

# FAST FASHION

---

*TIME TO KICK THE HABIT?*

---

Kate Fox. Investment Manager. Second Quarter 2019



---

## RISK FACTORS

---

The views expressed in this article are those of the author and should not be considered as advice or a recommendation to buy, sell or hold a particular investment. They reflect personal opinion and should not be taken as statements of fact nor should any reliance be placed on them when making investment decisions.

This communication was produced and approved on the stated date and has not been updated subsequently. It represents views held at the time of writing and may not reflect current thinking.

### **Potential for Profit and Loss**

All investment strategies have the potential for profit and loss, your or your clients' capital may be at risk. Past performance is not a guide to future returns.

### **Stock Examples**

Any stock examples and images used in this article are not intended to represent recommendations to buy or sell, neither is it implied that they will prove profitable in the future. It is not known whether they will feature in any future portfolio produced by us. Any individual examples will represent only a small part of the overall portfolio and are inserted purely to help illustrate our investment style.

This article contains information on investments which does not constitute independent research. Accordingly, it is not subject to the protections afforded to independent research and Baillie Gifford and its staff may have dealt in the investments concerned.

All information is sourced from Baillie Gifford & Co and is current unless otherwise stated.

The images used in this article are for illustrative purposes only.





---

# FAST FASHION — TIME TO KICK THE HABIT?

---

BY KATE FOX

*If the feminist protestors at the 1968 Miss America beauty pageant are remembered for anything it's for casting off their bras and burning them in a 'Freedom Trash Can'. Whether they really did torch their bras is questionable, but it is a striking reminder that the clothes we wear are so much more than mere fashion statements or even the function they perform, whether that's protecting us from the elements or indicating to others what our role is. Clothes can be physical representations of who we are, what we believe in and how we fit into society.*

Fifty years on and the clothes burning continues. Only this time it's not an urban myth. The shocking truth is that nearly 90 per cent of the fibre used by the clothing industry ends up in landfill or is incinerated — that's the equivalent of one garbage truckload every second. In 2015, greenhouse gas emissions from the clothing industry totalled 1.2 billion tonnes of CO2 equivalent, more than all international flights and maritime shipping combined. Clearly, this is unsustainable in an age of growing environmental consciousness: if we want our clothes to do good and not just look good, we will need to rethink how we do fashion.



---

## *THE CHALLENGE – LOOKING GOOD AND DOING GOOD*

---

Part of the problem is that it's never been easier to indulge in a spot of retail therapy. The clothing industry generates circa \$1.5 trillion of revenues, employs 60 million people and is growing, fuelled by population growth, rising incomes and the rapid expansion of popular fast-fashion retailers, such as Inditex (Zara), H&M and ASOS. The phenomenon of fast fashion, which takes catwalk trends and quickly repurposes them for the high street, has changed our attitudes to the clothes we wear. Clothes have become disposal items. We are buying more clothes than ever, yet we use them less frequently.

Online shopping has also changed the courting phase of our love/hate relationship with clothes. We no longer visit a store, take a bundle of clothes into the changing room and emerge at the cash register with 'the item' we have fallen in love with and which is a good fit. Instead, we make our purchases based on a brief description and photo, meaning some shoppers have taken to buying multiple sizes of the same garment, which they subsequently return (sometimes worn), so-called serial returners. Barclaycard estimates that almost half of the amount UK consumers spend on online clothes purchases is subsequently refunded by retailers, amounting to £7 billion of lost revenue every year.

In light of these trends, we focus on how fashion might evolve from eco-culprit to eco-warrior, and where we see investment opportunities arising along the way.

*Clothes have become disposal items. We are buying more clothes than ever, yet we use them less frequently.*

---

## Spinning a Yarn



The textile industry uses

**93 trillion**

**litres of water** annually.  
Two thirds of this is for clothes



By **2025**, the market for smart textiles is expected to be worth

**\$130 billion**



According to the Rainforest Action Network,

**120 million**

**trees** are logged every year to make clothes

## Wearing your Heart on your Sleeve



The number of times a piece of clothing is worn before it is thrown away has **decreased**

**36%**

compared to 15 years ago



Total clothing sales are expected to reach **160 million tonnes** in 2050, more than

**3 times**

today's amount



If we **doubled** the amount of times clothes are worn, greenhouse gas emissions would be

**44% lower**

## After the Party is Over



**One garbage truck** of textiles is sent to landfill or incinerated

**every second**



**Plastic-based fibres** remain in landfills for over

**200 years**



H&M's Recycle Your Clothes initiative, launched 2013, has collected 66,500 tonnes of clothes and aims to scale up to

