

Textiles and the environment

SUMMARY

The amount of clothes bought per person in the European Union (EU) has increased by 40 % in just a few decades, driven by a fall in prices and the increased speed with which fashion is delivered to consumers. Clothing has the fourth highest impact on the environment of all categories of EU consumption. This impact is often felt in non-EU countries, where most production takes place. The production of raw materials, spinning them into fibres, weaving fabrics and dyeing require enormous amounts of water and chemicals, including pesticides for growing raw materials such as cotton. Consumer use also has a large environmental footprint, owing to the water, energy and chemicals used in washing, tumble-drying and ironing, and microplastics shed into the environment. Less than half of used clothes are collected for reuse or recycling when they are no longer needed, and only 1 % are recycled into new clothes, since technologies that would enable clothes to be recycled into virgin fibres are only now starting to emerge.

Various ways to address these issues have been proposed, including developing new business models for clothing rental, designing products in a way that would make re-use and recycling easier (circular fashion), convincing consumers to buy fewer clothes of better quality (slow fashion), and generally steering consumer behaviour towards choosing more sustainable options.

The European Commission laid out its vision for the textiles sector for 2030 in the March 2022 EU strategy for sustainable and circular textiles. The Commission has proposed a regulation on ecodesign requirements for sustainable products and a directive on empowering consumers for the green transition. The package will aim to make all products on the internal market more sustainable, while providing consumers with information on sustainability. The application of these rules to textiles will be specified in delegated acts, largely planned for 2024.

This briefing expands on and updates a 2019 EPRS briefing [Environmental impact of the textile and clothing industry: What consumers need to know](#).



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Changing the ways European consumers use their clothes

The amount of clothes bought per person in the EU increased by 40 % between 1996 and 2012.¹ At the same time, up to [50 % of clothes](#) in people's wardrobes have not been used for at least a year, and every year about [30 % of the clothes](#) produced are never sold. Once discarded, over half the garments are not recycled, but end up in mixed household waste and are subsequently sent to incinerators or landfill.²

It has been [estimated](#) that, in 2020, EU citizens bought 6.6 million tonnes of clothing and footwear (14.8 kg per person: 6.0 kg of clothing, 6.1 kg of household textiles and 2.7 kg of footwear). Eurostat figures show that each EU citizen spent an average of €600 on clothing, €150 on footwear and €70 on household textiles. This was the year in which the textile industry in the EU actually saw its turnover decrease by 9 % because of the Covid-19 pandemic, which hit consumption of clothing and footwear, while increasing the consumption of household textiles, thus overturning [previous trends](#).³ With people returning to a more normal life following the pandemic, it is expected that the consumption of clothes and footwear will rebound.

Several trends have contributed to the increase in consumption of fashion in the last few decades. One is the rise of **fast fashion**. Epitomised by multinational retail chains, it relies on mass production, low prices and large sales volumes. The business model is based on replicating styles from high-end fashion shows and delivering them in a short time at cheap prices, typically using lower quality materials. Fast fashion constantly offers new styles to buy: the [average number of collections](#) released by European apparel companies per year went from two in 2000 to five in 2011, with Zara, for instance, offering 24 new clothing collections each year, and H&M between 12 and 16. Increasingly, this has led consumers to see cheap clothing as perishable goods that are 'nearly disposable'.⁴

The other significant trend was the fall in the price of garments; according to a European Environment Agency (EEA) [report](#), between 1996 and 2018 clothing prices in the EU fell by more than 30 % relative to inflation. So, while the volume of clothes bought continues to rise, the share of clothing in household consumption [has decreased slightly](#): it was 5 % in 1996 and 3.8 % in 2018, before dropping further in 2020 to [3.3 % of household expenditure](#), on account of the pandemic.

The EU's textiles and clothing industry

According to [Euratex](#), in 2019 the textile and clothing industry in the EU recorded a turnover of €162 billion and comprised 160 000 companies (mainly small and medium-sized enterprises), employing over 1.5 million people. While the sector [lost](#) about half its workers and turnover declined by 28 % between 1998 and 2009, in 2019 it still accounted for a [4.7 % share of employment](#) and [an over 2 % share](#) of value added in total manufacturing in the EU.

