### Sustainability of the fashion industry inquiry: Written evidence submitted by Professor Tim Cooper, Clothing Sustainability Research Group, Nottingham Trent University

1. **Executive Summary**
	1. Purchasing habits for clothing in the UK have changed over the past decade to only a limited degree.
	2. There has been a depletion of technical skills and knowledge within clothing new product development teams and throughout the supply chain.
	3. As a business model, fast fashion demands a high throughput of garments and implies a linear economy. By contrast, a circular economy demands longer product life-cycles, repair and alteration services, the reuse of fabric whenever possible, and recycling as a last resort.
	4. While there is a need for garments to be designed and manufactured for longevity, a more difficult problem is how to reduce consumer demand for cheap, short-lived garments.
	5. Much more needs to be done by industry to adopt sustainable practices, including transforming business models that depend on a fast throughput of garments.
	6. The supply of unwanted garments donated for reuse far exceeds demand and too many are exported, threatening indigenous clothing industries in less industrialised countries.
	7. Retailers have launched garment recovery initiatives but progress needs to be accelerated.
	8. Policy must address all stages in the clothing life-cycle.

# Submission

This submission responds to the categories of question laid out in the terms of reference for the inquiry published in July 2018. It focuses on topics on which experts at NTU have undertaken research over the past decade and the overarching theme of clothing longevity.

## Have UK clothing purchasing habits changed in recent years?

* + 1. Researchers at NTU first studied clothing purchasing habits in a 2008 study for Defra,

*Public Understanding of Sustainable Clothing,* which concluded that the level of awareness of the sustainability impacts of clothing was low. Some of the participants expressed a weary resignation to fashion trends. In general they associated garments that had been designed for longevity with quality, not sustainability. The study exposed the decline in skills and habits necessary for routine clothing maintenance. The cost of professional repair and alteration services was widely considered to be prohibitive.

* + 1. The purchasing habits of UK consumers have changed over the past decade to only a limited degree. Trends such as vintage fashion have emerged, demonstrating the increased acceptability of second-hand clothing, particularly among younger consumers. Growth in the sale of ‘ethical’ or ‘sustainable’ clothing (e.g. organic, better cotton initiative, fair trade) appears to have been marginal rather than substantial.
		2. A major study of clothing behaviour was undertaken as underpinning research for WRAP’s first *Valuing Our Clothes* report. Professor Cooper served as advisor to MORI for a survey of nearly 8,000 consumers, which revealed disturbing findings about prevailing purchasing practices but also a notable interest in opportunities for change:
			- Only 44% of survey respondents indicated that they plan their clothes shopping and buy accordingly.
			- More than a quarter (28%) admitted that they buy more than they need.
			- Well over a third (38%) indicated that they could do more to buy clothes that are ‘made to last’ and would like to do so.

## What is the environmental impact of the fashion supply chain? How has this changed over time?

* + 1. The clothing industry in the UK, as throughout the industrialised world, is widely regarded as unsustainable, as demonstrated by authoritative research findings from (among others) WRAP.
		2. NTU has produced a report for Defra on *Strategies to Improve Design and Testing for Clothing Longevity* that considers influences along the supply chain, based on interviews with industry practitioners and consumer focus groups. This confirmed

that it is technically possible to produce longer lasting clothing, while highlighting a range of issues that need to be addressed:

* + - * The potential adoption of advanced textile processes and finishing techniques that could enhance product longevity.
			* Time, cost and technical constraints on the type and effectiveness of product testing carried out during the new product development process.
			* The impact that retailers could have by influencing consumer behaviour and enhancing their approach to user-centred design and clarity in garment care labelling.
			* A depletion of technical skills and knowledge within retail new product development teams and throughout the supply chain.
			* A pressing need to enhance multi-disciplinary collaboration across the supply chain to promote better design practices, from fibre to end-use.
			* A continuing lack of evidence to encourage retailers and brands to pilot and adopt new business models that support clothing longevity.

## What incentives have led to the rise of “fast fashion” in the UK and what incentives could be put in place to make fashion more sustainable?

