

ADDITIONAL RESOURCES

THE FASHION INDUSTRY'S ISSUES AT A GLANCE

A recent report forecasts fashion industry sales growth to nearly triple between 2016 and 2018 (from 1.5 percent to between 3.5 and 4.5 percent). The fashion industry is at a critical point. Fashion brands, retailers, designers and suppliers alike are facing new pressures as they constantly race to churn out the next fashion must-have, at faster rates and lower prices. The number of garments produced annually has also now exceeded well beyond 100 billion pieces.

With this rapid rise in production and consumption comes a staggering increase in waste and we are witnessing unprecedented rates of disposal and wastage.

However, external conditions, such as increased competition for resources, spike in costs of raw materials and tightening of legislations, are forcing fashion companies to review their operations to adopt more sustainably-minded and circular approaches to fashion as they prepare for the future. In addition, many more retailers and emerging designers are more frequently collaborating for change.

Meanwhile, the consumer is becoming increasingly aware and sensitive to the negative environmental impact of the more widely understood negative environmental impacts caused by the fashion industry and by consumers' high consumption.

Below are resources that demonstrate some of the fashion industry's pressing issues in terms of environmental impact, consumption, production and waste. Also highlighted are the potential that designers and consumers have to drive positive change.

For further information or for interviews, please contact Amy Chan, Redress Design Award Project Manager, at amy@redress.com.hk

FINDINGS

THE ENVIRONMENTAL IMPACTS OF FASHION AND TEXTILES

- The fashion and textile industry is one of the most polluting industries in the world.

Air

- The fashion industry's CO₂ emissions are projected to increase by more than 60% to nearly 2.8 billion tons per year by 2030 - equivalent to nearly 230 million passenger vehicles driven for a year, assuming average driving patterns.

Source: Global Fashion Agenda and The Boston Consulting Group, Inc. (2017), Pulse of the Fashion Industry

- Greenhouse gas emissions from textiles production totalled 1.2 billion tonnes of CO₂ equivalent, more than those of all international flights and maritime shipping combined.

Source: Ellen MacArthur Foundation (2017), A New Textiles Economy: Redesigning Fashion's Future

Water

- Out of China's 41 industrial sectors, the textile industry was the third largest wastewater emitter in 2015.

Source: Ministry of Environmental Protection (2017), 2015 State Of Environment Report

- The volume of freshwater consumed by the fashion industry is 79 million cubic meters, enough to fill nearly 32 million Olympic-size swimming pools. This figure is predicted to increase by 50% in 2030. Top 3 areas of water use in fashion industry: production of raw materials (most significant), textile processing, consumers washing of clothes.

Source: Global Fashion Agenda and The Boston Consulting Group, Inc. (2017), Pulse of the Fashion Industry

- 20% of freshwater pollution comes from textile treatment and dyeing.

Source: Raybin, A (2009), Water pollution and textiles industry as cited in The Sustainable Academy (SFA) and The Global Leadership Award in Sustainable Apparel (GLASA) (2015), The State of the Apparel Sector – 2015 Special Report: Water

- The cultivation of cotton relies on heavy consumption of freshwater. The global average water footprint for 1 kg of cotton is 10,000 to 20,000 liters depending on where it is grown.

Source: Chapagain, A, Hoekstra, A et al (2006); Mekonnen, M.M. and Hoekstra, A.Y. (2010), Mekonnen, M.M. and Hoekstra, A.Y.(2011); Cotton Incorporated (2012) as cited in The Sustainable Academy (SFA) and The Global Leadership Award in Sustainable Apparel (GLASA) (2015), The State of the Apparel Sector – 2015 Special Report: Water

- Around 1.2 billion pairs of jeans are produced each year. It is estimated that a total of 3.5 trillion liters of water is used during its cotton production, fabric production, dyeing, and garment manufacturing.