The decline in textiles manufacturing in Europe followed the phasing-out of the World Trade Organization (WTO) [textile quotas](#), which began in the 1990s and ended in 2005. After this liberalisation of the textiles trade, the share of imports in European clothing consumption increased from 33 % in 2004 to 87 % in 2012. Today, the production of textiles and clothing has one of the most complex global value

Textile industry versus clothing industry

As noted in the 2017 Commission staff working document (SWD) [Sustainable garment value chains through EU development action](#), the textile industry commonly refers to the production of yarn, textiles and fabrics, while the clothing industry (also referred to as the garment/apparel/fashion industry) refers to the production of garments. The sector also includes other types of textile products, such as household textiles and technical/industrial textiles (for instance, textiles for industrial filters, hygiene products, textiles for the car and medical industry). However, as explained in the Commission's 2012 SWD [Where manufacturing meets creativity](#), the fashion industry can also include shoes, bags, jewellery and other accessories, in addition to clothes.

chains, with most products on the internal EU market manufactured outside the EU, often in countries with lower labour and environmental standards.⁵ According to Euratex, in 2019 the [main exporters](#) to the EU-27 were China, Bangladesh, Turkey, the United Kingdom, India, Pakistan, Vietnam, Cambodia, Morocco and Tunisia. The EU imported textile products worth €112 billion from non-EU countries. Nevertheless, according to Euratex, the EU textile and clothing sector exported €61 billion worth of products in 2019, making the EU the second largest exporter in the world after China.

Environmental issues

A 2021 Joint Research Centre (JRC) [report](#) estimated that textiles consumption accounts for 4 to 6 % of the EU's environmental footprint across a range of impact categories, behind housing, mobility and food.⁶ According to the [European Environment Agency](#) (EEA), in 2020, textile consumption in Europe had the fourth highest impact on the environment, after food, housing, transport and mobility, and furnishings and household goods. It had the third highest impact on water and land use and the fifth highest impact for raw material use and greenhouse gas emissions. Between 80 and 90 % of the environmental impacts of EU textile consumption occurred abroad; 90 % of impacts concerned land use, almost 90 % of water use and 80 % raw material use. Almost 75 % of the greenhouse gas emissions (GHG) associated with the EU textiles industry are released outside Europe.

The EEA estimates that the production phase accounts for about 80 % of the overall climate change impact of textiles, with distribution and retail accounting for 3 %, the use phase (washing, drying and ironing) 14 %, and the end of life (collection, sorting, recycling, incineration and disposal) 3%.⁷ Other studies have shown different estimates.

Raw materials

The production of raw materials is responsible for much of the environmental impact of the textile and clothing industry. According to the 2021 Textile Exchange [report](#), the global production of fibre doubled from 58 million tonnes in 2000 to 111 million tonnes in 2019, before falling to 109 million tonnes in 2020, as the textile industry was hit by the pandemic. Synthetic fibres, which in the mid-1990s overtook cotton as the most widely used fibre, accounted for 62 % of global fibre production in 2020. The proportion of sustainable fibres that Textile Exchange refers to as '[preferred fibres](#)' accounted for less than a fifth.

Cotton accounts for 24 % of global fibre production, according to Textile Exchange. It can be problematic because it can require huge quantities of land, water, fertilisers and pesticides and cannot easily be recycled into virgin fibre. However, the environmental impacts of organic cotton can be reduced drastically compared with conventional cotton, as it uses less water and pollutes less. According to the Textile Exchange report, the share of sustainable virgin cotton (not only organic cotton) increased from 6 % in 2012-2013 to 30 % in 2019-2020.⁸ Recycled cotton had a 0.96 % share of global cotton production in 2020.