* + 1. Fast fashion provides consumers with access to the latest design trends using quick response production capabilities. However, short lead time means that wash tests and wearer trials are often not feasible, with implications for garment quality.
		2. As a business model, fast fashion implies a high throughput of garments within a linear economy. Many such garments are relatively cheap, being aimed at consumers who want to change their wardrobe content on a regular, trend driven, basis. Wearable items are often discarded and end up in landfill sites or incinerated. Many are not made from single fibre materials and cannot be recycled. By contrast, a circular economy demands longer product life-cycles, repair and alteration services, the reuse of fabric whenever possible, and recycling as a last resort.
		3. Garment longevity, a principle diametrically opposed to fast fashion, is widely considered essential to sustainable clothing. NTU staff have undertaken research for WRAP entitled *Development of an Industry Protocol on Clothing Longevity* aimed at

producing a voluntary code of conduct for industry. A survey of 1,500 failed garments revealed common causes of garment failure to be colour fading, fabric quality issues (such as pilling), fabric breakdown, discolouration and holes in seams. Interviews were then undertaken with testing houses, retailers, suppliers and manufacturers to explore the potential for longer lasting clothing by identifying standards, tests, performance criteria and metrics. While companies were found to use performance criteria and have quality procedures built into product development schedules, some undertook wearer trials for every product but others only when developing new fabrics or for garments with potential problem areas. Companies producing low cost fashion garments take more risks to ensure that they meet delivery to store deadlines.

* + 1. This research also exposed problems with testing garments for longevity. We explored the use of extended wearer trials (lasting 200 hours rather than the current 50 hour norm) and even this length proved inadequate. Increasing the number of wash test cycles was useful, but costly as well as time-consuming. The findings highlighted the complexity of testing for longevity because of the wide range of fibres, fabrics and garment types and different user behaviour (i.e. wear and laundering).
		2. It is essential to recognise that while there is a need for garments to be designed and manufactured for longevity, a more difficult problem to resolve is how to reduce consumer demand for cheap, short-lived garments.

## What industry initiatives exist to minimise the environmental impact of the fashion industry?

* + 1. There are a range of industry initiatives, notably WRAP’s Sustainable Clothing Action Plan, but much more needs to be done by industry to adopt sustainable practices, including transforming business models that depend on a fast throughput of garments. Our report for WRAP, *Design for Longevity,* concluded that increasing garment longevity may seem counter-intuitive in an era of ‘disposable fashion’, in which retailer and manufacturer business models are based on frequent, low-cost purchases. However, by making relatively small changes to those business models (and associated pricing strategies), increasing garment longevity need not impact on

commercial returns – especially if integrated with broader industry efforts to educate consumers about the environmental impact of clothing waste.

## How could the carbon emissions and water demand from the fashion industry be reduced?

* + 1. In its report *Valuing our Clothes* WRAP concluded that increasing product lifetimes is one of the most effective means of reducing carbon emissions. Extending the life of clothing by an extra nine months of active use would reduce carbon, waste and water footprints by around 20-30% each. This has been the focus of NTU’s research over the past decade.

## What typically happens to unwanted and unwearable clothing in the UK? How can this clothing be managed in a more environmentally friendly way?

* + 1. Many garments that have proven durable are no longer wanted. Our behaviour survey analysis for WRAP revealed that a surprisingly high proportion of consumers (35%) had purchased clothing from charity shops in the past year but nearly three- quarters (73%) had donated items to charity shops over the same period. The supply of unwanted garments donated for reuse far exceeds demand. Many are consequently exported, threatening indigenous clothing industries in less industrialised countries. Nonetheless, less than a third (32%) of survey respondents were not interested in purchasing second hand clothes. Consumers would be more likely to choose second hand clothes if there was a better choice (23%), more fashionable items (16%) and a bigger range of sizes (16%).
		2. The design of clothing is crucial to whether it is sustainable. The best opportunity within the clothing lifecycle to increase longevity is at the design stage, as changes to design practices can have a significant impact on how long items remain wearable. The fundamental reason why consumers discard clothing is that it no longer looks good – which is an issue designers can directly influence. Our report *Design for Longevity* found four areas where design can help to ensure garments look good for longer, and so extend their usable life:
			- *Size and fit.* Many items are discarded because they no longer fit. By designing clothes that can be easily adjusted to allow for reasonable variations in an individual’s shape, designers can help increase longevity.
			- *Fabric quality*. Higher quality fabrics are more likely to withstand wear and tear. Wear and tear depends on the way the item is worn - there are different expectations of childrenswear and occasionwear - but even within different categories fabric quality has a significant impact.
			- *Colours and styles*. Designers can help to extend the longevity of garments by using ‘classic’ or timeless styles and colours that are less likely to go out of fashion.
			- *Care*. Longevity is directly affected by how well garments are looked after. Designers and retailers have an opportunity to influence this by ensuring that consumers are given advice on care and opportunities for re-use and recycling.

