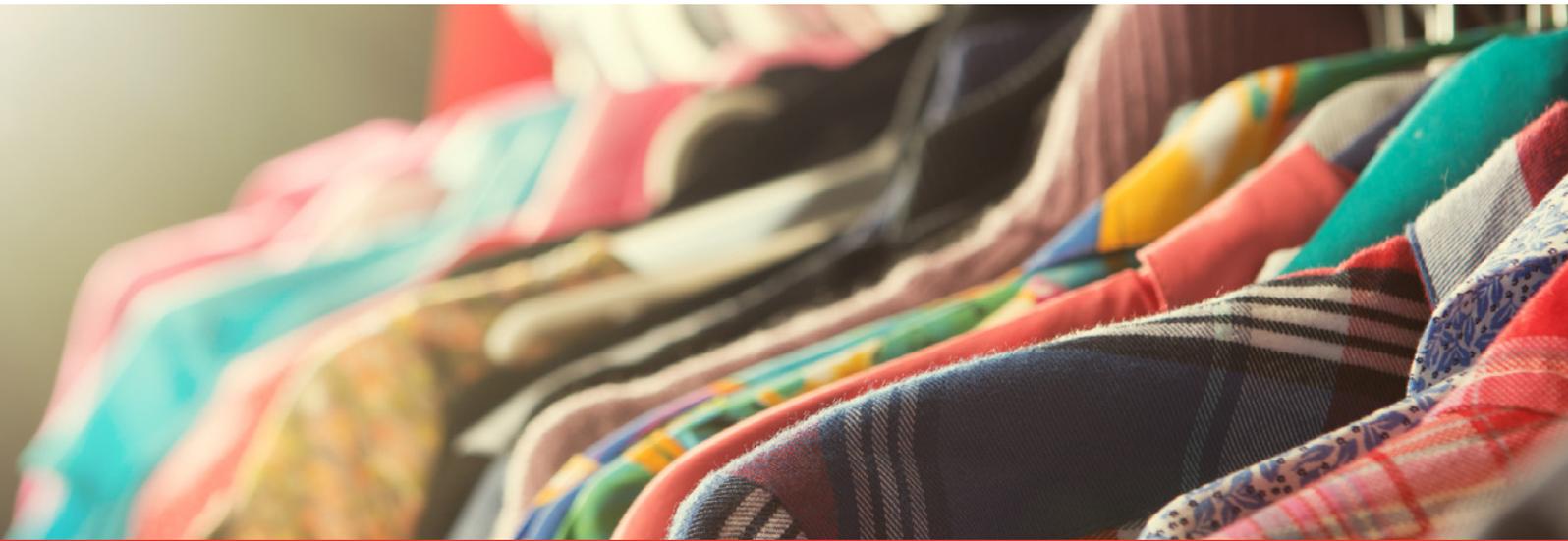


How brands can improve apparel value chains



LATEST TRENDS

Raw materials focus for fashion brands

Fashion brands face environmental, resource and social challenges in their supply chains – and are developing some innovative solutions

Luxury brands must understand climate threats to supply base, especially sourcing of vicuna

With a recent assessment from CDP that around 50% of an average company's carbon emissions come from its supply chain, the first analysis of global warming and its consequences for the luxury sector has been warmly welcomed.

Developed by Kering, the group behind brands such as Puma and Stella McCartney, in partnership with the US consultants BSR, the [Climate change: implications and strategies for the luxury](#)

Apparel and luxury goods rely heavily on high quality raw materials

[fashion sector](#) report warns the sector of the specific vulnerabilities attached to raw material sourcing and processing, and suggests a number of ways to build more resilient business models.

With the fact that apparel and luxury goods rely heavily on high quality raw materials, which come from production systems that are limited geographically, the industry is exposed to additional risks in their supply chains due to climate change that are beyond the typical risks of other sectors, including transport and delivery disruption, resource scarcity and the challenges of social change.

CONTENTS

PAGE 01

Trends and analysis

PAGE 03

Research digest

PAGE 04

Activists and campaigning

Produced by **Innovation Forum**
www.innovation-forum.co.uk
1 Rivington Place, London EC2A 3BA
+44 (0)20 3780 7430

Editor: Ian Welsh

Contributors: Oliver Balch and Tom Idle

Innovation Forum is a London-based company focusing on sustainable business analysis and debate around the world via events, research, advisory services and publishing.

Design: Alex Chilton Design

With a focus on key raw materials, Kering's report offers analysis of the current and future climate risks associated with cotton, cashmere, vicuna, silk, beef and calf leather, and sheep and lamb leather.