Polyester accounted for 52 % of the global fibre market in 2020.⁹ Polyester's main advantage over cotton is that it has a lower water-footprint, must be washed at lower temperatures, dries quickly, hardly needs ironing, and can theoretically be recycled into virgin (new) fibres. However, 99 % of recycled polyester, which had a market share of 14.7 % in 2020, is not made from used clothes, but from plastic bottles. In addition, polyester is a fossil-based fibre, is non-biodegradable and contributes to the release of microplastics into the environment. The EEA [estimates](#) that in Europe, 13 000 tonnes of textile microfibrils (25 grams per person) are released to surface water every year, and that clothes are responsible for around 8 % of European microplastics released to oceans. Particularly high levels of synthetic fabric are shed during the first few washes, underlining the issues with fast fashion, which is more likely to use polyester and is typically used for a shorter time. The industry is currently experimenting with [bio-based polyester](#) (also known as [biosynthetics](#)), made at

least partly from renewable resources such as starches and lipids from corn, sugar cane, beet or plant oils. The challenge is to find feedstocks that do not compete with food production and that do not require large amounts of water and pesticides.

Manmade cellulosics (MMCs), derived from cellulose made from the dissolved wood pulp of trees, made up around 6 % of fibres globally, with 'preferred' fibre (FSC and PEFC certified) accounting for around 55 to 60 % in 2020. The most commonly used MMC is viscose, also known as rayon. MMCs are made from renewable plants and are biodegradable, but the main challenge is the sustainable sourcing of cellulose, as the global production of MMCs more than [doubled](#) from 1990 to 2017. The industry is therefore working with innovative materials that are more sustainable, such as lyocell (also known under the brand name of [Tencel](#), made of cellulose from eucalyptus, which grows quickly and requires no irrigation or pesticides), [Bemberg](#) (also known as cupro, made of [cotton linter](#) that cannot be used to spin yarn), and [Piñatex](#) (made of pineapple leaves).

Animal fibres had a market share of 1.57 % in 2020, according to Textile Exchange, with wool being the most commonly used, with a 1 % share. The [Responsible Wool Standard](#) market share increased to 1.25 % in 2020, while recycled wool had a market share of around 6 % of all wool. The share of [Responsible Mohair Standard](#) wool jumped from 0 to 27 % worldwide in the first year of introducing the standard. The industry is working on a responsible alpaca standard which is expected to be on the market soon. In 2020, 'preferred' cashmere had a 7 % share.

Processing and garment production

Spinning raw materials into yarns, weaving them into fabrics and applying finishing techniques such as dyeing or giving fabrics strength and shine are energy-intensive processes in which large amounts of water and chemicals are used. A Swedish Chemicals Agency [report](#) identified more than 3 500 chemical substances used in textile manufacturing, of which more than 350 have particularly hazardous properties.¹⁰ According to the 2017 [Pulse of the Fashion Industry](#) report, dyeing can require up to 150 litres of water per kilogram of fabric and, in developing countries, where most of the production takes place and where environmental legislation is not as strict as in the EU, wastewater is often discharged unfiltered into waterways. The production of garments themselves uses a significant amount of energy for sewing, gluing, welding and seam taping equipment. The cut-offs that are left over after the patterns for the clothes have been cut out are also responsible for about 20 % of the industry's fabric waste.

A 2014 JRC study on the [Environmental improvement potential of textiles](#) recommended a number of ways to reduce the environmental impacts of the processing and manufacturing phase, including reducing the consumption of chemicals, replacing them with enzymes,¹¹ using dye controllers and dyeing machinery that require less water, and recycling water. It also recommended integral knitting, where a whole garment is produced in one piece without the need for cutting and sewing (however, the gains in lifecycle impacts may be offset by the high energy use of the integral knitting machines). Some companies are experimenting with novel dyeing processes, such as using CO₂ as the dyeing medium instead of water (e.g. Dutch company [DyeCoo](#)). Others are experimenting with different cuts, computer controlled tools for pattern making to use more of the fabric with fewer cut-offs, garments with no or fewer seams, and bonding or gluing instead of sewing.

Transport and distribution

Most textile raw materials and final products are imported into the EU, implying long delivery routes. However, this phase seems to be less damaging to the environment than other phases, accounting for 3 % of impacts according to the EEA. The Pulse of the Fashion Industry report, which estimated that this stage accounts for only 2 % of the industry's climate-change impacts, argues that the relatively low impact is a result of most large players optimising the flow of goods. However, in recent years, the issue of the environmental impact of the rise in online shopping, the related increase in home deliveries, the proliferation of returns, and 'last mile' issues have also been in

focus.¹² This phase is also marked by the waste generated by packaging, tags, hangers and bags, and by a large share of products never reaching consumers, as unsold leftovers are destroyed.