**25,000**

**tonnes annually by 2020**

---

## THE JOURNEY TO THE SHOP FLOOR

---

If our insatiable demand for fast fashion is unsustainable, so is the way in which the high street meets that demand, beginning with how clothes are manufactured. The supply chain is long and complex. Each stage in the manufacturing process has an environmental impact, starting with the fibre chosen to make the clothes, followed by the way in which they are manufactured and then how far the stock travels before it reaches shops or warehouses. Synthetic fibres account for just over 60 per cent of the total fibre market. Polyester is popular. However, as a polymer, it is made from fossil fuels, air and water and it is non-biodegradable. Cotton, another popular choice might seem more environmentally sound, were it not one of the most chemically-dependent and thirsty crops. It takes 2,700 litres of water to make a single t-shirt, that's 900 days' worth of drinking water for one person. Even organic cotton is not whiter than white: it too consumes lots of water, often in water-scarce regions, and still needs to be dyed.

Once a fibre has been spun into yarn and knitted or woven into a fabric, it is then dyed and finished. These processes rely on hazardous chemicals that end up in water systems, require lots of energy and consume lots of water. As companies flee the high labour costs and stringent environmental regulation of western markets, textile production has become concentrated in low-cost regions. Three million people are employed in the textile industry in Indonesia, where it has been a major contributor to polluting the waterway. Chemical effluent is pumped into the river with no regard for local regulation or the population, meaning the water that millions rely on for washing, cleaning and irrigation is highly toxic.

Clothes manufacturing is also energy intensive. If you think about the global and fragmented nature of the supply chain, most of the garments we wear will have travelled many thousands of miles before they reach us.

*– It takes 2,700  
litres of water  
to make a single  
t-shirt, that's 900  
days' worth of  
drinking water  
for one person.*



### Global Itinerary of a Marks and Spencers Suit



Source: Kepler Cheuvreux, company data, M&S.

---

## CARE AND MAINTENANCE

---

Once we begin wearing our clothes, washing and drying are the main environmental culprits, resulting in a further 20 billion cubic metres of water being consumed over their lifespan, that's roughly equivalent to over 8 million Olympic swimming pools. Every time we wash synthetic clothing, we release microfibres into the environment. It is estimated that around half a million tonnes of plastic microfibres – that's the equivalent of nearly 50 billion plastic bottles – are released into the ocean from washing plastic-based textiles.

What happens to our clothing when we discard it? Only 13 per cent of the materials that go into clothes are recycled, often into cloths, insulation and mattress stuffing, which are even harder to recycle at their expiry date. Less than 1 per cent of all recycled clothing is turned into a new item of clothing. Most of what we wear, as we have said, will either make its way to landfill or will be incinerated.

*– The equivalent of  
nearly 50 billion plastic  
bottles are released into  
the ocean from washing  
plastic-based textiles.*



---

## *THE SOLUTION – FINDING THE RIGHT FIT*

---

As with all complex problems, there is no silver bullet solution. The holy grail would be a circular system – keeping clothes in the system for longer by extending their lifespan, shifting our material mix toward sustainable materials and rethinking the way in which we collect, treat and re-use discarded items. Addressing the challenge will require collaboration, ambition and creativity – perhaps the fashion industry is well equipped to deal with the challenge?

To find out more, I attended the Copenhagen Fashion Summit, an event which brings together various industry players – from designers to fast-fashion retailers and from textile manufacturers to luxury brands – to discuss the challenges of the industry. It seems this was the first year the rhetoric has shifted from why something needs to be done to how something can be done, and the first year the event included an Innovation Forum where over 50 companies show-cased their solutions that ranged from DNA tracking, to packaging-as-a-service and to leather substitutes. It was encouraging to see such an array of possible solutions that, together, could make a positive impact on the fashion industry over the long run.



*The Copenhagen Fashion Summit is the world's leading conference on sustainability in fashion.*

© Getty Images Europe.

---

*– It seems this was the first year the rhetoric has shifted from why something needs to be done to how something can be done...*

---

# CHANGING HABITS

---



*A woman is measured using a 3D body scanner, technology which could reduce our clothes waste.*

© Getty Images North America.