Among the key recommendations offered by the analysis are that both the quantity and quality of raw materials will be increasingly affected by the impacts of climate change, leading to significant business risks – with vicuna particularly vulnerable given its geographic limitations. Vicunas are related to llamas, live in the high Andes and produce only small quantities of fine wool.

Kering's chief sustainability officer, Marie-Claire Daveu, says that it is crucial for luxury companies to fully understand the potential vulnerabilities that climate change will pose to them and be proactive in building resilience across the supply chain. She adds that implementing an "ambitious" climate strategy at a company level is "non-negotiable" – something that will reduce risk and deliver against business goals.

The five solutions to solve H&M's biggest sustainability challenges

With the world now buying more clothing than ever before, the amount that ends up in landfill continues at a pace. The average American throws out 68 garments every single year.

As something of a holy grail for the fashion industry, closing the loop on fabric so that clothes can be renewed and spun into something new has so far eluded manufacturers.

But it's something the new €1m competition launched by H&M's Conscious Foundation aims to support. It has been calling for new ideas to help the industry become more circular and to drive out waste within the supply chain and came up with five (as yet anonymous) finalists.

1. Polyester-eating microbes

Petroleum-based polyester is the most common material used to make clothes and

is hard to recycle without losing quality. So, how about a new type of microbe that can eat an old shirt, and break the polymer down into a basic raw material that can be sold back to polyester manufacturers.

2. Food waste into yarn

Orange juice manufacturers create 25m tonnes of waste a year thanks to piles of wasted peels and seeds. This (unnamed) start-up has developed a process that turns citrus byproducts into a raw material that can be spun into yarn.

3. Algae-based fabric

To make a pair of jeans requires 20,000 litres of water to grow the cotton. Quick-growing algae only needs the oceans and lakes it grows in, leaving land free for growing food instead. Now, it's time to turn algae into fabric, says this start-up.

4. Cotton into new clothes

Cotton is hard to recycle. This new process uses a green solvent to dissolve old cotton clothing into a cotton-like material that can be spun into new fibres.

5. Tracking waste on factory floors

With 15% of fabric ending up trashed in the process of manufacturing, this startup has created a database to track leftovers so other designers can make use of it.

Boosting traceability via 'TripAdvisor for working conditions'

With modern day slavery, trafficking and poor working conditions rife across supplier companies, tracking what's actually happening on the factory floor is both crucially important and really hard to achieve. **LaborVoices** hopes to change that by enabling workers to send real-time data on working conditions through their mobile phones. The technology is currently

available in 50 countries, helping workers to access information on their rights and how to resolve workplace grievances.

The organisation now plans to expand its services so that workers can self report and access information on factory conditions and wages, and become empowered to make choices about their employment. It will become "like a TripAdvisor for workers" according to founder Kohl Gill. It will also create a

subscription model for brands, so that companies will no longer need to commission specific investigations, instead paying to access data about a number of supplier factories.

Walmart putting its money where its mouth is to bring supply chain closer to home

Five US universities will share in a total pot of \$2.84m in grants provided by the Walmart Foundation designed to unearth innovations in textile manufacturing. The company has created the fund to address two key challenges that it sees as being the big barriers to domestic manufacturing: reducing the cost of textile manufacturing in the US, and improving common manufacturing processes.

Walmart has previously **committed** to buy an additional \$250bn in products that support US jobs by 2023.

Among the grant recipients are Clemson University to advance its work in energy and effluent reduction via the dyeing of polyester fabrics; University of Texas at Austin, which is looking at on-loom fabric defect inspection using contact image sensors; and Cornell University, which is focused on recycling post-consumer textile waste and a raw material substitute for new textiles.

Cornell's fabric-shredding machine called Fiberizer transforms textile waste to make it usable for other products.★



The average American throws out 68 garments every single year

REPORTS AND DATA

Apparel: research analysis

By Oliver Balch

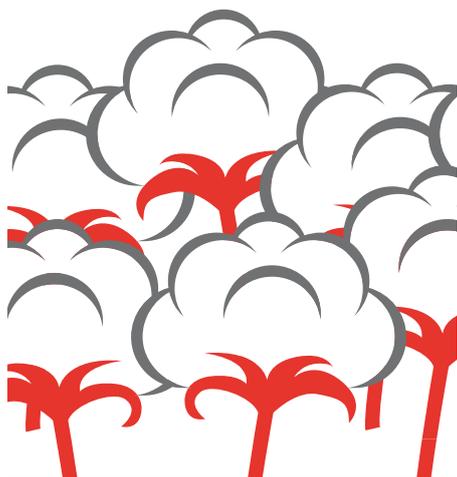
We've read the reports and the analysis so that you don't have to

New denim label aims to expose cotton's water intensity

Around 15% of cotton is wasted every year during the manufacturing process, wasting enough material to produce three T-shirts for every person on the planet.

