹²⁹ Promoting laundry bags is a controversial strategy, as it shifts responsibility onto consumers while monetising a solution to a problem the brand itself has created.

Similarly, Patagonia advises customers on its product care page to use a filter bag, like the Guppy Friend Wash Bag, to reduce microfibre release when washing synthetic clothing. Alternatively, a permanent washing machine filter can be installed. Patagonia recommends cleaning out filter bags after a few washes and disposing of the collected fibres in the trash.¹³⁰

GUIDANCE ON GARMENT CARE AND RECOMMENDATION ON FILTERS



III. Recurring patterns and gaps in brand approaches to microfibres

From conducting a broad investigation beyond the brands that engaged with the survey this year, a number of themes and interesting cases emerged. These are detailed below to give a clear picture on progress.

Similar to results in 2022, many policies that cover single-use plastics do not mention synthetic plastic fibres. C&A has a goal to eliminate plastic pollution yet has no clear goal to phase out synthetics to address microplastic release from microfibre shedding.¹³¹

Figure 23: Companies offering consumers guidance on garment care and the installation of washing machine filters

Another parallel with findings from *Synthetics Anonymous 2.0* was that many brands mention the need for more research on microfibre release in their external communications, providing an excuse for inaction. Lindex writes that *‘the research on microplastics, both on the consequences it has on humans and the environment as well as how we can prevent emissions, is still new. More research is needed to enable us to implement the most effective measures possible.’*¹³²

Some brands use the lack of a standardised method for measuring microfibre release to justify their inaction. This is despite TMC being established in November 2018 with exactly this aim. The initiative’s website states *‘Work started in 2017 to develop an aligned and standard test method to quantify fibre loss from fabrics’* in domestic laundering.¹³³ TMC has since published its *‘harmonized and validated test method to quantify fibre release from fabrics during simulated domestic laundering’*, developed in collaboration with the University of Leeds, European Outdoor Group and TMC’s wider stakeholder network. Yet companies including Inditex, Primark, PVH, Tesco, Varner and Zalando continue to use the same excuse that research is still ongoing or more science-based research is needed to agree on a methodology.¹³⁴

For example, Varner, the parent company of Dressmann, which has no official microfibre release policies in place, stresses the need for more research on reducing microfibre release, understanding consumer usage and product lifespan. It highlights the lack of a standardised method for measuring microfibre release as a reason why it is challenging to assess a company’s impact.¹³⁵

As TMC is primarily an industry initiative, complete access to the method, results, and overall transparency is limited. For example, although the TMC claims that its method is publicly available, member results are housed on a data portal, access to which is limited to TMC members.¹³⁶ The method also has several shortcomings (see Box 4). While it references the ISO 105-C06 standard - under which there are

several procedures for washing textiles with varying conditions - it does not specify critical parameters such as temperature, duration, water volume and detergent composition. These factors significantly impact fibre release and are crucial for comparing and reproducing results. Despite the need for improvement and transparency, brands have not publicly criticized the method. Instead, some - including Primark, PVH and Tesco - are signatories to TMC, suggesting tacit acceptance and using the need for a standardized method as a convenient excuse for inaction.

Boohoo, the biggest user of synthetics by percentage after Shein, responded it has no policy on microplastics at the moment. In its 2023 sustainability report, it says that it will announce goals on microfibres in partnership with experts,¹³⁷ but at the time of writing nothing could be found on its website. We have since learned through further communication with Boohoo that it decided not to renew its membership with TMC. Gap Inc. is also stalling on action. It states: *‘As research evolves on micro-fiber/microplastics shedding in garments, we will incorporate the latest insights into our preferred fibre strategies.’*¹³⁸

While H&M Group is making positive moves in setting a roadmap to address microfibres, it calls for more research. The company states: *‘There is currently a lack of science-based methodology to measure microfibre shedding. More research is needed to understand the impacts that different environments have on microfibres, how different materials behave or ‘shed’, and the impact of chemicals on fibre fragmentation.’*¹³⁹

Nike is guilty of this too. While it outlines considerations for addressing microfibres, including standardised testing, research, supplier engagement and consumer solutions, these are merely considerations, not formal policies. Nike conducted an initial study on microfibre shedding using an external lab to guide future efforts, rather than taking immediate action.¹⁴⁰ Given the scale of synthetics it uses, non-profit As You Sow has called on Nike to improve its efforts and reduce the risk of being unprepared for microplastics regulations.¹⁴¹

Another common pattern is companies' failure to connect microplastics with their professed concern for nature and biodiversity. In recent years, fashion brands have sought to improve their biodiversity efforts, as corporate reporting disclosure requirements and global developments like the Kunming-Montreal Global Biodiversity Framework call for heightened efforts to protect, enhance and restore nature. Brands that actively discuss biodiversity roadmaps often fail to address microplastics and microfibres, creating a significant blind spot and risk to nature targets.

For instance, Levi Strauss & Co acknowledges microplastics in its biodiversity strategy,¹⁴² but others, like LVMH¹⁴³ and Mango, do not. Mango highlights its commitment to biodiversity, stating that *'we recognise that biodiversity loss is one of the most important risks we face today and are working daily to help prevent it.'*¹⁴⁴ However, Mango does not recognise the implications of microplastics and microfibres in its sustainability report nor in any plans to prevent biodiversity loss and harms to soils.

Secondary research shows that microplastics are also often overlooked in climate and water stewardship disclosures. Asos's latest Task Force on Climate-related Disclosure (TCFD) report does not mention plastics,¹⁴⁵ and brands like Esprit¹⁴⁶ and Burberry¹⁴⁷ fail to include microfibres in their water management strategies. Bonprix has yet to identify water risks and suitable measures for 2025, underscoring the need to address microfibre release as part of these efforts.¹⁴⁸

Instead of closing the tap on synthetics, Patagonia is focusing on managing the end-of-life release of microfibres. Alongside its numerous other initiatives related to research and consumer-facing actions on microfibres, Patagonia has worked with Ocean Wise and the city of Vancouver on the potential for municipal filtration systems to capture more of the microfibres released every day from washing machines.¹⁴⁹



Box 6. **Proactive behaviour and innovative technologies to address microfibre release**

Some brands are developing progressive strategies on tackling microfibre shedding. Reformation and Hugo Boss lead with a precautionary approach by committing to phase out synthetics, the most efficient strategy to combat microplastic pollution. Other strategies focus on limiting microfibre shedding and pollution without reducing reliance on synthetics. While some of these strategies appear progressive, are they truly effective? If your bathtub is overflowing, the best solution is to turn off the tap, not just endlessly mop the floor – the same logic should apply to microplastic pollution.

While not included in the sample of 50 companies, sportswear brand Under Armour set a clear target in 2023 that by 2030, 75% of fabrics in its products are to be made of low-shed materials. The brand reports developing a new testing methodology to tackle fibre shedding and its source¹⁵⁰ and that it is using this method to screen out new textile candidates with high-shed rates before they enter its product development streams. However, we do not have data on the brand's usage of synthetic fibres.

- H&M Group says it is developing a detailed microfibre roadmap to formalise its current approach that will include:
- Sharing knowledge and information about microfibres across the supply chain to raise awareness and identify potential solutions.
- Choosing and designing yarns and fabrics that minimise microfibre shedding.
- Researching new production processes and requirements to minimise shedding.
- Offering microplastic-reducing laundry bags to customers and supporting the development of laundry machine filter systems.
- Improving technologies that enable reuse and recycling.¹⁵¹

Kering developed a synthetic standard for suppliers to mitigate microfibre release, and requires suppliers to stay up to date on various test methods for microfibre shedding. Test methods are currently being developed by the American Society for Testing and Materials (ASTM), the American Association of Textile Chemists and Colorists (AATCC) and the University of Leeds. For example, oxo-fragmentable fibres are to be avoided as the micro fragments released could increase the level of microplastics in the oceans.¹⁵²

In addition, some companies are developing innovative strategies to reduce fibre release, but most of these are end-of-pipe solutions, focused on cleaning up the mess instead of prevention:

