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# Greenwashing in Fashion

A roadblock on the path towards  
a sustainable textile industry



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In the 1980s, environmentalist Jay Westerveld coined the term “greenwashing”, marking a decade during which major corporations launched campaigns aimed at persuading consumers of their environmental commitment through advertising. One notable example was Chevron, an oil company, which sponsored a series of TV and print advertisements aimed at convincing the public of its favourable impact on the environment. Over the years, as environmental claims became more sophisticated and widespread, defining and identifying greenwashing has become increasingly complicated.

Nearly 4 decades after the introduction of the term, in 2007 a comprehensive framework of greenwashing was developed by marketing consulting firm TerraChoice defining the “7 Sins of Greenwashing”. The framework describes the intricate marketing strategies employed by companies across industries to create an illusion of eco-friendliness. For instance, one of the most common sins is “The hidden trade off” tactic, whereby a claim suggests a product is sustainable based on a narrow set of features, without taking into account potential drawbacks (e.g. “made of natural renewable resource”, without specifying how the “natural resource” is actually grown and processed). The sins of “No Proof”, “Irrelevance” and “Vagueness” represent other widespread self-explanatory practices. We encourage readers to take a look at the full list of identified practices: <https://www.ul.com/insights/sins-greenwashing>

Today, we see fashion brands increasingly employing such marketing tactics aimed at influencing purchasing behaviour, playing on consumers’ increasing concerns for the environment. However, despite claims about their sustainability journey, brands are yet to demonstrate a true transition. More often than not, sustainability claims have been convoluted by three overarching issues: i) the large volume of claims often lacking depth and substance; ii) the lack of control mechanisms around such claims; iii) the lack of consistent and overreaching guidance around definitions of what sustainability constitutes in the context of fashion.

While the authenticity of sustainability claims often remains opaque, the fashion industry’s material impact on the environment is clear and indisputable.

The industry as a whole is responsible for nearly 10% of global GHG emissions, ca. 20% of polluted industrial wastewater, 1/3 of microplastics released in the ocean and several other irreversible polluting factors such as growing incinerated or dumped textile waste.

The ever-increasing volume of textile items sold per person, combined with their decreasing longevity, can only exacerbate negative environmental consequences.

Greenwashing practices make it difficult for customers to distinguish between fashion business models which truly contribute to reducing adverse environmental effects and therefore hinder a credible transition for the sector towards sustainability. Combating greenwashing practices is crucial in addressing the industry’s growing environmental footprint.

In this Ambianta Sustainability Lens, we examine the obstacles greenwashing presents in achieving sustainability for the textile industry, and explore catalysts we believe can drive economic and investment opportunities.

# 1

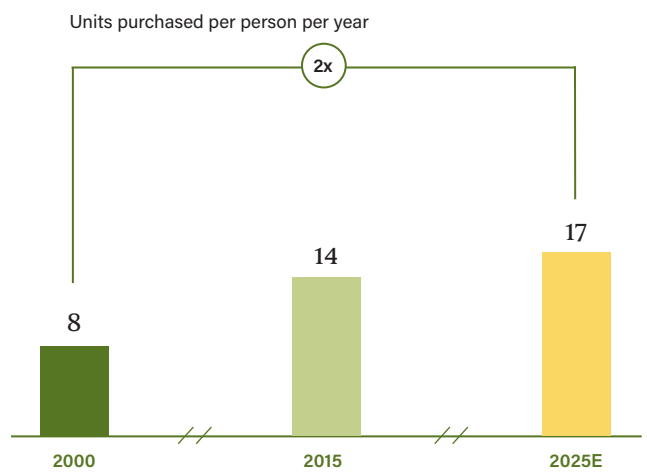
## What are the major challenges greenwashing presents for achieving a sustainable transition in fashion?