That is according to a new Danish denim label, which is aiming to save 70m litres of fresh water over a two-month period in 2016 as part of a project to tackle the water-intensive nature of cotton.

The **Denim Project** says that waste cotton equates to 38.5bn litres of fresh water, which could provide water for 25 million people a year.



15% of cotton wasted every year in manufacturing processes

So, it has designed a fabric made of 98% production waste, with stretch fabric – the remaining 2% – the only new material. The process uses no dyes and saves a kilogramme of cotton per item, which the company estimates is equivalent to 11,000 litres of water.

Next supplier audits reveal Syrian refugee child workers

UK high-street retailer Next identified two Syrian refugee children working in its Turkish supply chain in 2015. Ten of the retailer's 22 suppliers – which collectively operate 40 factories in Turkey – employ Syrian refugees, all of whom, according to Next, receive payment of a social security fee as part of their wage.

The company conducted 66 separate audits of its Turkish suppliers' factories in 2015, with some businesses being audited twice because of low initial ratings. Only 5% of these audits were unannounced. Next also conducted 131 audits of second and third tier Turkish suppliers in 2015.

The findings emerge from a **questionnaire** submitted by the Business and Human Rights Resource Centre to 28 major garment brands with supply chain operations in Turkey. Another major clothing retailer to have responded is fashion brand H&M, which sources from 210 factory units run by 72 direct suppliers.

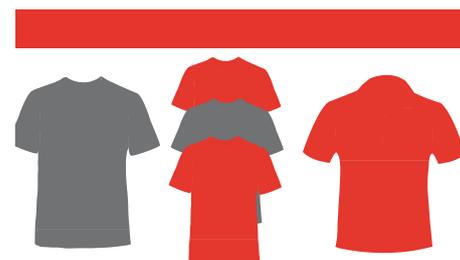
60% of the workforce in Turkey's textile industry is unregistered

The Swedish clothes manufacturer audited all these units in 2015, arriving unannounced in 40% of the cases. Four of the units supplying H&M employ Syrian refugees. Of these, one was found to be employing an under-age Syrian.

C&A, adidas, Primark and Puma were among the 11 garment brands to respond to the questionnaire. Approximately 60% of the workforce in Turkey's giant textile industry is unregistered, according to a **recent study** by the Fair Wear Foundation.

Revealed: textile's contribution to biodiversity loss

The dyeing and treatment of textiles produces between 17-20% of all industrial water pollution, while the apparel industry is responsible for 22.5% of all insecticide use globally, a **new report** by the International Union for the Conservation of Nature finds.



Washing, drying and ironing can be 80% of a garment's energy impact

Among the clothing sector's other noted environmental impacts relate to the energy requirements needed for fibre production. Energy inputs in polyester production (which derives from the use of non-renewable petroleum), for example, are 125 megajoules per kilogramme of fibre, compared to 100 MJ/kg of viscose (cellulose-based) fibre. Over two-thirds (70%) of the total emissions related to polyester products occur at this production phase.

The effect of recycling is reducing garments' environmental footprint. The lifecycle emissions of recycled PET, for instance, averages 50% that of virgin fibre. The use phase is shown to be highly energy-intensive too. In some cases, such as cotton, washing, drying and ironing can account for up to 80% of a clothing item's total energy impacts.

ACTIVISTS & CAMPAIGNING

Brands in the campaign spotlight

By Tom Idle

No more angora, brands criticised for Indian worker conditions, and renewed focus on factory safety in Bangladesh

Guess? backs away from angora

US fashion brand Guess? will no longer sell clothing or accessories that use angora. According to animal rights campaign group [Peta](#), the decision follows a petition signed by 53,000 of its supporters.

In recent years, 110 retailers have stopped using angora. The list includes brands such as Gap, Tommy Hilfiger, H&M and Calvin Klein. Angora rabbit fibre production is the largest animal fibre industry in the world after wool and mohair, with an estimated output of



Eliminating angora "the right thing to do", says Guess? CEO

10,000 tonnes per year, according to the Australian-based [Rural Industries Research and Development Corporation](#). China is responsible for 90% of the world's angora trade, with Chile and France comprising significant producers as well.

Guess? CEO Victor Herrero says that while in the past the company had worked to ensure the minimal amount of angora used was ethically sourced, the decision to eliminate angora completely is "just the right thing to do".