- H&M Foundation is funding a new technology and device developed by the Hong Kong Research Institute of Textiles and Apparel that uses soundwaves to separate microplastics from wastewater.¹⁵³ Once separated, microplastics are filtered into tanks for treatment, including recycling. The lab-scale treatment system can only handle 20 litres of water an hour as of April 2023. The development team claim it could be upscaled for industrial use in the future to treat between 5,000 and 10,000 litres an hour and be connected to any wastewater facility.
- Inditex is experimenting with several initiatives to reduce microfibre release from its products, including the Air Fiber Washer in partnership with Jeanologia and household detergent designed to reduce microfibre shedding in domestic washing. Additionally, it has recently entered into joint development of Pigmentura by CHT,¹⁵⁴ a dyeing solution that aims to decrease water consumption and prevent microfibre shedding. The company said it has launched its use at an industrial scale as of 2023.¹⁵⁵
- Patagonia partnered with Samsung Electronics to improve home washing machines. As a result, Samsung has introduced a Less Microfiber Filter developed to prevent microfibre release.¹⁵⁶¹⁵⁷ The filter was introduced into the Korean market in May 2023, with Europe and North America to follow.¹⁵⁸



4. Positioning on EU legislation and international treaties

An impending surge in global textiles legislation is on the horizon. In the next two to four years, over 30 regulatory measures are expected worldwide, targeting areas such as import restrictions, product design guidelines, textiles waste and due diligence.¹⁵⁹ While mostly not going far enough to bring the growing environmental and social impacts of fast fashion under control, the tide is finally turning on one of the least regulated industries in the world and there is hope that incoming laws will compel companies to adopt more responsible practices.

Published in March 2022, the EU Textiles Strategy recognises fossil-fuel-based synthetics as a primary driver of the fast-fashion model and microfibre pollution. The strategy states, “*As the highest amount of microplastics are released in the first 5 to 10 washes, fast fashion,*

*which is associated with the growing use of fossil-based synthetic fibres, has a high impact on microplastic pollution.”*¹⁶⁰ However, the strategy stops short of recommending measures that would lead to a reduction of fossil-fuel-derived fibres as a way of curbing fast fashion and microplastic shedding.

The following section explores companies' position on upcoming EU and international regulations and treaties most relevant to tackling microplastic pollution from textiles. This year's questionnaire builds on the enquiry from 2022 to ascertain if companies support policies that could directly address microplastic release, and restrict the production of synthetic fibres to address plastic pollution more broadly.

We asked companies about:

- a. Support for the introduction of legislation to address the unintentional release of microplastics from textiles
- b. Support for eco-modulated fees and eco-design criteria tied to microplastic release
- c. Support for eco-modulated fees and eco-design criteria tied to the volume of product put on the market
- d. Support for Product Environmental Footprint (PEF) to include microplastic emissions as an indicator
- e. Support for the global plastic pollution treaty to mandate a reduction in the production of plastic-based materials, including synthetic fibres, to address plastic pollution at its source.

Of the 23 brands that completed the questionnaire, 22 provided answers to this section. Sainsbury's was the only company that completed the questionnaire but left this section blank. Full responses by brand can be found on report's landing page.

For brands that didn't engage, we analysed information from previous responses in 2022 on positioning on the EU Textiles Strategy and any available public disclosure to ascertain a clearer picture of their position.

Five brands said they would support all areas outlined in the questionnaire. These were Boohoo, Dressmann, Mango, New Look and Reformation. However, no organisation provided clear public-facing evidence or statements on this. In its sustainability report, Dressmann's parent group Varner acknowledged that the ambitious EU strategy for textiles underlines the importance of a more circular approach.¹⁶¹

While Boohoo opted to support all areas in its response, it does not match this with actions. The retailer plans to increase its use of synthetics and has no policies in place to address microfibre release. The 'Taking action' page on the Boohoo website makes no mention of advocacy or engagement on policy, touching only on charity work.¹⁶²

In general, supporting evidence is lacking. Inditex references a corporate position paper on the EU Textiles Strategy dated back to August 2021. Benetton Group mentions the strategy in passing but only in relation to addressing material topics and impacts for the business.¹⁶³

Other companies provided general statements. For instance, Mango told us that it *'values the progressive introduction of new European legislation on sustainability, as it harmonises a common regulatory framework within the fashion industry and provides greater visibility for consumers'*. New Look said: *'We support increased regulation of the textiles industry; however we don't believe this is just relevant to synthetics. Microfiber release is relevant for many fibre types.'*

Disappointingly, a number of companies had weak answers. Adidas answered ‘don’t know’ to all areas of legislation. This was a similar position to its response in 2022, when it stated *‘It is too early to include this into legislation. More research is needed to understand where fibre fragmentation happens and how to objectively measure it.’*¹⁶⁴

Burberry also answered ‘don’t know’ to each area despite being a member of The Fashion Pact, which aims to accelerate industry-wide change across three areas - stopping global warming, restoring biodiversity and protecting the oceans - all of which are relevant to the legislation covered in the survey.

Three brands actively responded ‘no’ against these policies. Inditex said no to all areas except including microplastic emissions as an indicator in the PEF. Pri-

mark answered ‘Don’t know’ to all areas except actively stating ‘no’ to eco-modulated fees and eco-design criteria tied to the volume of product put on the market. No rationale was provided. Zalando responded ‘no’ to eco-modulated fees and eco-design criteria tied to the volume of product put on the market. A full breakdown of companies’ position on upcoming EU and international regulations and treaties most relevant to tackling microplastic pollution is available in Annex III.

A. Support for the introduction of legislation to address the unintentional release of microplastics from textiles

In its Circular Economy Action Plan 2.0, the European Commission committed to tackling the presence of microplastics in the environment, including by developing standardisation, certification, regulatory measures and harmonised measurement methods to address microplastic releases. In 2021, in its action plan ‘Towards zero pollution for air, water and soil’,¹⁶⁵ the Commission proposed that, by 2030, the EU should reduce intentional and unintentional microplastic releases into the environment by 30%. The 2022 EU Textiles Strategy also states that the Commission plans to address the different life-cycle stages at which synthetic fibres are shed into the environment through a set of prevention and reduction measures, including a ‘Commission initiative to address the unintentional release of microplastics in the environment’, to be presented in 2022.¹⁶⁶ Since then, the European Commission has dropped the ball, releasing only a brochure on EU action against microplastic pollution that dedicates just two pages to addressing microplastics from textiles.¹⁶⁷ It remains to be seen whether the new European Commission will pick up this topic in the next mandate.

Our research sought to ascertain brands’ stance on this.