### I. Greenwashing conceals the negative impact of unsustainable practices of volume-driven brands

Fashion is, as many others, a volume driven industry. However, unlike others, it is particularly poised by continuous product depreciation driven by fast fashion business models, which are continuing to gain market share. As a result, in parallel to a global increase in the number of textile items purchased per person (*Figure 1*), we have seen a decrease of the average price per item (*Figure 2*). Over the period between 2013 and 2023, the average price per item declined by 16%, indicating a unitary value depreciation – a stark trend already in existence even before the latest wave of pure online fast fashion players like Asos, Boohoo and most recently Shein entered the market with even lower prices.

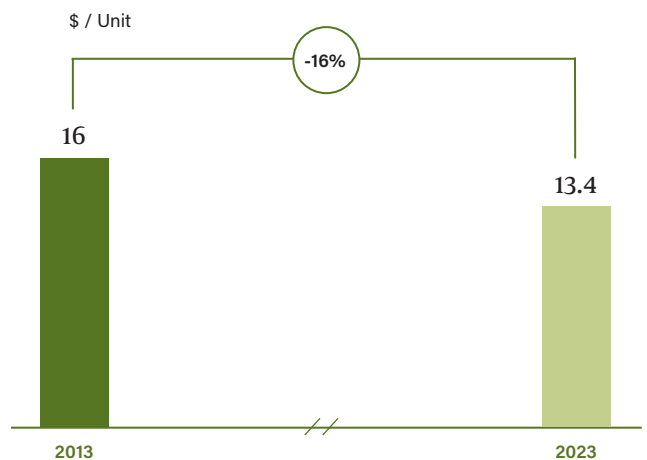
Against this backdrop, as brands strive to keep and improve margins by putting further pressure along the value chain, it becomes increasingly clear that few, if any, resources remain available to improve the environmental and social footprint, the quality and durability of textile products.

Figure 1: Global average textile items purchased per person



Source: Euromonitor, UNEP

Figure 2: Global apparel & footwear market - Average price per Item

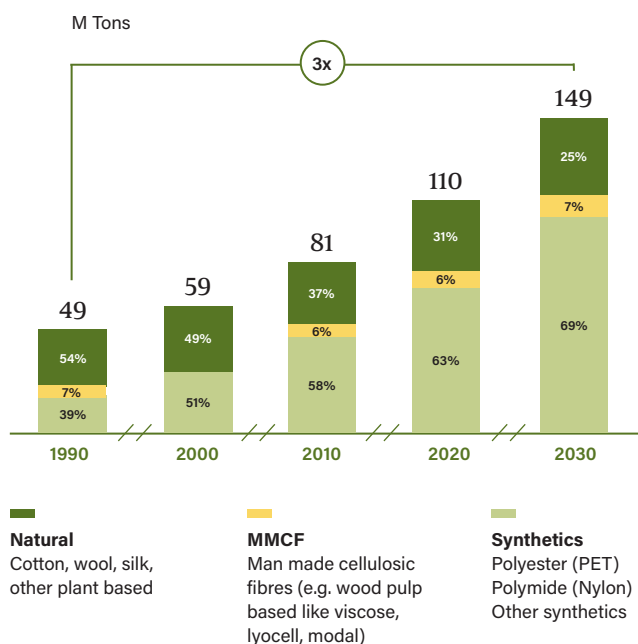


Source: Euromonitor; \*Market Value at current prices include inflation

This volume driven growth of the fashion industry represents an environmental risk not only because of the incremental use of resources and pollution generated by manufacturing an increasing amount of fibers – global fiber production is expected to increase threefold by 2030 compared to 1990 (Figure 3) – but also because of the incremental amount of textile waste generated both in the pre-consumer (unsold items) and post-consumer (used items) context.

Annual textile waste reached ca. 92 million tons globally, ca. 2/3 of global fiber production, equivalent to the weight of ca. 65 million passenger cars (twice the number of vehicles registered in UK), presenting several environmental concerns, such as pollution in landfill where textile can take up to 200 years to decompose.

Figure 3: Global fiber production



92 million tons

92m tons of textile waste annually, which is equivalent to ca. 2/3 of the amount of textile produced.