## Does labelling inform consumers about how to donate or recycle clothing to minimise environmental impact, including what to do with damaged clothing?

* + 1. Many consumers are interested in the environmental impacts of their lifestyles. Labelling is an important means of empowering them to make appropriate choices and needs to cover more than end-of-life guidance. Increasingly there is interest across Europe in the provision of information on the anticipated life-span of products. The circular economy requires the slowing of product life-cycles as well as the closing of material loops.
		2. In NTU research for the *Clothing Longevity Protocol*, companies indicated that they would find it difficult to estimate how long garments would last because longevity is not specifically tested, and due to variation in customer use (e.g. frequency and duration of wear). Returns to retailers are low and mostly apply to the current and previous season, which is insufficient for assessing garment lifetimes. Even so, there are opportunities to signal longevity by, for example, labels indicating that garments will not be subject to pilling, are guaranteed against fading for certain number of washes, or have other features that increase durability.

## What actions have been taken by the fashion industry, the Government and local authorities to increase reuse and recycling of clothing?

* + 1. Unlike industry sectors such as electrical and electronic goods, clothing companies have not yet been required by legislation to take responsibility for discarded garments. There have been voluntary garment recovery initiatives such as ‘shwopping’ by Marks and Spencer and Oxfam, which has collected some 20 million items since 2008. Other companies, including H&M, Zara and John Lewis, have started or are planning garment recovery schemes. These initiatives are welcome, but progress needs to be accelerated and broadened across the sector. As long ago as 2012 our research for Defra found that over half of respondents (53%) were at least ‘fairly likely’ to use a retailer ‘buy back’ scheme, with women and people aged 16-34 especially interested.

## How could consumers be encouraged to buy fewer clothes, reuse clothes and think about how best to dispose of clothes when they are no longer wanted?

* + 1. Sustainable consumption demands cultural change. The throwaway culture applies to the whole economy, not merely the clothing sector. If consumers are to be encouraged to buy fewer clothes there needs to be a wider public debate on future of the ‘consumer society’, including an evaluation of its benefits and costs. The implications of reduced consumption bring into question the merits of the conventional indicator of societal progress used by government, economic growth. As values and attitudes are learnt from childhood and taught in schools, achieving sustainable consumption is a long term task and one that must involve the teaching profession. The need for change is urgent, however, and politicians have an important role when communicating what is needed for a healthy and sustainable economy; typically they assume that it requires the ever-increasing consumption of new goods.
		2. Clothing that is unworn needs to be brought back into use. Our behavioural research for WRAP found that, on average, people own 115 items of clothing, 30% of which have not been worn during the past year. Many indicated that they do not check their wardrobes often enough (53%), and store clothes that either no longer fit or

need altering (80%) or are in disrepair (62%), highlighting a need for initiatives to increase skills in clothing repair and alteration. Over half of women and nearly a quarter of men expressed an interest in learning more about how to repair clothes (52% and 23% respectively).

* + 1. In our research for Defra some consumers revealed that they discard garments in household residual waste, particularly those that are inexpensive and considered unsuitable for charity shops. This suggests a lack of awareness that clothes that are not wearable still have value for textile recycling. Consumers appeared to lack understanding of the important distinction between reuse and recycling. The term ‘recycling’ is too often used loosely, to embrace both activities.