SUPPORT FOR LEGISLATION - SUMMARY

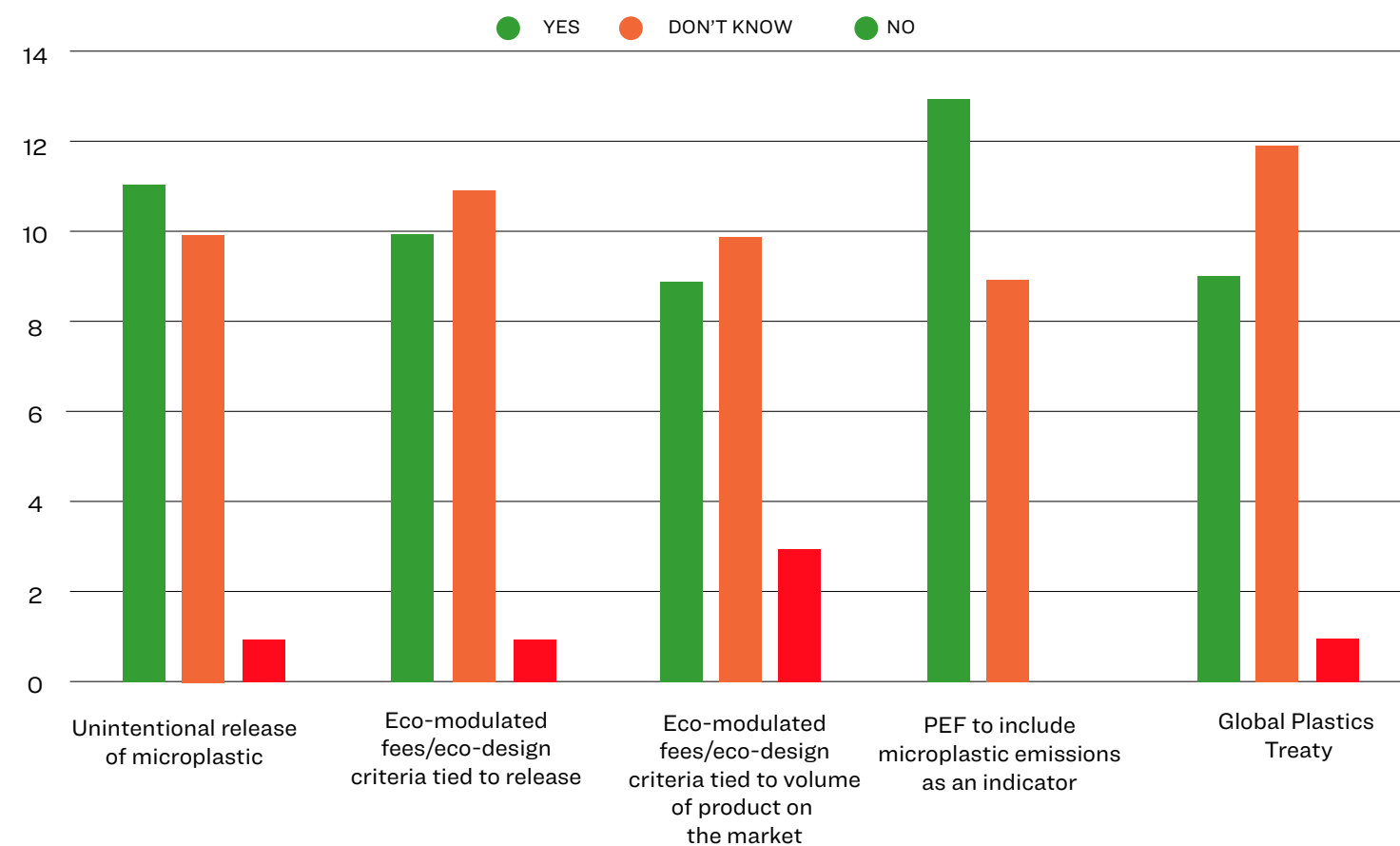


Figure 24: A summary of brand responses on support for different areas of legislation to tackle microfibres

SUPPORT FOR THE INTRODUCTION OF LEGISLATION TO ADDRESS UNINTENTIONAL RELEASE OF MICROPLASTICS FROM TEXTILES?

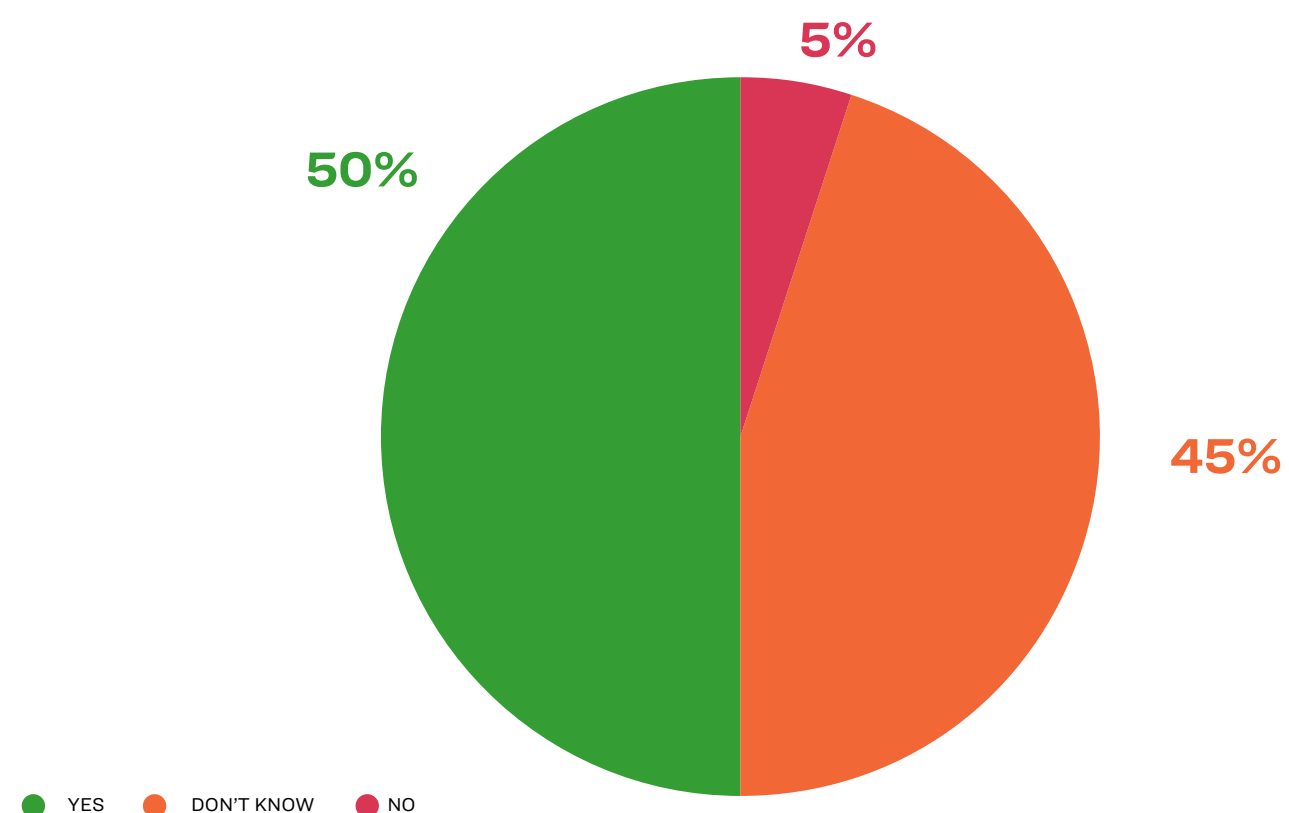


Figure 25: Support for legislation to address the unintentional release of microplastics from textiles

Half the companies that responded (11/22) companies said they would support the introduction of legislation to address the unintentional release of microplastics from textiles: Asda, Benetton Group, Boohoo, C&A, Dressmann, Esprit, Hugo Boss, Mango, New Look, Reformation and Tesco. No clear public-facing evidence was provided. Tesco said *'We closely monitor EU proposals for legislation. We offer our feedback when requested by the EU during its consultation period.'*

Ten respondents (45%) answered 'don't know': Adidas, Bonprix, Burberry, G-Star Raw, H&M Group, Levi Strauss & Co, Primark, PVH (Fast Retailing) and Zalando.

In its response, PVH added that it is committed to finding scalable solutions to reduce the impacts of microfibre pollution, for example through TMC. It stresses that

legislation, for instance in the context of the eco-design framework, should be science- and risk-based, realistic, enforceable and proven to provide effective impact. The company does not speak specifically about measures against microplastics.

H&M Group provided detail to support its 'don't know', redirecting the focus from microplastic to microfibre release and stressing the need to align with TMC's roadmap. Its position includes a call for the EU Commission to adopt a comprehensive approach that incorporates:

Scope: cover all types of unintended fibre fragmentation and all relevant stages of the product life cycle (i.e. production, use, end-of-life)

Research: support ongoing industry research and allocate funding according to the needs identified under TMC's roadmap.

Step-by-step and risk-based approach: firstly adopt one common methodology to be able to measure microfibre release at product and production levels based on current cross-industry efforts; secondly identify which shed fibres cause a higher risk for the environment; finally define legal thresholds.

Inditex was the only retailer to actively say no to supporting this area of legislation, saying more research and standardised methods are needed. It said there is a lack of standardised scientific methods for identifying and ensuring microfibre traceability and data for drawing comprehensive conclusions. It urges the Commission to develop harmonised methods for measuring microfibre release, closing gaps in scientific knowledge about microfibre risks and occurrences, and conducting research to better understand the causes of microfibre emissions and develop technical solutions to address the issue.

Sainsbury's did not engage on any question in this section of the enquiry.

B. Support for eco-modulated fees and eco-design criteria tied to microplastic release

Addressing the release of microplastics is also an important element of the EU policy to make sustainable products the norm, or the so-called ecodesign for sustainable products regulation (ESPR). The regulation, which entered into force in July 2024, aims to put in place higher standards of durability, repairability and recyclability on the EU market, and regulate the presence of hazardous chemicals and microplastics release. Product requirements will be decided in delegated acts and could also address the release of nano- and microplastics, such as by determining microplastic emission limits in finished products or encouraging a switch to biodegradable fibres.¹⁶⁸

SUPPORT FOR ECO-MODULATED FEES AND ECO-DESIGN CRITERIA TIED TO MICROPLASTIC RELEASE?