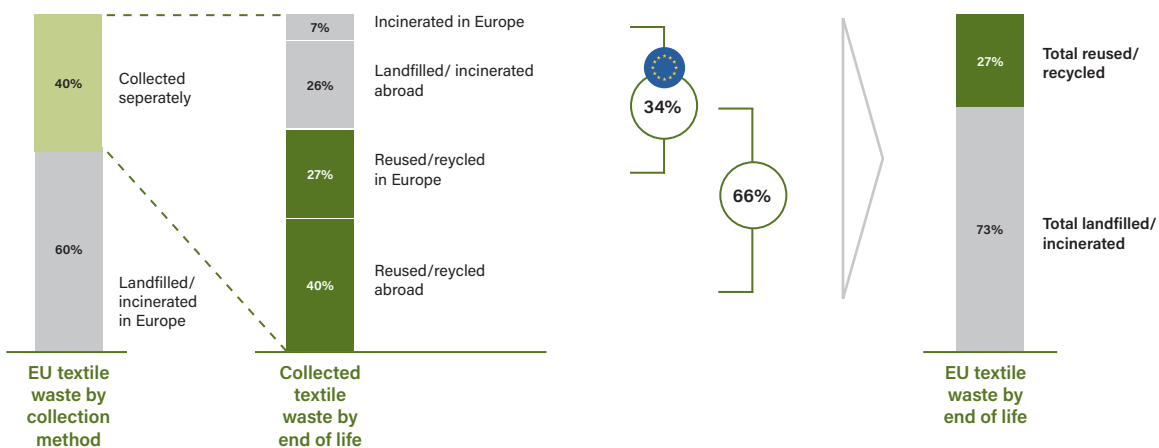
With decreasing product quality, the longevity of clothing also depreciates, with many items now worn less than 10 times before being disposed of. In addition, unsold items also heavily contribute to textile waste with fast fashion brands continuously launching collections and adding new product lines. For example, the retailer Shein alone brings to market on average >50.000 items per month. Another fast fashion retailer was recently accused of burning ca. 12 tons of unsold clothing annually and a well-known luxury brand acknowledged the destruction of unsold goods valued at ca £30m to protect exclusivity.

Overall, textile waste management even in Europe remains poor (Figure 4). Where 60% of textile waste directly ends up in landfills or incinerated. Opaqueness and lack of traceability of waste flows affect separating textile waste collection, which currently accounts for only approx. 40% of the total textile waste flow in Europe.

Of those 40% of textile collected separately, only 34% remains in Europe, the majority (66%) is shipped abroad with little traceability. While some of the textile waste shipped abroad can be partially resold in second-hand local markets, such as the Kantamanto market in Ghana, where ca. 60 containers of used clothes arrive weekly, it is estimated that with the decline in quality of clothes, an increasing share of textile waste shipped abroad actually ends up in local landfills, creating piles of textile waste, with tremendous negative environmental consequences.

Ultimately, only just under one third (27%) of total European textile waste is reused or recycled (Figure 4).

Figure 4: Textile waste flows in Europe



Source: European Environment Agency



The adverse practices in textile waste flows are propelled by (i) the rapid depreciation of textile items, (ii) the low availability of fibers for reuse or recycling, given low collection rates and the low quality of post-sale items and (iii) the high capex for recycling technologies. These three factors together make direct landfill, incineration or shipping abroad more economically appealing than recycling locally.

To revert this trend a full rethink of textile waste management is needed. First and foremost, collection of textile waste needs to be improved in order to increase textile volumes available for recycling and reuse.