Source: Statisticbrain.com (2016), Denim Jeans Industry Statistics; Levi Strauss & Co. (2015), The Life Cycle of a Jean (Redress uses the figures from the LEVI's report and Statisticbrain.com, multiplied 1.2 billion pair of jeans by 2912 liters of water)

Land

- The cultivation of cotton covers 3% of the Earth's agricultural land, but its production consumes 16% of all insecticides and 7% of all herbicides. It is predicted that by 2030, the fashion industry will use 35% more land for cotton, forest for cellulosic fibers, and grassland for livestock - over 115 million hectares altogether. (Spacing looks different on this one.)

Source: Global Fashion Agenda and The Boston Consulting Group, Inc. (2017), Pulse of the Fashion Industry

FASHION CONSUMPTION

- Industry sales growth is forecasted to nearly triple between 2016 and 2018, from 1.5 percent to between 3.5 to 4.5 percent.
- In 2018, an important tipping point will be reached when, for the first time, more than half of apparel and footwear sales will originate outside of Europe and North America, as the main sources of growth are emerging market countries across Asia-Pacific, Latin America and other regions.
- If the global population rises as expected to 8.5 billion people by 2030, overall apparel consumption will rise by 63%, from 62 million tons today to 102 million tons in 2030 - an equivalent of more than 500 billion T-shirts.
- The average consumer now buys 60 percent more clothing items a year and keeps them for about half as long as 15 years ago

Source: Business of Fashion (2017), The State of Fashion 2018

Source: Business of Fashion (2017), The State of Fashion 2018

Source: Global Fashion Agenda and The Boston Consulting Group, Inc. (2017), Pulse of the Fashion Industry

Source: McKinsey & Company (2016), Style that's sustainable: A new fast-fashion formula

SCALE OF FASHION AND TEXTILE PRODUCTION

- The number of garments produced annually has doubled since 2000 and exceeded 100 billion for the first time in 2014: nearly 14 items of clothing for every person on earth.
- In 2015, China's clothing exports had a value of USD\$174.28 billion.
- In 2016, China was the leading exporter of textiles and clothing with a 37.2% share in world exports of textiles and 36.4% in clothing.
- The global textile industry's fibre production volume in 2016 increased to approximately 101 million tonnes, from 86 million tonnes in 2011.

Source: McKinsey & Company (2016), Style that's sustainable: A new fast-fashion formula

Source: Ministry of Commerce of the People's Republic of China Comprehensive Department (2016), 2015 年中国对外贸易发展情况

Source: World Trade Organization (2017), World Trade Statistical Review 2017

Source: The Fiber Year Consulting (2012), The Fiber Year 2012; The Fiber Year Consulting (2017), The Fiber Year 2017 World Survey on Textiles & Nonwovens

CONSUMER AND INDUSTRY TEXTILE AND CLOTHING WASTE

- An estimated 92 million tons of textile waste is created annually from the fashion industry and is estimated to increase by about 60% between 2015 and 2030, with an additional new 57 million tons of waste generated annually. The anticipated total fashion waste in 2030 is 148 million tons - equivalent to annual waste of 175 kg per capita across the planet.
- Approximately 15% of textiles intended for clothing ends up on the cutting room floor.

Source: Global Fashion Agenda and The Boston Consulting Group, Inc. (2017), Pulse of the Fashion Industry

Source: Timo Rissanen (2005), 'From 15% to 0: Investigating the creation of fashion without the creation of fabric waste'