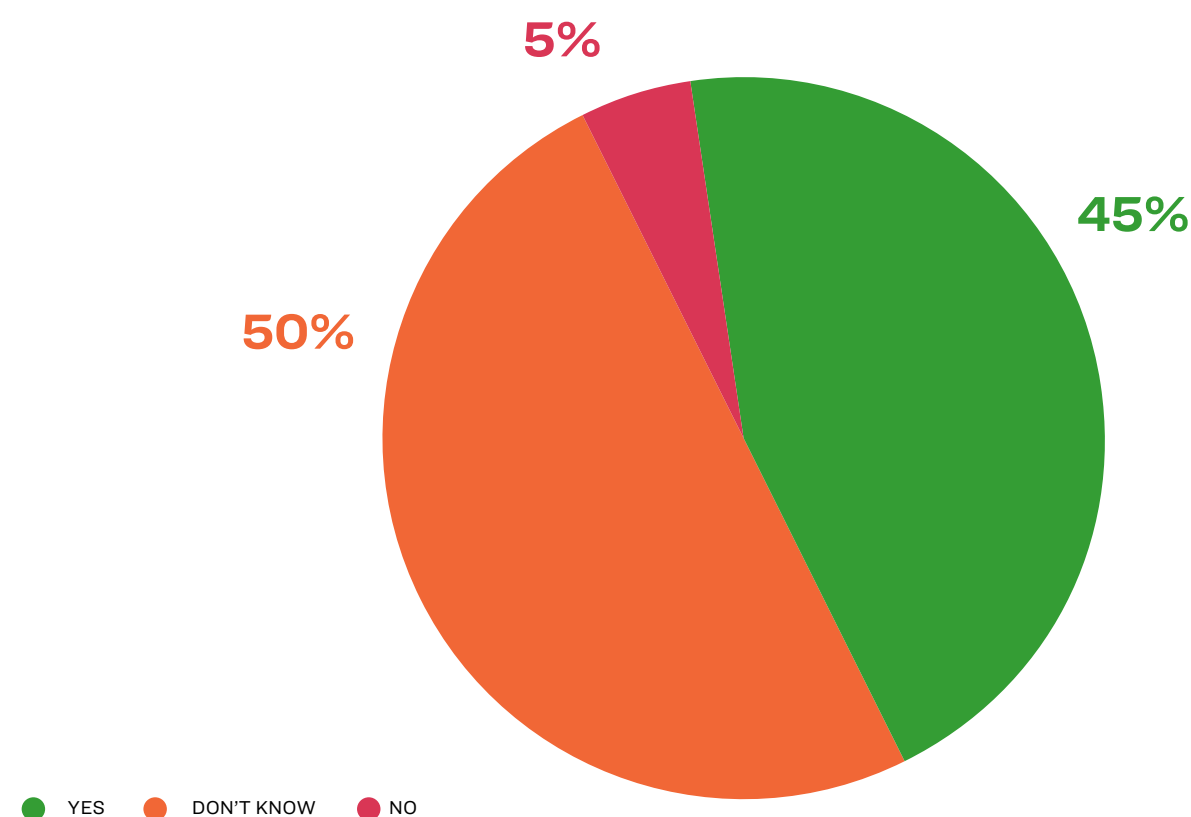


Figure 26: Support for eco-modulated fees and eco-design criteria tied to microplastic release

Ten companies (45% of respondents) supported eco-modulated fees and eco-design criteria tied to microplastic release. These were Benetton Group, Bonprix, Boohoo, C&A, Dressmann, Hugo Boss, Mango, New Look, Reformation and Tesco. C&A noted that it ‘supports product design requirements based on scientific data in the Regulation on eco-design for sustainable products’. Tesco added that it supported these fees and criteria ‘over time yes but not to delay the introduction of legislation’.

Eleven companies (50%) responded ‘don’t know’ to this question: Adidas, Asda, Burberry, Esprit, G-Star Raw, H&M Group, Levi Strauss & Co, Primark, PVH, Uniqlo (Fast Retailing) and Zalando. PVH expressed support for implementable and enforceable policy measures related to microplastic release. It emphasised the importance of transparency in policy-making, stakeholder consultation and regulatory impact assessments to ensure effectiveness and efficiency. PVH also advocated for harmonisation and regulatory alignment of definitions and standards across jurisdictions as crucial for achieving policy objectives.

Inditex was the only retailer to actively say no to eco-modulated fees and eco-design criteria tied to microplastic release. It stated that before setting eco-design or product-level requirements, standardised methods to measure microplastics from textiles and more research on their environmental, drinking water and food-related risks are needed.

C. Support for eco-modulated fees and eco-design criteria tied to the volume of product put on the market

The product parameters under the ESPR will include considerations such as the ‘weight and volume of the product and its packaging’.¹⁶⁹ In response to the rapid proliferation of fast fashion, other emerging textile legislation is also focusing on addressing the relentless volume in clothing production. For example, in their gen-

eral approach to the Waste Framework Directive, EU governments are now tying extended producer responsibility (EPR) fees to the quantity of products brands place on the market.¹⁷⁰ This should incentivise brands to prioritise quality over quantity.

On a national level, France has proposed groundbreaking legislation to address the environmental impact of fast fashion by introducing a levy tied to the ecological footprint of low-cost clothing items. The fee will start at €5 per item next year and rise to €10 by 2030. The bill also seeks to ban advertising for ultra-fast fashion products, defining fast fashion by production volume and turnover speed. Passed unanimously by France's lower house on 14 March 2024, the legislation now moves to the Senate for further review.¹⁷¹

SUPPORT FOR ECO-MODULATED FEES AND ECO-DESIGN CRITERIA TIED TO THE VOLUME OF PRODUCT PUT ON THE MARKET?

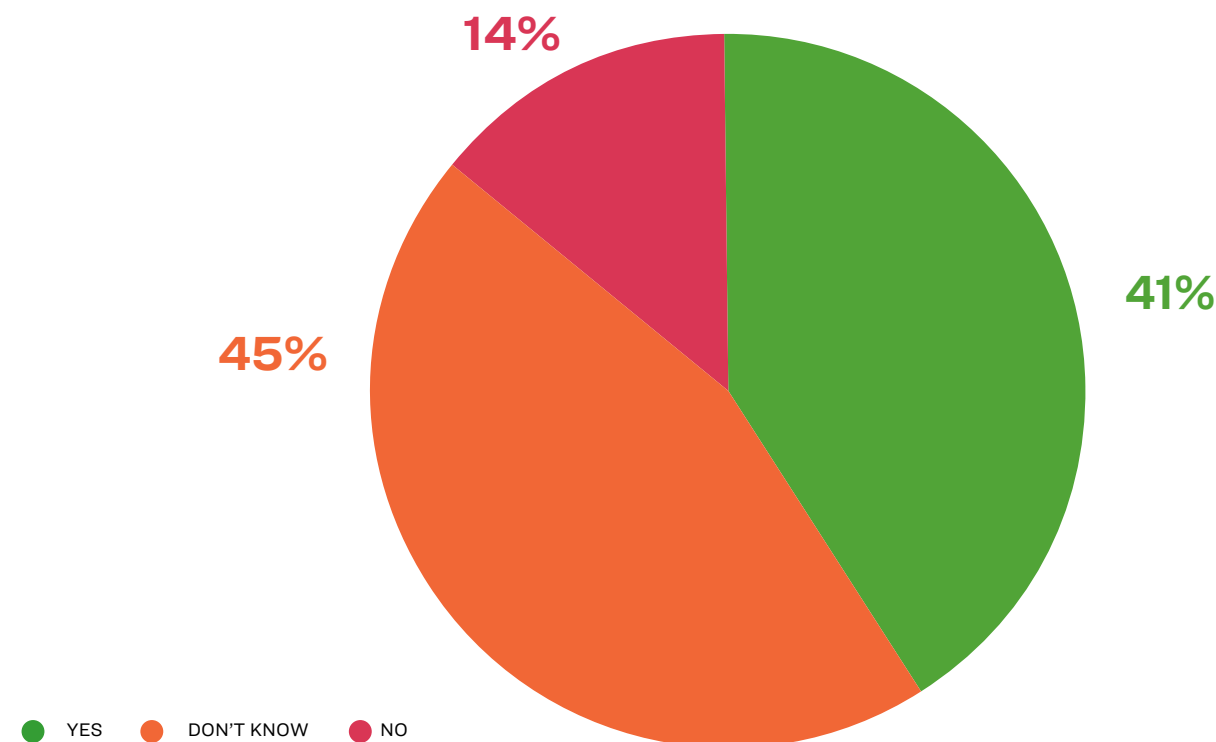


Figure 27: Support for eco-modulated fees and eco-design criteria tied to the volume of product put on the market

Nine companies (40% of respondents) stated they would support eco-modulated fees and eco-design criteria tied to the volume of product put on the market: Asda, Benetton Group, Bonprix, Boohoo, Dressmann, Mango, New Look, Reformation and Tesco. Tesco added that as EPR evolves, eco-modulated fees will incentivise continued adoption of circular models and this should be encouraged.