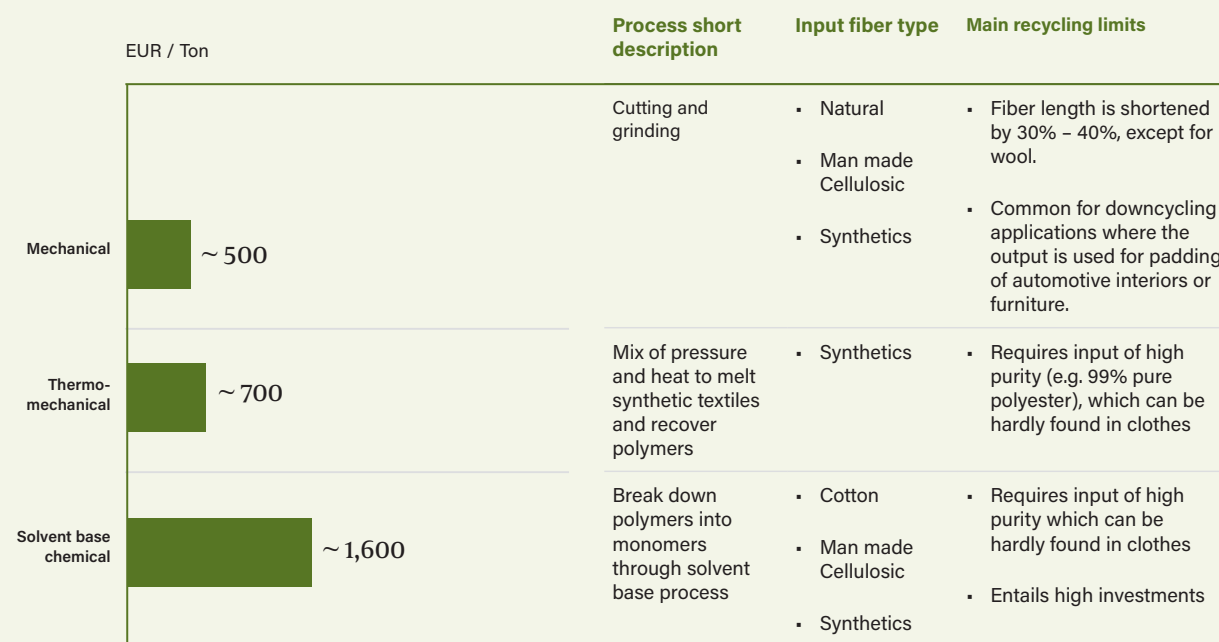
To add complexity, available recycling technologies are expensive and today show limited applications (Figure 5). Most available recycling processes for instance require “high purity” textile waste, thus they are not viable for the majority of clothes in the market because these include mixed fibers and colors. Currently, only mechanical recycling is economically

effective, but it is applied almost only to wool items which can be recycled into new clothes without losing quality (e.g. fiber length, texture) or to downcycling, i.e. using different kinds of recycled fibers for padding of automotive interiors or furniture.

It is clear that fast fashion has augmented the pressures the textile industry puts on the environment by continuously increasing volumes of low-quality clothing. Greenwashing practices employed by fast fashion market players to conceal these pressures of unsustainable business models present an equal, if not greater, challenge for the industry to overcome.

And durability, which should be the first criteria when talking about sustainability in textile, is hardly mentioned by any “green label”; likely so because it is in conflict with the overarching high volume/low price dynamics underpinning the sector described above – a challenge the industry must overcome if true sustainability and circularity are to become reality.

Figure 5: Average cost<sup>1</sup> by recycling technology



<sup>1</sup>Costs include Capex and Opex estimated by McKinsey  
Source: McKinsey, Scaling textile recycling in Europe – turning waste into value



# Fast fashion has augmented pressures the textile industry puts on the environment.

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## II. It is increasingly challenging to distinguish greenwashing from authentic sustainability claims in textile

Defining the true environmental impact of textiles is challenging. While for sectors like power generation it is easy to assert that renewables are a better source than fossil fuels from an environmental impact perspective, for a textile item there are many parameters at play - fiber choice, fiber mix (determining recyclability), durability, and a long value chain further complicating a complete understanding of the environmental footprint.