One obvious solution is that we use our clothes for longer – this requires durable clothes and repair services. It also requires us to take better care of our clothes. Companies trying to slow down our rate of fashion consumption range from well-known brands, such as outdoor clothing company Patagonia, whose ‘Ironclad Guarantee’ and commitment to repairing everything it makes means it repairs 50,000 pieces of clothing every year, to younger companies thinking about doing things in radically different ways. Adaptable or modular clothing and personalisation, including cutting-edge 3D body scanning technology are all possible solutions. If a dress fits perfectly, would you throw it away? Elsewhere, clothing rental businesses could serve the more fashion and budget conscious consumer. Many of the companies tapping into potential long-term trends aren’t yet investible for us, but they do give us an insight into possible evolution of the industry and areas to monitor over time.

There are some simple things we could all start doing today that would make a difference without having to don body-suits for 3D scanning. By washing clothes at lower temperatures, we save energy per wash cycle and help the clothes last for longer. Proctor and Gamble claim that the use of high-



*A Novozymes lab worker tests stain-removing enzymes.*  
© Novozymes.

quality detergents with fabric softeners in cold wash cycles can extend the lifespan of garments by up to four times and reduce the release of those environmentally-damaging microfibres.

Novozymes is making great strides in this area. The company has created an enzyme-based technology that is supporting the evolution of so many different industries, including fashion. Enzymes speed up or slow down chemical reactions, helping customers to conserve energy, water and raw materials, while reducing waste and emissions. For example, using enzymes in detergents means that laundry can be washed at lower temperatures without compromising wash performance. With an estimated 5.2 billion people already using one or more of its solutions on a weekly basis, and the development of enzymes that can be used in washing powders to kill bacteria at lower temperatures, Novozymes is already contributing to the solution at scale. This may

be a far cry from the glamour of the catwalk, but our ability to think about and invest in companies tackling this challenge in its broadest sense is important.

Once clothes do inevitably meet the end of their lifespan, there is much to be done to reduce landfill – important because polyester can last up to 200 years and even ‘natural’ fibres produce methane as they decompose. Despite clothes recycling having been around for over 250 years it is rather limited. While it goes without saying that recycling infrastructure and technologies could be improved, there are examples of innovative ways of keeping materials in use for longer, such as a company which is recycling nylon waste from landfill and disused fishing nets into regenerated nylon fibre, which matches the performance and quality of new nylon. The fibre is used by Adidas, H&M and British luxury designer Stella McCartney to name but a few.



---

# MATERIAL AND PROCESS INNOVATION

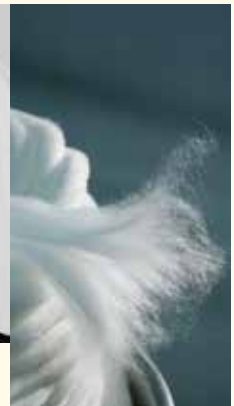
---



© Bolt Threads.



© Modern Meadow.



© Lenzing.

A more sustainable fashion industry will be one which strives to use renewable materials and more efficient production and processing technologies that are less dependent upon fossil fuels, chemicals, water and energy. At the Copenhagen Fashion Summit, we were intrigued by the line-up of quirky fibres on display – from washable salmon leather made from food industry waste to a leather substitute made primarily from pineapple leaf. Some sound rather fanciful, but we think companies producing yeast-based collagen and spider silk hold real promise.

Lenzing is a Vienna-based company that makes fibres from wood-based cellulose, which need considerably less water and chemicals to produce than cotton, and unlike polyester are not dependent upon fossil fuels and are biodegradable. Elsewhere, Bolt Threads is demonstrating that spider silk is not just for Peter Parker, but a real-life superhero textile. The company has produced ties and hats from Microsilks, which is spun from

the same protein as spider web – it has high tensile strength, elasticity, durability and softness.

The challenge does not seem to be finding innovative solutions but scalability. To overcome this, collaboration between designers, brands and retailers will be instrumental in enabling disruptive technologies to scale. Bolt Threads are already in partnership with established brands, but we need to see much greater scale and more collaboration to drive real change. This has been recognised by Suzanne Lee, chief creation officer at private company Modern Meadow who has founded Biocouture, an open-source ‘bioneer’ community. From an investment perspective, the key questions of scalability and competitive edge are ones that we intend to monitor. Patience, as ever, will be key and, combined with our focus on companies with ambition and the ability to innovate, should help us to identify the long-term winners.

---

# *THE END OF THE RUNWAY*

---

The challenges that the fashion industry is confronting provides investors with both risks and opportunities. Risks seem to lie with many of the fashion giants. While some companies, such as Inditex, are making strides towards addressing sustainability, many high street brands ultimately remain perpetrators of the problem and could face headwinds in time as consumers and policy makers wake up. They will need to be willing to innovate, collaborate and maybe even adapt their proposition and business model over time.