# Recommendations

## Manufacture

* + 1. Government, industry and NGOs should work together to develop agreed standards for garment longevity that, over time, will remove clothing with the most significant impacts from the market.
		2. The Government should support education, training, knowledge sharing and collaboration within and between organisations in the supply chain. Research into commercialisation of the business case for sustainable clothing, innovations in technology and testing to support longer lasting clothes is required. Work undertaken by WRAP, notably through the Sustainable Clothing Action Plan, should be funded more generously to accelerate progress towards a sustainable fashion industry.
		3. A vast amounts of used garments is exported because they are unwanted by UK consumers. In many cases discarded fabric and other used components could be used in new products i.e. upcycling. There are a small number of upcycling enterprises making a range of products but, typically craft based and small in scale, they would benefit from increased government support in order to compete against high street chains.

## Purchase

* + 1. A significant proportion of consumers indicated that they would like to do more to buy clothes ‘made to last’. There is a need for improved information on clothing lifetimes, including labelling, to enable consumers to identify longer lasting garments. Guidance, where necessary supported by legislation, should seek to improve garment labelling with regard to durability, use (i.e. care instructions) and disposal (i.e. recyclability).
		2. Many garments are rarely worn, especially those for special occasions. Consumers have demonstrated an interest in hiring more clothes if made easier. Although a few clothing hire companies operate, public funding for research and development could reveal opportunities for expansion.

## Use

* + 1. Routine clothing maintenance needs to be encouraged. Many people lack the skills, ability or confidence to repair or alter clothing and want to gain them. Central and local government should promote community initiatives such as Repair Cafés, actively support the provision of relevant courses in local colleges, and take immediate action to reverse the declining number of design and technology courses in schools.
		2. Households have expressed concern at the cost of commercial repair and alteration services, which is particularly significant in the context of relative cheap clothing. As such services are labour-intensive, fiscal reform should be used to encourage the repair and maintenance of clothing by phasing out employers’ national insurance contributions and zero-rating VAT.
		3. Research has highlighted the substantial number of garments because they no longer fit or are in disrepair, or because people do not regularly check their wardrobes. This represents a stock of untapped wealth. Social marketing should be used to address the problem.

## Disposal

* + 1. Rapid progress needs to be made towards a circular economy. In order to achieve this, clothing retailers and brands should take more responsibility for discarded garments. The Government should review retailer clothing recovery schemes and introduce statutory measures to make producers responsible for textile waste if

these do not lead to a substantial reduction in used garments being exported and sent for incineration or landfill.

* + 1. The shift to a circular economy requires increased demand for second-hand garments and the diversion of garments from the residual waste stream. The Government should work with retailers and local authorities to increase public understanding of the important distinction between reuse and recycling. Greater effort is needed to increase sales in the second-hand clothing market (e.g. with regard to choice, style and sizes) and households need to be made aware that even damaged or heavily worn clothing has value for recycling.

# About the author

* 1. **Tim Cooper** is Professor of Sustainable Design and Consumption at Nottingham Trent University. Professor Cooper has specialised in research on product lifetimes for over 25 years, much of which has focussed on the clothing and electronic goods industries. During the past decade his research team has undertaken a series of projects on sustainable clothing funded by WRAP and Defra. He has led four projects on clothing for WRAP and served as consumer behaviour advisor for its *Valuing Our Clothes* report. Most recently his team completed a research project for Defra on *Strategies to Improve Design and Testing for Clothing Longevity*. Professor Cooper submitted written evidence to the Energy and Climate Change Select Committee Enquiry into the *5th Carbon Budget* in 2016, and gave oral and written evidence to the House of Lords Science and Technology Committee Enquiry into *Waste Reduction* in 2008. He served as Specialist Adviser to the Environment, Transport and Regional Affairs Committee for its Enquiry *Reducing the Environmental Impact of Consumer Products* in 1998-99. A social scientist, he leads a team of researchers with extensive industry experience in garment technology, design and fashion marketing.
	2. **The author is grateful for the advice of Dr Lynn Oxborrow, Stella Claxton and Nottingham Civic Exchange in preparing this submission.**
	3. [**Nottingham Civic Exchange**](http://www.ntu.ac.uk/nce) is Nottingham Trent University’s pioneering civic think tank with a primary focus on issues relating to the city and the region. Nottingham Civic Exchange enables discovery by creating a space where co-produced approaches are developed to tackle entrenched social issues. Nottingham Civic Exchange supports the role of NTU as an anchor institution in the city and the region. Nottingham Trent University holds engagement with communities, public institutions, civic life, business and residents at the core of its mission.

*September 2018*