This difficulty becomes apparent when we look at common sustainability claims across each of the main categories of textile fibers:

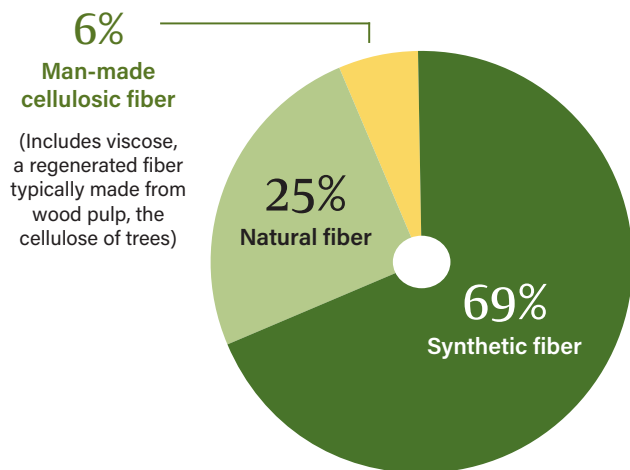
**Synthetic fibers** are derived from fossil fuels, which has been a motivation for many brands to turn their attention to recycled synthetic fibers such as recycled polyester, which requires around 60% less energy and generates 32% less CO2 emissions.

However, 99% of recycled polyester (rPET) is derived from plastic bottles and this has certain limitations: firstly, it does not contribute to reducing total textile waste, secondly, recycled polyester created mechanically may lose strength and elasticity, requiring to be mixed with other fibers to recover such features, thereby subsequently rendering it hardly-recyclable.

**Cotton**, a natural fiber, on the other hand, while derived from a natural renewable resource, raises concerns of substantial water and pesticide usage. It also poses competition for land use with food crops. As a consequence, some players, including fast fashion brands, have switched to organic cotton, which on one hand contributes to reducing the use of chemical inputs, however on the other, organic cotton has lower yields and thus its adoption could trigger changes in land use to support rising volumes and in turn again lowering prices. Fast fashion brands advertising the use of organic cotton, could therefore risk being accused of the greenwashing tactic "Hidden Trade Off" - focusing the attention on the narrow fiber choice, but concealing the negative effects of the underlying unsustainable business model.

Lastly, **man-made cellulosic fibers** like viscose are also derived from natural renewable resources (wood pulp), however their production entails significant consumption of water and polluting chemicals. Moreover, only ca. 14% of wood pulp used to produce man-made cellulosic fiber comes from certified sources such as the Forest Stewardship Council, which ensure that forests are managed respecting biodiversity considerations.

Figure 6: Total global fiber production



# 99%

99% of recycled polyester (rPET) is derived from plastic bottles and this has certain limitations.





So, can fabric choice claims be truly sustainable? From the above it is clear there is no obvious straightforward answer and substantiating a credible sustainability claim requires more thorough due diligence. This complexity represents a significant challenge and has mislead even genuinely purpose driven firms towards applying commonly accepted frameworks, which have fallen short of expectations.

For instance, the once very reputable Higg Index developed by the Sustainable Apparel Coalition has been criticised as it considers the environmental impact of textile items focusing on fiber origin and manufacturing process, without including considerations around end-of-life environmental footprint and favoring the adoption of synthetic fibers over that of natural fiber.

The environmental footprint of synthetic fiber such as nylon and polyester however only takes into account the impact of the usage phase (microplastic water pollution) and disregards the end of life phase (synthetic fiber is not biodegradable).

Navigating claims and activities of players in the search for truly sustainable practices is a complex task requiring highly specialist and technical knowledge. On the flipside, this complexity can represent an opportunity for those players along the value chain, such as suppliers, advisors and test, inspection and certification companies, who via their technical and scientific expertise, can support brands in navigating this challenge and avoid reputational risks.

## 2 The way forward: A light at the end of the tunnel

At present, despite sustainability claims, we do not see any meaningful improvement of the environmental impact at global scale across the sector. Persistent greenwashing practices have reached a level which could even increase skepticism towards authentic sustainability claims.

Nonetheless, catalysts for change exist and could significantly reduce greenwashing practices and support the transition, at least in developed countries.

We consider three catalysts which are well positioned to draw attention towards the industry's key sustainability performance indicators – durability of fabrics and circularity.

While consumer consciousness and brand adaptation of sustainable practices have been slowly evolving over the past decades, the most recent catalyst for change has been regulation.



### I. Regulation

Upcoming regulation, especially in the EU, sets the ground for transition and drives supply chain engagement (Figure 7). The **durability** concept is embedded in the directive introducing the Extended Producer Responsibility (EPR), a mechanism aimed at holding brands responsible for the end-of-life management of each item they introduce to the market and charge them; the more an item is deemed “unsustainable”, the higher the charge.