A wide array of innovative businesses pioneering new technologies are, as is so often the case, where some of the most exciting long-term opportunities lie. From companies changing how we design and consume fashion to those inventing incredible new materials, we see potential investments that are still in their infancy which we look forward to monitoring over time. The range of companies tackling this challenge, from the glamour of the luxury designers using spider silk, to the nuts and bolts science of Novozymes, increases our belief that fashion can rehabilitate itself and that self-expression doesn't have to come at the expense of the environment.

---

## IMPORTANT INFORMATION

---

Baillie Gifford & Co and Baillie Gifford & Co Limited are authorised and regulated by the Financial Conduct Authority (FCA). Baillie Gifford & Co Limited is an Authorised Corporate Director of OEICs.

Baillie Gifford Overseas Limited provides investment management and advisory services to non-UK Professional/Institutional clients only. Baillie Gifford Overseas Limited is wholly owned by Baillie Gifford & Co. Baillie Gifford & Co and Baillie Gifford Overseas Limited are authorised and regulated by the FCA in the UK.

Baillie Gifford Investment Management (Europe) Limited provides investment management and advisory services to European (excluding UK) clients. It was incorporated in Ireland in May 2018 and is authorised by the Central Bank of Ireland. Through its MiFID passport, it has established Baillie Gifford Investment Management (Europe) Limited (Frankfurt Branch) to market its investment management and advisory services and distribute Baillie Gifford Worldwide Funds plc in Germany. Baillie Gifford Investment Management (Europe) Limited is a wholly owned subsidiary of Baillie Gifford Overseas Limited, which is wholly owned by Baillie Gifford & Co.

Persons resident or domiciled outwith the UK should consult with their professional advisers as to whether they require any governmental or other consents in order to enable them to invest, and with their tax advisers for advice relevant to their own particular circumstances.

### Important Information Hong Kong

Baillie Gifford Asia (Hong Kong) Limited 百利亞洲(香港)有限公司 is wholly owned by Baillie Gifford Overseas Limited and holds a Type 1 licence from the Securities & Futures Commission of Hong Kong to market and distribute Baillie Gifford's range of UCITS funds to professional investors in Hong Kong. Baillie Gifford Asia (Hong Kong) Limited 百利亞洲(香港)有限公司 can be contacted at 30/F, One International Finance Centre, 1 Harbour View Street, Central, Hong Kong. Telephone +852 3756 5700.

### Important Information South Korea

Baillie Gifford Overseas Limited is licensed with the Financial Services Commission in South Korea as a cross border Discretionary Investment Manager and Non-discretionary Investment Adviser.

### Important Information Japan

Mitsubishi UFJ Baillie Gifford Asset Management Limited ('MUBGAM') is a joint venture company between Mitsubishi UFJ Trust & Banking Corporation and Baillie Gifford Overseas Limited. MUBGAM is authorised and regulated by the Financial Conduct Authority.

### Important Information Australia

This material is provided on the basis that you are a wholesale client as defined within s761G of the Corporations Act 2001 (Cth). Baillie Gifford Overseas Limited (ARBN 118 567 178) is registered as a foreign company under the Corporations Act 2001 (Cth). It is exempt from the requirement to hold an Australian Financial Services License under the Corporations Act 2001 (Cth) in respect of these financial services provided to Australian wholesale clients. Baillie Gifford Overseas Limited is authorised and regulated by the Financial Conduct Authority under UK laws which differ from those applicable in Australia.

### Important Information South Africa

Baillie Gifford Overseas Limited is registered as a Foreign Financial Services Provider with the Financial Sector Conduct Authority in South Africa.

### Important Information North America

Baillie Gifford International LLC is wholly owned by Baillie Gifford Overseas Limited; it was formed in Delaware in 2005. It is the legal entity through which Baillie Gifford Overseas Limited provides client service and marketing functions in America as well as some marketing functions in Canada. Baillie Gifford Overseas Limited is registered as an Investment Adviser with the Securities & Exchange Commission in the United States of America.



---

## ABOUT THE AUTHOR

---



### **KATE FOX**

*Investment Manager*

Kate graduated MA in Economics and Maths from the University of Edinburgh in July 2001. Kate is an investment manager for the Positive Change strategy, a member of the Positive Change Portfolio Construction Group and a member of the Pan-European Smaller Companies Portfolio Construction Group. She is a CFA charterholder.

# **CURIOUS ABOUT THE WORLD**

**[bailliegifford.com/thinking](http://bailliegifford.com/thinking)**