Ten companies (45% of those that engaged) opted for 'don't know': Adidas, Burberry, C&A, Esprit, G-Star Raw, H&M Group, Hugo Boss, Levi Strauss & Co, PVH and Uniqlo (Fast Retailing). In its response, C&A added '*we believe that products should be sustainable, affordable and accessible*'.

Three companies - Inditex, Primark and Zalando - said 'no' to this area of legislation.

Zalando responded: '*We support harmonised eco-modulation of fees related to product design to encourage and reward circular design. The eco-modulation structure must be consistent with complementing EU initiatives, such as [...] the ESPR, the EU Taxonomy, and the development of the PEF methodology. This will involve harmonising criteria for what producers need to take into account when designing and putting their products on the market as well as securing a consistent fee structure for eco-modulation.*'

D. Support for Product Environmental Footprint (PEF) to include microplastic emissions as an indicator

The PEF is a methodological framework developed by the European Commission to assess the environmental impact of products and services throughout their entire life cycle. The tool will be adopted in 2025, with the main objective to provide a standardised approach to measuring environmental performance through impact categories including greenhouse gas emissions, water usage and resource depletion.

However, a recent study by Défi, an organisation dedicated to supporting the development and transformation of the French fashion industry, and the French Institute of Textile and Apparel (IFTH) found that, according to PEF results, ultra-fast-fashion garments score similarly to other products. This contradicts the fundamental purpose of eco-design.¹⁷² In addition, civil society calls for microplastics be included in the PEF have not been heeded, despite a growing body of evidence pointing to the adverse impact of microplastics on the environment and human health. As things currently stand, microfibrils will appear as 'additional information', meaning that data on the quantity of fibre fragments released during washing and their impact on the marine environment will be included separately for both synthetic and natural fibres. However, this information will not influence the final PEF score, which

SUPPORT FOR PRODUCT ENVIRONMENTAL FOOTPRINT (PEF) TO INCLUDE MICROPLASTIC EMISSIONS AS AN INDICATOR?

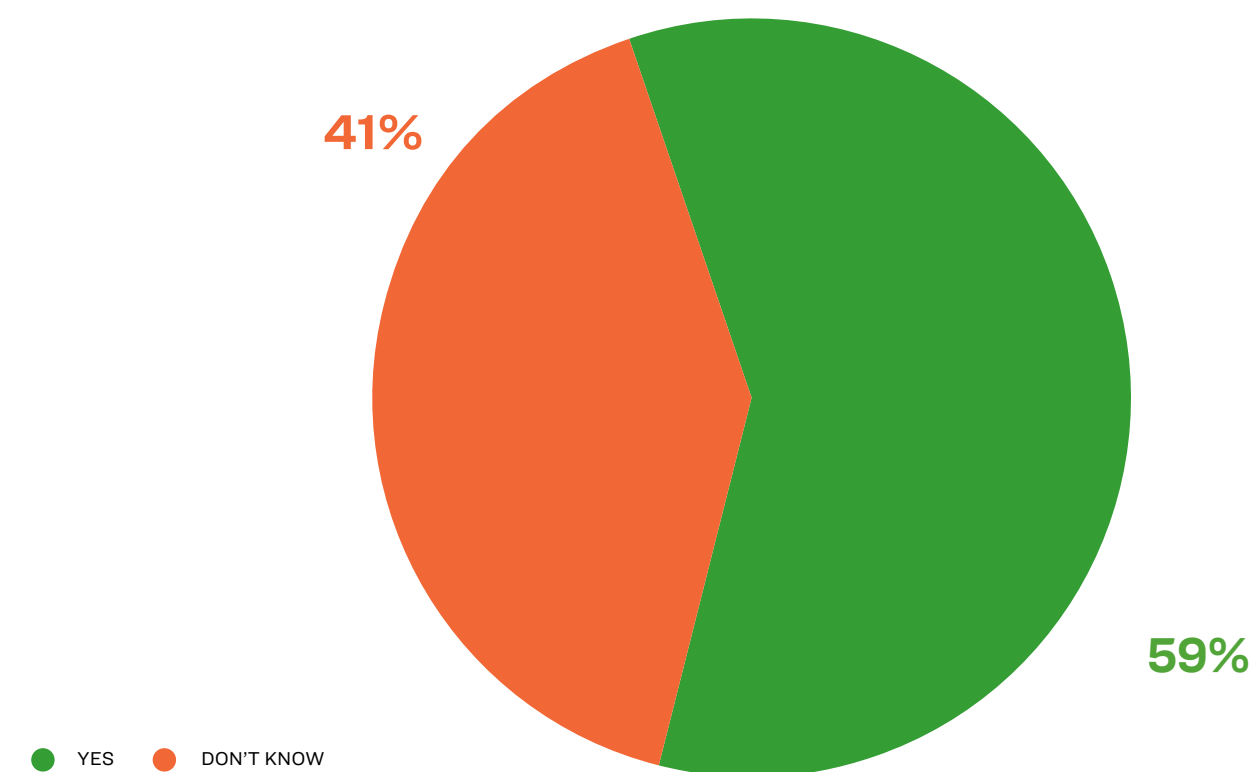


Figure 28: Support for PEF to include microplastic emissions as an indicator

risks distorting product comparisons. The aim of the question was to assess the industry's support for including microplastics as an impact category in the PEF.

This area had the most responses in favour. Thirteen brands and retailers (59%) said they would support the PEF including microplastic emissions as an indicator: Asda, Benetton Group, Bonprix, Boohoo, C&A, Dressmann, Esprit, Hugo Boss, Inditex, Mango, New Look, Reformation and Tesco.

This majority support is significant, as a PEF that considers microplastic emissions would put synthetic fibres under more scrutiny. As it stands, the PEF excludes microplastic pollution from its impact categories, and its methodology has been criticised for favouring some materials over others and penalising natural fibres like cotton and wool.¹⁷³ The PEF calculation methodology is subject to negotiation and open to heavy lobbying from fast fashion players.

In its latest sustainability report, C&A says it supports the development of the PEF,¹⁷⁴ although not specifically on addressing microplastics. The company states that it has been a voting member of the PEF Technical Secretariat since 2018, and that it participates in a working group to refine the current methodology for apparel and footwear, particularly the dealing with physical durability and non-physical durability.

Tesco commented that as PEF criteria evolve, they 'should include microplastic emissions as an indicator. There needs to be an agreed methodology to measure, capture and report and this is not yet available.'

Nine companies responded with 'don't know': Adidas, Burberry, G-Star Raw, H&M Group, Levi Strauss & Co, Primark, PVH, Uniqlo (Fast Retailing) and Zalando.

Again, Inditex was the only company to actively say no, saying that it has 'supported the inclusion of microplastics as well as natural microfibrils' in the PEF.

Brands were given the opportunity to provide public evidence to support their stance on the PEF, yet no company did so. We sought to evaluate their position through membership of the Policy Hub, an advocacy group representing the apparel and footwear industry in policy discussions (14/50 companies included in the research are members, according to its website).¹⁷⁵ However, only one member, Mango, told us it publicly supported including microfibre emissions in the PEF. Policy Hub has not updated its Sustainable Product Policy position paper since 2021 and does not mention microfibres or synthetics in relation to the PEF.¹⁷⁶

E. Support for the global plastics treaty to mandate a reduction in the production of plastic-based materials, including synthetic fibres, to address plastic pollution at its source

In March 2022, 175 nations agreed to develop a legally binding UN treaty to address plastic pollution by 2024.¹⁷⁷ The September 2023 draft of the treaty addresses plastic pollution across different stages of the life cycle and could ultimately change how clothes are produced, especially given that one of the areas of focus is micro- and nanoplastics.¹⁷⁸ Negotiators are expected to present a legally binding instrument by the end of 2024. Civil society organisations and some governments are pushing for the treaty to reduce plastic production, rather than solely mitigate its impact. Additionally, it could introduce binding provisions for reducing the production and use of synthetic polymers and for eliminating or restricting problematic plastics and toxic chemicals in plastics.