Depending on the amount of the charge, this initiative could pose a threat for the fast fashion business model.

**Circularity**, on the other hand, could be fostered by the introduction of mandatory separate textile waste collection by 2025, paired with “eco-design” guidelines, which increase of the range of fibers eligible for recycling. Furthermore, a Digital Product Passport (DPP) is currently under discussion. The DPP is a QR code containing information on fiber mix thereby enabling more efficient sorting in the medium-long term. Current processes heavily rely on manual sorting or infrared cameras, both of which have limitations in distinguishing fiber mixes.

In the United States, including information on fiber content is already a requirement for most textile products. A coalition of fashion brands is also putting pressure on the Environmental Protection Agency (EPA) and proposing changes to the EPR law to include the reuse and recycling of textiles.

Figure 7: Overview of key regulatory initiatives

Directive name	Main goal	Main implications	Expected year of implementation
<b>Update of Unfair Commercial Practice Directive</b>	<ol style="list-style-type: none"> <li>1. Fight against greenwashing claims</li> <li>2. Limit Eco Labels proliferation</li> </ol>	<ul style="list-style-type: none"> <li>▪ Banning the adoption of generic environmental claims, which going forward will need to be based on <b>scientific evidence</b> and to demonstrate their <b>differentiation from regulatory standards</b>.</li> <li>▪ Establish a national <b>approval process for new “eco” schemes</b> to limit upsurge of new labels (currently 450 spanning 25 sectors).</li> </ul>	2024/2025
<b>Extended Producer Responsibility</b>	<ol style="list-style-type: none"> <li>1. Reduce textile waste by holding brands responsible for end-of-life management</li> </ol>	<ul style="list-style-type: none"> <li>▪ Under the scheme, each member state can define a monetary contribution per item sold which will be collected by a central authority – the more an item is deemed sustainable, the lower the contribution.</li> <li>▪ This could encourage brands to adopt eco-design guidelines, thus increasing the recyclability and durability of items.</li> </ul>	2025
<b>Digital Product Passport (DPP) and Ecodesign for Sustainable Product (ESPR)</b>	<ol style="list-style-type: none"> <li>1. Increase transparency and traceability</li> <li>2. Improve end-of-life management</li> </ol>	<ul style="list-style-type: none"> <li>▪ The introduction of ESPR will set eco-design performance requirements for textile products and information requirements for <b>Digital Product Passport</b>, set to include details on material use quantities and origins, which should improve traceability/ transparency and end of life management.</li> </ul>	N.A.
<b>Separate Waste Collection</b>	<ol style="list-style-type: none"> <li>1. Increase share of reused/ recycled products, decreasing landfilled and incinerated textile waste</li> </ol>	<ul style="list-style-type: none"> <li>▪ Mandatory separate textile waste collection for Member States.</li> <li>▪ To favour the sorting and following reuse/recycle/disposal of the waste, Euratex (the European apparel and textile confederation) for instance is implementing the creation of hubs (ca. 250 across Europe), which can cope with sorting of increasing collected textile.</li> </ul>	2025

## II. Conscious consumer

The global second-hand market has reached 12% of the total global apparel and footwear market in 2023 and is expected to grow at 22% CAGR (Figure 8). The growth is driven by both economic convenience and increasing environmental awareness of younger customers. In Europe, 30% of clothes worn by Gen Z (born between 1997 and 2002) are second-hand items, according to an Amazon survey from 2022. In the United States, according to a survey conducted by Thred Up, a leading second-hand clothes platform, 62% of Gen Z first consider a second-hand item before buying new.

This driver is likely to self-reinforce year after year as these younger consumers increase their spending power and their share of overall spending grows.

## III. Brand resale

Brand resale initiatives are also moving in the right direction. The number of retailers with branded resale programs has skyrocketed – from 5 in 2019 to 124 in 2022 (almost 25x in 3 years) (Figure 9). Resale initiatives positively contribute towards extending textile product **durability** and overtime contribute towards reducing emissions by ca. 25% and water consumption by ca. 30% compared to purchasing a new item.