- After use, less than 1 percent of material used to produce clothing is recycled into new clothing. This take-make-dispose model not only leads to an economic value loss of over \$500 billion per year, but also has numerous negative environmental and societal impacts.
Source: Business of Fashion (2017), The State of Fashion 2018
- In China the total annual production of pre and post-consumer textile waste is estimated to be around 26 million tonnes. The market for the recycling of secondhand clothes has huge potential; the maximum revenue could be as high as 60 billion RMB.
Source: China National Garment Association (2016), 废旧衣物回收市场前景广阔，产业链待完善; China National Garment Association (2013), 中国每年2,600万吨旧衣服被扔掉
- In Hong Kong, approximately 125,195 tonnes of textiles were sent into landfills in 2016.
Source: Hong Kong SAR, Hong Kong Environmental Protection Department (2018) Monitoring of Solid Waste in Hong Kong - Waste Statistics for 2016
- Around 300,000 tonnes of used clothing goes to landfills in the UK every year.
Source: WRAP (2017), Valuing Our Clothes: the cost of UK fashion.
- The EU textile industry generates waste estimated at 16 million tons per year.
Source: European Commission (2017), Circular economy in practice - reducing textile waste
- The average number of times a garment is worn before it ceases to be used – has decreased by 36 percent compared to 15 years ago.
Source: Business of Fashion (2017), The State of Fashion 2018
- The vast majority of clothing waste ends up in landfills or is incinerated. Globally, only 20% of clothing is collected for reuse or recycling.
Source: Global Fashion Agenda and The Boston Consulting Group, Inc. (2017), Pulse of the Fashion Industry

BENEFITS OF CLOTHING AND TEXTILE REUSE

- Extending the active life of 50% of UK clothing by 9 months would decrease the UK's carbon footprint by 8%, water footprint by 10% and waste footprint by 4%, per tonne of clothing.
Source: WRAP (2017), Valuing Our Clothes: the cost of UK fashion.
- Increasing second hand sales by 10% would decrease UK's carbon footprint by 3%, water footprint by 4% and waste footprint by 1%, per tonne of clothing.
Source: WRAP (2017), Valuing Our Clothes: the cost of UK fashion.
- Adopting hire and repair models for 5-10% of clothing sales in the UK could save 30-60 million cubic metres of water and 80,000-160,000 tonnes of CO₂ e.
Source: WRAP (2017), Valuing Our Clothes: the cost of UK fashion.

POTENTIAL FOR DESIGNERS AND CONSUMERS TO DRIVE CHANGE

- Around 80% of a product's environmental impact is locked in at design stage.
Source: WRAP (n.d.), WRAP and the circular economy
- Recent research suggests there's a potential to create €160 billion (nearly HKD1.4 trillion) every year for the world economy through more efficient use of scarce resources in the fashion industry by making progress on a range of issues up and down the value chain.
Source: Global Fashion Agenda and The Boston Consulting Group, Inc. (2017), Pulse of the Fashion Industry
- 700,000 tonnes of CO₂ emissions have been reduced (carbon footprint reduced by 3%) through having people wash their clothes at lower temperatures, and ironing and tumble drying less frequently.
Source: WRAP (2017), Valuing Our Clothes: The Cost of UK Fashion

Consumer awareness and demand on the topics of sustainability is on the rise.

- In emerging markets, more than 65% of consumers have been found to actively seek out sustainable fashion.
Source: Cotton Lifestyle Monitor (n.d.) as cited in Business of Fashion (2016), The State of Fashion 2017



- Millennial consumers are more likely than non-millennial consumers to attempt to buy products from companies who support the causes they care about (52% versus 45%).
Source: Barkley (2011), American Millennials: Deciphering the Enigma Generation, p.78, cited in Forbes.
- 66% of consumers say they are willing to pay more for sustainable goods – up from 55% in 2014 and 50% in 2013. Among them millennials (age 18-34) continue to be most willing to pay extra for sustainable offerings – almost three-out-of-four respondents in the latest findings, up from approximately half in 2014. The rise in the percentage of respondents under 20, also known as generation Z, who are willing to pay more was equally strong – from 55% of total respondents in 2014 to 72% in 2015.
Source: Nielsen (2015), The Sustainability Imperative
- As of Spring 2016, millennials are the largest living generation in the United States; over the next decade their total income of \$1 trillion is expected to grow to be 30% more than that of Generation X and 7.5 times that of the Baby Boomers. On a global scale, 85% of them live in emerging markets and have a total spending power of approximately \$2.5 trillion, which is expected to grow three times by 2025.
Source: PEW Research Center; Bank of America, Goldman Sachs; US Census; Holly Ellyatt(2015), "How trillion-dollar millennials are spending their cash", CNBC, as cited in Business of Fashion (2016), The State of Fashion 2017