Are fashion companies considering their position on this yet? Nine companies that responded were in support: Bonprix, Boohoo, Dressmann, Esprit, Hugo Boss, Mango, New Look, Reformation and Tesco.

SUPPORT FOR GLOBAL PLASTICS TREATY TO MANDATE A REDUCTION IN THE PRODUCTION OF PLASTIC-BASED MATERIALS, INCLUDING SYNTHETIC FIBRES, TO ADDRESS

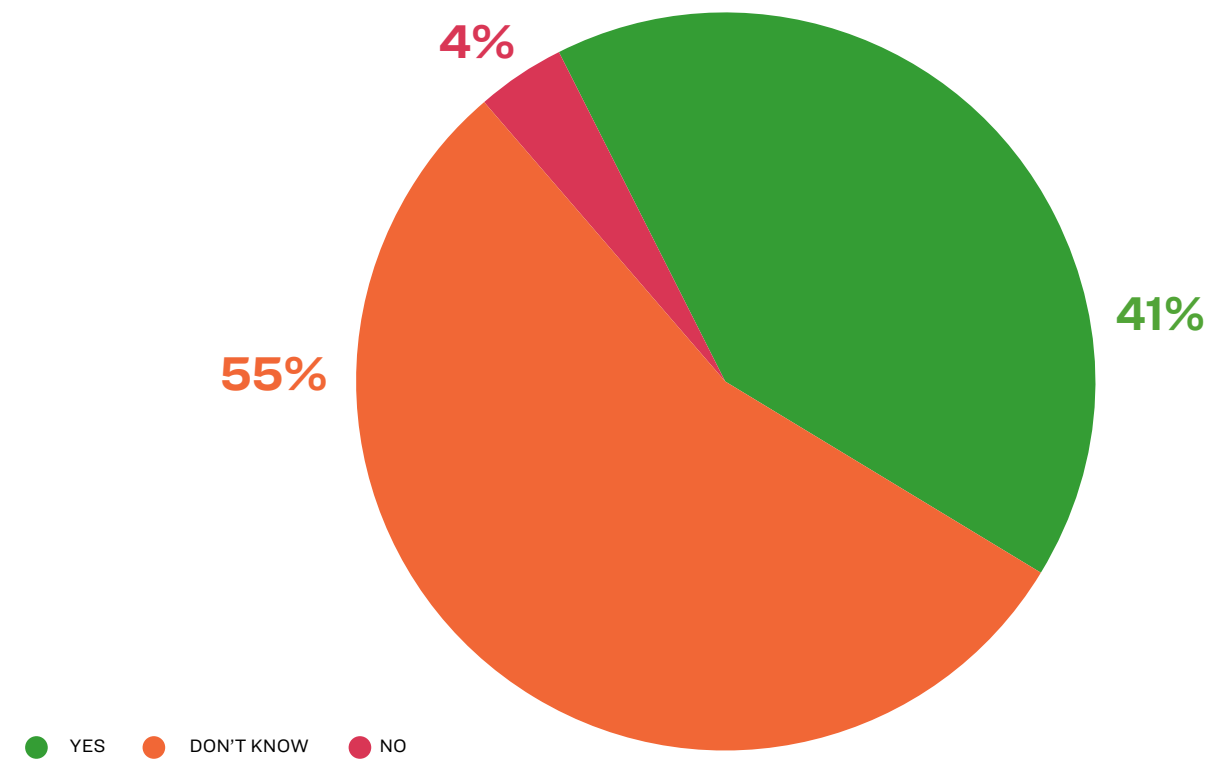


Figure 29: Support for global plastics treaty to mandate a reduction in the production of plastic-based materials, including synthetic fibres, to address plastic pollution at its source

Twelve companies (54% of respondents) were unsure of their position, opting for 'don't know': Adidas, Asda, Benetton Group, Burberry, C&A, G-Star Raw, H&M Group, Levi Strauss & Co, Primark, PVH, Uniqlo (Fast Retailing) and Zalando. C&A wrote that it is following the treaty negotiations and '*generally supports policy coherence and harmonisation within forthcoming legislation*'.

Inditex was the only company to actively say no to supporting the UN plastic pollution treaty to mandate a reduction in the production of plastic-based materials, including synthetic fibres.

Where does the fashion industry stand on legislation surrounding microfibre release?

The evaluation of responses from brands that engaged in 2024 offers a snapshot into the positioning of global companies on legislative issues related to microfibre release.

Brands and retailers that did not respond to the questionnaire were evaluated against publicly available information and previous findings from the *Synthetics Anonymous 2.0* investigation, published in 2022. The following section details any evidence from brands outside their questionnaire responses.

Sporting footwear brand Asics notes policy engagement through its membership of Cascale, formerly the Sustainable Apparel Coalition (SAC), leaning on this organisation to appear active. In its 2023 CDP climate disclosure, it states: *'Additionally the SAC has a Policy Team which is in close connection to stakeholders in the European Parliament and other authorities to provide insight and direction concerning EU Policy affecting the fashion and sporting goods industry on climate change. As part of the Policy Hub they have developed position papers and other input for the EP to provide input from our industry on the EU Circular Economy Package, the PEF, the EU Flagship Initiative and other processes in the EU.'*¹⁷⁹

Similar to findings from 2022, Lindex was one of the only companies to acknowledge the EU Textiles Strategy in its company report.¹⁸⁰ It wrote *'We are heavily engaged in the discussions around extended producer responsibility (EPR), and we were part of the steering group for a pre-study on how an EPR system can best be shaped.'* In *Synthetics Anonymous 2.0*, Lindex also said that it supported EU legislation to address the release of microplastics from textiles *'provided that research is harmonised and concrete actions are clear'*.¹⁸¹ This year, Lindex did not engage with the enquiry.





5. Conclusion

Still hooked on synthetics

The findings from our latest investigation into 50 major fashion brands and retailers reveal the industry's continued dependency on plastic in the form of synthetic fibres. This is our third investigation into brands' policies and practices in four years and it again underscores a persistent and troubling trend in the fashion sector: the industry is still hooked on synthetics, with few genuine plans to reduce its dependency and mitigate the burgeoning waste crisis as well as harmful human and environmental impacts. Despite mounting scientific evidence pointing to the harms of (micro)plastic and from fibres such as polyester and nylon, as well as the wave of regulation facing the textile sector, the industry is resisting change and instead opting for delay and distraction tactics.

While sobering, the findings remain limited by a lack of full transparency on synthetic usage, both the total volumes of total synthetics used and their significance within companies' fibre basket. Results

from survey engagement and secondary research indicate that 30 of 50 brands (60%) provided either no information or only partial data on synthetic volumes and their percentage of the total fibre mix. This included high-profile companies with significant market share and global presence, such as Abercrombie & Fitch, Gap Inc., Kering Group, LVMH and Patagonia.

Shein, which has recently grown bigger than H&M and Inditex in market share and has the highest percentage of synthetic fibres (82% of the total fibre portfolio), does not share its total volumes. Recent reports indicate that ultra-fast fashion giants are driving substantial investments in petrochemicals in China due to their heavy reliance on synthetic fibres.¹⁸² Another key global retailer, H&M Group, whose synthetics usage represented 29% of its total fibre portfolio, also refused to reveal its synthetic volumes, highlighting the continued opacity of the industry. Other big users of synthetics include Boohoo with 69% and Lululemon with 67% of their total fibre mix; both companies have increased their percentages since we last reviewed their performance.