Workplace abuse in India puts C&A and H&M in spotlight

Garment workers in Bangalore, India, one of the major centres of the country's textile industry, earn an average of as low as \$103.70 per month. This is just above the minimum wage of around \$101.50.



H+M collaborating with peers to improve worker conditions

However, an [investigation](#) into factories supplying major fashion brands – including H&M, C&A, and Inditex – finds wide-scale evidence of workplace abuse, safety lapses and discrimination. Many facilities, for example, deduct money from workers' wages for the use of electricity and water in factory hostels. In one case, workers from north India paid around \$29.50 per month for board and lodging, compared to \$20.70 for Bangalore-based workers. The investigation was carried out by the India Committee of the Netherlands, which

estimates that 80% of Bangalore's garment workers are economic migrants from within India.

C&A, H&M and Inditex have said they will work together toward a "coordinated and collaborative" approach to improve the living conditions of migrant garment workers, [according to ICN](#).

Fire raises further concerns about factory safety in Bangladesh

The Clean Clothes Campaign and the International Labor Rights Forum were quick to jump on the news that yet another serious fire had broken out at a garment factory in Bangladesh which supplies H&M and JC Penney.

The incident occurred just days after the groups issued a [report](#) calling into question the long delays in safety renovations taking place at H&M's supplier factories in Bangladesh.

In a statement, H&M said it was following an industry accord on improving safety standards closely, and was in "close dialogue" with suppliers and is following up on the work that remains to be done.



Factory safety essential for brand credibility

What's next: Sustainable apparel

How brands can improve their value chain environmental footprint – and make it pay
19th April 2016 in London

A one-day conference for discussion on the major risks to the environment and to businesses. We will hear how leading brands and industry experts can drive transparency and sustainability to find solutions to help build scalable and effective change.

With focused debates and practical working sessions on:

- » How do we achieve actual transparency and traceability at the start of the value chain?
- » What can and have brands done to achieve 100% cotton sustainability?
- » How can brands and suppliers be smarter with sustainable water use?
- » How to meaningfully engage suppliers on environmental improvements?
- » How can chemical use be more sustainable and less harmful across the supply chain?
- » How can we make circular apparel more mainstream?
- » What can brands do to add value to the business and improve their environmental footprint?

Hear from the experts:

Tamsin Lejeune, CEO,

Ethical Fashion Forum

Anna Maria Rugarli, sustainability and corporate social responsibility director,

VF Corporation

Esther Verburg, VP corporate responsibility,

PVH Europe/Tommy Hilfiger Global

Marcus Bergman, head of sustainability,

Gina Tricot

Nick Earlam, chief executive officer,

Plexus Cotton

Anna-Karin Dahlberg, production support manager,

Lindex

Peter Bartsch, head of corporate sustainability,

Lenzing

Gareth Mottram, commercial director,

Páramo Directional Clothing

Christoph Kaut, managing director,

Cotton made in Africa

Melissa Shinn, global campaign strategist – Detox, **Greenpeace**

Felix Rauer, senior manager corporate responsibility, **Otto Group**

Charles Dickinson, environmental sustainability controller, **Primark**

Eliina Brinkberg, CSR manager, **Nudie Jeans**

Ruchira Joshi, programme director – Demand, **Better Cotton Initiative**

Isabelle Roger, cotton programme senior manager, **Solidaridad**

Stuart Harker, managing director, **FTA – Business Environmental Performance Initiative**

Carl Peltzer, trader, **Cargill Cotton**

Liesl Truscott, European and materials strategy director, **TextileExchange**

Nicole Rycroft, founder and executive director, **Canopy**

Manohar Samuel, president, marketing, **Aditya Birla**

SUPPLY CHAIN RISK & INNOVATION



Supply Chain Risk & Innovation is the subscription publication for business from Innovation Forum.

It's packed with concise, practical insight into global

supply chains. It is published ten times a year and is required reading for senior management, buyers and procurement executives and business sustainability professionals.

Each issue contains the essential key trends, information, data, research and practical case studies, presented in a clear, analytical format.

UPCOMING EVENTS

How business can build resilience for smallholder farmers

22nd-23rd March 2016, London

How business can tackle deforestation

6th-7th April 2016, Washington, DC

Sustainable extractives forum

27th-28th April 2016, London

How business can tackle modern slavery and forced labour

5th May, London

Sustainable seafood forum

24th-25th May, Washington DC

For full details click [here](#) or contact Natasha Bodnar at natasha.bodnar@innovation-forum.co.uk