While at first such initiatives were adopted by the more conscious brands in the activewear segments, traditionally more focused on products performance and durability, more recently luxury brands like Balenciaga have also created second-hand proprietary platforms aimed at granting a second life to products, while protecting their authenticity.

Many fashion retailers have also established used clothes collection programs through their retail store channels which can contribute to more **circularity** in the industry. However, without full traceability of what exactly happens after collection, these initiatives risk falling into the greenwashing practice territory. An example of such practices was uncovered by a Swedish newspaper, who tracked the route of collected items through a program initiated by a well-known high street fashion retailer, revealing that the majority ended up being shipped abroad in bales.

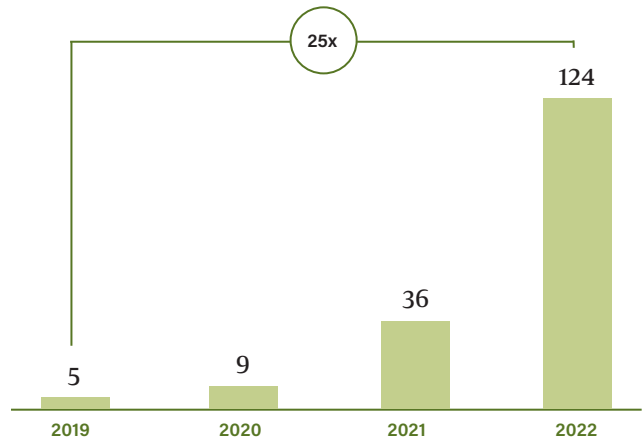
While these three drivers are not yet significantly shifting the industry to the extent and speed needed to see a material improvement in the environmental impact of the sector, they illustrate progress in the right direction.

Figure 8: Global apparel & footwear market value



Source: Euromonitor, Thred-Up Resale Report 2023

Figure 9: Retailers with branded resale programs



Source: Thred-Up Resale Report 2023

# 3 Spotlight on investment opportunities: Identifying drivers of change

In light of the trends and dynamics at play described above and having closely examined the sector for quite some time, we acknowledge few credibly sustainable investment opportunities are available from a certain size upwards. However we see some short- and medium-term investment opportunities emerging.

While some of these opportunities require further economic validation to run in full supply/demand driven dynamics, our analysis provides evidence that they nonetheless have the potential to meaningfully drive change. Opportunities include business models, which can tackle the following main problems the industry is faced with:

## I. Navigating complexity of environmental sustainability claims

### A. Sustainability consulting

Due to the complexity of assessing sustainability in the textile industry, both in achieving outcomes as well as to reporting these, specialised industry consultants on supply chain management, traceability and assessing the environmental impact of textile fibers will benefit from upcoming regulatory initiatives.

This segment will also benefit from the lack of in-house expertise of brands and retailers, who will find themselves increasingly at risk of reputational damage from greenwashing practices. In this space, small mid-size players are experiencing strong growth and consolidation to offer an integrated range of services.

### B. Test, Inspection, Certification (TIC)

TIC companies will benefit from the same trends, as the application of the Digital Product Passport in Europe and the overall demand for transparency from customers and regulators grows. Ambienta has explored opportunities across asset classes in this space, where both regional specialised and large listed global players co-exist, targeting specific sectors or multiple industries.

## II. Facilitating scale up of reuse and recycling

### A. Sorting solutions

Within the textile waste management value chain, we see players offering advanced **sorting solutions**, especially in Europe, which could benefit from increasing volumes of separated collected textile waste. Sorting is a critical phase of the recycling process, and a bottle-neck, given it is still conducted mostly manually, which is the main driver for shipping textile waste to low-cost countries. Automated waste sorting technology already exists, yet has limitations in textile applications. For instance, Tomra, a leading listed player in the waste sorting machinery space, has developed an automatic sorting machine to address textile waste, leveraging infrared technology. However, it is not 100% effective for instance when a textile item is made of more than three different fibers. Further improvements in the integration of such technologies would represent a turning point for textile waste management and is an area Ambienta is closely monitoring.