In the two years since the publication of *Synthetics Anonymous 2.0* in 2022, only one additional brand has pledged to phase out synthetics. Hugo Boss's commitment to eliminate polyester and polyamide by 2030 to reduce microplastic pollution does more than most brands. However, this target is somewhat tainted by the 143% increase in the brand's use of synthetic materials from 2020 to 2023. Even Reformation, which has held the commitment to phase out synthetics for a number of years, increased its reliance on synthetics from 2022 to 2024 by 61% from 10.72 tonnes to 17.24 tonnes. These examples reveal a concerning reality of voluntary commitments: even the brands seen as leaders in sustainability could be increasing their dependence on synthetics with little accountability. In order to maintain their credibility as frontrunners, both brands must present a credible trajectory towards elimination of synthetics.

It is telling that 11 of the 23 companies (43%) that engaged with Changing Markets and our partners have increased their use of synthetics, either by volume or as a proportion of their fibre portfolio, over the last five years. Disappointingly, this includes a handful of companies (C&A, Esprit, Inditex, Reformation) that told us in 2022 that they planned to decrease their dependency on synthetics. How many more promises will the fashion industry break?

Companies stalling progress through distract and delay tactics

With no clear trends and signals that the industry is abating its toxic relationship with synthetics, there are clear parallels with the distract and delay tactics used by the tobacco and fossil fuel industries. Notoriously, these industries have sought to create a smokescreen to delay meaningful action and push further demand for damaging products. Although 88% of companies that responded to our survey recognised that plastic microfibres are a key risk in using synthetics, they are stalling any meaningful action. Fashion's most influential players are delaying action by ignoring the science surrounding microplastic pollution from synthetics, claiming that more research is needed, and trying to muddy the waters with weak voluntary initiatives and false solutions.

Distract and derail tactics will ultimately prove counterproductive as fashion brands' environmental, social and reputational risks mount due to their continued fossil fuel dependence and they are held to account for their lack of progress on sustainability. In fact, investors are already taking note of the sector's continuous greenwashing and slow progress on sustainability. For example, ASN Impact Investors, a sustainability-focused asset manager with a portfolio valued at €4.2 billion, recently decided to completely divest €70 million from H&M and Inditex due to insufficient progress on sustainability.¹⁸³

Tunnel vision on false solutions, such as washing machine filters and recycled polyester from PET bottles, will hinder progress. With a substantial 41 out of 50 companies remaining fixed on increasing recycled content to address the problems with synthetics without any plan to phase them down, the industry will never break its addiction to petroleum-derived fibres.

'Circularity' remains a fig leaf for many brands' burgeoning volumes of synthetics. This distraction tactic is best exemplified by Shein's latest Reclaimed collection using deadstock materials or the recently announced €200 million investment in a circularity fund to tackle the aftermath of fast fashion. Neither comes close to offsetting or remedying the impact of the two to three billion items the company pumps onto the market each year.

Turning a blind eye to the microplastic problem

When it comes to addressing microplastic pollution, the industry continues to stall. Despite calls in 2021 and 2022 to address microfibre shedding from all textiles and prioritise measures on microplastics, 22/50 companies (42%) had still not commented on or created effective policies to alleviate this environmental and health hazard. Stalling remains a popular strategy, with brands including Inditex, Primark, PVH and Zalando calling for standardised methods and more research before they create a clear roadmap.

Another persistent problem is the industry's overreliance on weak voluntary initiatives, such as TMC. While TMC developed a harmonised test method for fibre fragmentation in 2021, it lacks transparency and brands like Inditex appear not to view it as a viable solution, as they continue to call for a standardised method. Some, including Primark, PVH, and Tesco, are even signatories to TMC, indicating tacit acceptance and using the demand for a standardized method as an excuse for

inaction. While there is a clear need for transparent and robust methodology that is independently developed by scientific bodies, policymakers should not view such arguments by brands as an excuse to delay action. They should act in accordance with precautionary principle and present concrete plans to tackle microplastics release.

Microplastic legislation in the EU has been delayed, but the lack of meaningful change in brand policies and strategies highlights the urgent need for legislative action now, as the industry has clearly failed to address this through voluntary measures.

On the fence when it comes to regulation

Advocacy and support for policies that could curb microplastic pollution from synthetic textiles is lacklustre at best. This raises the question: are brands using stalling tactics, opposing legislation while claiming to wait for it?

For the most part, we are left in the dark on where brands stand on regulatory developments that could address the unintentional release of microplastics from textiles, eco-modulated fees, a PEF that includes a microplastic emissions indicator and wider international binding laws such as the global plastic pollution treaty. Only 5/22 companies (22%) that engaged in this part of the survey were in favour of all these elements, although the majority failed to substantiate support with evidence like public policy positions.

Surprisingly, despite many brands' traditional reliance on synthetic materials, 13/22 expressed support for including microplastic emissions as an indicator in the PEF, which would intensify scrutiny on these fibres. This may be mere lip service to sustainability, as their positions were not supported by public policy statements.

Companies like Inditex, Primark and Zalando that actively opposed environmental criteria or fees tied to the volume of products put on the market are clearly concerned about penalties related to their high production and sales volumes - a core aspect of the fast fashion model.

Ultimately, the fashion industry's addiction to synthetic fibres is sustained and growing, despite clear scientific warnings. Not only does it perpetuate environmental devastation but also echoes the misleading tactics of other destructive industries, showing a dangerous reluctance to embrace real change. Unless the industry takes immediate, transparent action and phases out fossil fuel-based fibres, it will cement its role as a major player in the global plastic and climate crises.



| Textile waste at the Nairobi River

6. Recommendations

6.1 Recommendations for fashion brands and retailers

1. **Set concrete, measurable and time-bound targets to reduce the use of synthetic materials**, with the following milestones: a 20% reduction (against a 2021 baseline) in the use of fossil fuels in materials by 2025 and a 50% reduction by 2030.
2. **Set out strategies and measures to reduce pollution from the shedding of microfibres from synthetics**. One such strategy should be reducing the use of synthetic fibres, in line with the precautionary principle, and prioritising the phase-out of synthetic fibres from children's clothing and collections for new mothers, as there is emerging scientific evidence that young children's health is the most vulnerable to microfibre pollution. Second, set measures and maximum thresholds for the number of microfibres released during production, use and end of life. In addition, explore setting rules on industrial pre-washing and wastewater filtering, so that large quantities of microplastics are washed

out and collected before the products are sold on the market - putting the responsibility for this on producers, not consumers. Invest in research and development with easily scalable projects.

3. **Commit to climate targets**, aligned with the UN High-Level Expert Group report on net-zero targets for non-state actors, to rapidly move supply chains away from coal and other fossil fuels and achieve the minimum 55% reduction in greenhouse gas emissions by 2030. Ensure that reduction targets are absolute, encompassing all supply chain emissions (scope 1-3), and set interim targets for immediate decarbonisation efforts, as well as a long-term target for 2050. Transparently report on annual progress from a set baseline, verified independently.
4. **Invest in true circularity**: This should include production of good-quality garments made to last, longer warranties, offering repairs to customers and promoting reuse. Instead of promoting downcycled materials produced from PET bottles or ocean plastic, invest in viable and environmentally benign fibre-to-fibre recycling technologies. Ensure that any toxic chemicals are eliminated in the design process, as these might get recycled back into new clothes, harming the health of consumers.
5. **Ensure any green claims made are not false or deceptive**: Claims must be clear and unambiguous. Do not omit important and relevant information (for example, on the product's end of life); ensure comparisons made are fair and meaningful and that claims are substantiated and easily accessible to consumers. This among others includes:

- Stop making unsubstantiated claims on the recyclability of garments sold, in the absence of any viable fibre-to-fibre recycling technology.
 - Stop masking growth under increased volumes of recycled synthetics. Brands should be transitioning away from synthetics entirely, instead of simply increasing the total volume of recycled polyester.
6. **Provide full, publicly accessible and transparent information on your suppliers**. Include all the factories and supply chain stages from which textiles are sourced - not just 'tier 1' and 'tier 2' factories. Brands must communicate these clearly at brand as opposed to group level on their website, distinguishing suppliers per tier.
 7. **Openly support progressive legislation to improve circularity and transparency in the industry** - for example, through support for legislation to address the unintentional release of microplastics from textiles, support for eco-modulated fees and eco-design criteria tied to microplastic release, support for PEF to include microplastic emissions as an indicator. Encourage peers to do the same. Leave any industry initiatives that oppose, delay or undermine progressive legislation, including its implementation, and do not rely on membership of multistakeholder initiatives as the only means to drive progress on addressing microfibre release and pollution.