### B. Fibre-to-fibre recycling

Once sorted, if not reused, textile items can be recycled. As illustrated further in Figure 5, **Fibre-to-fibre recycling** technologies haven't yet scaled - available technologies are evolving but are still costly. And in certain cases overwhelmingly so, as was the case for Renewcell, a Swedish cotton scrap and used clothing recycler backed by H&M, which recently filed for bankruptcy. Nonetheless, players in specific niches have been able to succeed.

In the man-made cellulosic fiber space, a global listed player, Lenzing, has effectively launched a product involving upcycling cotton scraps mixed with wood pulp. Aquafil has become a leading supplier of recycled nylon for different applications, including sportswear, by leveraging an established network of suppliers providing fish nets and used carpets.

### C. Enabling Original Equipment Manufacturer (OEMs)

Enabling Original Equipment Manufacturer (**OEMs**) players like Andritz, offering machinery and plants for both mechanical and chemical recycling challenges, present an opportunity as technology advances and as an increasing amount of textile waste is collected and becomes available for recycling.

## III. Extending the lifespan of clothing through durability and reuse concepts

We believe that industry players who are decoupling their revenue growth from volume growth and are increasing product durability hold a competitive advantage. Many luxury companies have established second-hand platforms, proprietary or in partnership, for textile items. The Gucci partnership with Vestiaires Collective for reselling vintage Gucci bags is one example. LVMH launched a deadstock fabric platform, Nona-Source, allowing manufacturers to find a wide assortment of fabrics, leather and yarns from the most renowned luxury Maisons, thus encouraging designers to leverage existing fabric.

In the sportswear segment, some brands have been pioneering a focus on product durability. For instance, Patagonia has been offering in-store repair services, Lululemon has established a circularity initiative called "Like New", offering collection and resale of Lululemon items through its retail stores.

The rapid growth of multi-brand second-hand platforms like Vinted, Vestiaire Collective and ThredUp, while not yet exhibiting attractive risk-return profiles, presents an opportunity worth monitoring.



# Conclusion

The fashion industry is a significant contributor to two key negative environmental impacts: water pollution and GHG emissions. The industry's transition path has been obstructed by the growth of fast fashion and even more so by the challenges greenwashing poses for the sector. Greenwashing in fast fashion is a major impediment because it conceals the main root cause of the barrier towards sustainability. Increasing volumes reduce quality and increase generation of waste. Efforts to transition to a more sustainability-oriented path are further muted by the overarching complexity of assessing true sustainability.

## **Despite these headwinds we see catalysts for change in the medium and long term:**

- Regulatory support for tackling greenwashing, which remains the single most significant lever capable of accelerating the pace of this transition.
- Improved awareness from consumers.
- The commitment of brands to improve circularity.

**In this context, we continue to monitor the industry for true environmental leaders, who are best placed to capitalise on structural industry changes and to lead the transformation in the fashion sector away from high-volume, low-value and high-negative environmental impact, to more environmentally sustainable business models.**




# AMBIENTA

## About Ambienta

Ambienta is a European environmental sustainability investor across private equity, public markets and private credit. Operating out of Milan, London, Paris and Munich, Ambienta manages over €3.0bn in assets with a focus on investing in private and public companies driven by environmental megatrends and whose products or services improve Resource Efficiency or Pollution Control. In private equity, Ambienta has completed 69 Investments to date. In public equity markets, Ambienta has pioneered one of the world's largest absolute return funds entirely focused on environmental sustainability and manages a full suite of sustainable products ranging from low-risk multi-asset funds to equity long-only. Ambienta has also recently established a private credit strategy with the same environmental sustainability focus as the other asset classes.

An industry pioneer, Ambienta was one of the first UN PRI signatories in 2012 and attained B-Corp and Climate Neutral Company status in 2019. In 2020, Ambienta became IIGCC member and in 2023, as one of very few asset managers, continued being a positive role model for the industry by committing to the Science-Based Targets initiative (SBTi).

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