6.2 Recommendations for EU legislators

1. **Enact legislation to address the unintentional release of microplastics from textiles**, as outlined in the EU Textiles Strategy. This should be based on a precautionary principle and include regulations to measure and limit microplastic emissions throughout the life cycle of textiles.

2. **Introduce a tax on virgin plastic materials** to reduce the fashion industry's reliance on fossil fuel-derived fibres and curb the fast fashion model. This financial disincentive will encourage brands to transition away from petroleum-based fibres and adopt more sustainable alternatives.
3. **Enforce strong eco-design criteria tied to microplastic release as well as the volume of product put on the market**, to address the full impact of synthetic fibres, including microplastic pollution, and shift the industry away from the high-volume production characteristic of fast fashion. This should include measures to prevent clothing from containing toxic chemicals, especially prioritising vulnerable groups like children. This is also a crucial precondition for increasing circularity in the sector, as toxic chemicals in the products can lead to toxic recycling loops.
4. **Revise the Product Environmental Footprint (PEF) methodology to include indicators on microplastic emissions and circularity** to reflect renewability and biodegradability of materials. This will enhance transparency and prevent greenwashing by accurately reflecting the environmental performance of products, particularly those heavily reliant on synthetic fibres.
5. **Advocate for a mandate on microplastics under the global plastic pollution treaty**, including binding provisions for reducing the production and use of synthetic polymers and for eliminating or restricting problematic plastic-based materials, including synthetic fibres, in order to address plastic pollution at its source.
6. **Advocate for the amendment of the Basel Convention** to strengthen restrictions on export of textiles waste, including requiring prior informed consent (notification) for textiles waste, building on the current proposal by France, Sweden and Denmark.¹⁸⁴
7. **Mandate recycled content and prevent false solutions.** To avoid incentivising the use of plastic bottles as a feedstock for recycled polyester, set small but increasing recycled content mandates and ensure that brands are encouraged to use fibre-to-fibre recycled material.
8. **Enforce regulations to prevent companies from making misleading and unsubstantiated green claims**, including around the 'recyclability' of their products, their use of recycled polyester from plastic bottles and the share of recycled polyester in their products. Ensure proper enforcement on the market to prevent misleading green claims.

6.3 Recommendations for citizens

1. **Raise awareness of the problems with fast fashion, and in particular the links with fossil-fuel extraction.** Use your voice - for example, through social media or signing petitions - to demand complete transparency from brands and highlight issues such as greenwashing, exploitative practices, environmental harm and unsustainable consumption.
2. **Exercise purchasing power and when shopping**, refrain from compulsive shopping and buy only what you really need, shop second-hand and buy for maximum durability, and seek to repair, reuse and swap items where possible. Avoid buying synthetics, particularly given the health hazards associated with the release of microplastics.
3. **Buy only from brands that have made clear commitments** to transparency in their supply chains and to sustainable sourcing and production of all their materials and garments, and that have strong climate commitments, including a clear plan to phase out their dependence on fossil-fuel-based fibres.

Annex I: Methodology

This section outlines the ranking categorisation of brands based on their responses to the questionnaire and publicly available information on related topics.

Methodology to categorise brands according to their use of synthetics:

- **Leading the shift:** Do not use synthetics or have clear commitments to phase out the use of synthetic fibres from their collections.
- **Could do better:** Transparent about use, and either already use relatively few synthetics (less than 25% of their total material use) or have clear plans to reduce their reliance on synthetics.
- **Trailing behind:** Limited transparency about use, and either use a high percentage of synthetics or a relatively low - but rising - percentage.
- **Red zone:** Little to no transparency at all.

Methodology to categorise brands according to their policies on microfibre pollution:

- **Leading the shift:** Phasing out the use of synthetic fibres, in line with the precautionary principle, to address their impact on the environment and human health. Phasing out the use of synthetic fibres in children's collections.

- **Could do better:** Has at least 3/5 of the below policies:
 - *Phasing out the use of synthetic fibres in line with the precautionary principle.*
 - *Phasing out the use of synthetic fibres in children's collections.*
 - *Setting measures and maximum thresholds for the number of microfibres released during production, use phase and end of life.*
 - *Setting rules on industrial pre-washing and wastewater filtering.*
 - *Implementing R&D initiatives for reduction of fibre release.*
- **Trailing behind:** Brands with only one of the less ambitious microfibre policies out of the seven listed, in addition to membership of initiatives such as The Microfibre Consortium.
- **Red zone:** No policy on microplastics or only offering consumers guidance on garment care and recommending the installation of washing machine filters to prevent microplastics from clothes entering the environment.

Annex II: Brand questionnaire



Changing Markets Foundation
1 Mark Square
London, UK
EC2A 4EG

25 April, 2024

Dear Sir, Madam,

We are writing to you from the Changing Markets Foundation, Plastic Soup Foundation, No plastic in my sea, Fashion Revolution and Clean Clothes Campaign.

Synthetic fibres now constitute over two-thirds (69%) of textile production and remain the predominant fibre group within the fashion industry. While all fibres, synthetic or natural, may shed throughout a garment's life-cycle, synthetic fibres pose a significantly greater challenge due to their dominance in global textile production and their origins in fossil fuels, making them fundamentally not biodegradable. Furthermore, mounting scientific evidence reveals the adverse impact of microplastics on the environment and human health.



Approximately 35% of microplastics released into oceans globally originate from synthetic textiles. Microplastics are now present in human lung tissue, stool, stomachs – even the placentas of unborn babies. Microplastics from textiles (namely nylon and polyester) have been found to inhibit the lungs' ability to repair damage caused by Covid-19, as well as to prevent the development of lung tissue in children. A recent study concluded that inhalation or ingestion of microplastics can cause chronic inflammation of the lungs (known to be a leading cause of diseases such as cancer, heart disease, asthma and diabetes). Additionally, a recent European Chemicals Agency's (ECHA) study discovered that childcare products contain substances with links to causing cancer, genetic mutations and harming reproductive systems. These substances were most often found in synthetic polymers and textiles.

The aim of this questionnaire is to gather insights into fashion companies' strategies for addressing this pressing issue. We seek information on:

- the use of synthetic fibres including by share and tonnage;
- commitments to phase out synthetic materials based on fossil fuel feedstocks;
- policies addressing microfibre release;
- support for relevant EU legislation and international treaties

Annex III: Support for EU legislation and international treaties

? DON'T KNOW ✓ YES ✗ NO

Brand/retailer	Engaged in 2024	Operates in EU?	Support for legislation to address unintentional release of microplastics from textiles	"Eco-modulated fees and eco-design criteria tied to microplastic release"	Eco-modulated fees and eco-design criteria tied to the volume of product put on the market?	Support for PEF to include microplastic emissions as an indicator	Support for Global Plastics Treaty
	✓	✓	?	?	?	?	?
	✓	✗ No stores but ships to EU	✓	?	✓	✓	?
	✓	✓	?	✓	✓	✓	✓
boohoo	✓	✗ No stores but ships to EU	✓	✓	✓	✓	✓
BURBERRY	✓	✓	?	?	?	?	?
	✓	✓	✓	✓	?	✓	?
Dressmann	✓	✓	✓	✓	✓	✓	✓

ESPRIT	✓	✓	✓	?	?	?	✓	✓
G-STAR RAW	✓	✓	?	?	?	?	?	?
H&M	✓	✓	?	?	?	?	?	?
HUGO BOSS	✓	✓	✓	✓	?	?	✓	✓
INDITEX	✓	✓	✗	✗	✗	?	✓	✗
Levi's	✓	✓	?	?	?	?	?	?
MANGO	✓	✓	✓	✓	✓	✓	✓	✓
NEW LOOK	✓	✓	✓	✓	✓	✓	✓	✓
PRIMARK	✓	✓	?	?	✗	?	?	?

? DON'T KNOW ✓ YES ✗ NO

PVH	✓	✓	?	?	?	?	?
Reformation	✓	✗ Operates in UK. No standalone stores in EU but ships to EU countries.	✓	✓	✓	✓	✓
TESCO	✓	✓	✓	✓	✓	✓	✓
UNIQLO	✓	✓	?	?	?	?	?
UNITED COLORS OF BENETTON	✓	✓	✓	✓	✓	✓	?
zalando	✓	✓	?	?	✗	?	?

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