Consumer use

Environmental impacts of the use phase in the lifecycle of clothes arise from the water, energy and chemicals (primarily detergents) used in washing, tumble-drying and ironing, and the microplastics shed into water. This phase is especially detrimental in terms of freshwater and marine toxicity. The 2014 JRC [study](#) on the environmental improvement potential of textiles suggested that one of the most efficient ways to reduce the environmental impact of clothes was to persuade consumers to make small behavioural changes, such as reducing washing temperatures, washing at full load, avoiding tumble-drying, purchasing eco-friendly fibres and donating clothes that are no longer used. The industry can also provide consumers with better information on how to reduce the environmental impact of clothes, for instance, on care labels. Consumers can also [lower](#) the environmental impact of their garments by washing their clothes less frequently (and airing them instead), and by avoiding unnecessary ironing.

End of life

Reliable and recent data on what happens to clothes once their owners decide to discard them are not readily available, as there are currently no requirements for separate collection of clothes or for measuring and reporting it. Separate collection of clothes will become mandatory in the EU in 2025. A 2021 JRC [study](#) estimated that the **separate collection** of used textiles across the EU-27 in 2020 was between 1.7 and 2.1 million tonnes, noting that these numbers should be considered as tentative and taken with caution, as data were not available for all Member States. In those where data were available, collection quantities varied widely – from 0.3 kg per capita in Latvia to 8.3 kg per capita in the Flanders region of Belgium.¹³ In the countries with data available, around 38 % of new textiles placed on the market were eventually collected separately. The majority of the remaining clothes wound up in mixed household waste.

According to the JRC study, clothes collected separately end up in different waste streams, depending on who does the collection. Textiles collected by municipal waste companies mostly end up as waste – incinerated or in landfills. Charities and professional collectors are usually focused on re-wearable textiles, which are pre-sorted to skim off the best quality textiles, which they then sell in their own second-hand shops. The rest is sold to wholesalers, who sell them on global markets. Often the textiles are exported to other, usually EU, countries that have specialised as **sorting and wholesale** centres: France, Germany, Poland, the Netherlands, Belgium, Romania, Hungary and Spain. Reusable clothes are sorted manually into 100 to 300 categories, based on the type of garment, style, size, season, etc., and sold off on global second-hand markets. As supply outstrips demand for second-hand clothes in the EU, an increasing share is exported, partly to east Asian and African countries. Exports grew from about 400 000 tonnes in 2003 to 1.3 million tonnes in 2019, and are expected to rise further. This has prompted accusations that cheap second-hand clothes cause the decline of local textile industries and that a lot of exported items are of such bad quality that they are not reusable; in essence, waste is exported to countries that are unable to deal with it. Large clothes dumps have been reported in [Ghana](#) and [Chile](#), for example.

Between 25 and 50 % of clothes collected in the EU are considered to be in such bad shape that they cannot be resold and are sent for recycling or to incineration and landfill. While sorting clothes by fabric type was until recently a huge obstacle to recycling, today non-rewearable clothes can be sorted by using automated or semi-automated technologies. Automated sorting can accurately sort most textile waste by colour and fibre type; this is necessary for recycling. Semi-automated sorting is possible thanks to hand-held scanners that are able to determine the type of fabric, even providing accurate percentages of mixed fabrics.

However, technologies for recycling itself are not yet fully developed. Globally, less than [one per cent](#) of all materials that are used in clothing is recycled back into clothing.¹⁴ **Mechanical recycling**, during which the material is cut up and shredded, is still dominant. About 20% of separately collected textiles in Europe are used, for example, as industry wipes, padding and filling for the car industry, and acoustic and thermal insulation. **Chemical recycling** technologies, which would result in new, virgin fibres (fibre-to-fibre recycling), are currently mature for plastic fibres, but not for natural fibres, such as cotton or wool. Mixed fabrics are especially hard to recycle, as the technologies for separating different materials are lacking. The presence of persistent chemicals in some fabrics can also prevent recycling.

Possible ways forward

There is a strong push within the industry to make every phase of production more sustainable. According to the 2018 [Pulse of the Fashion Industry](#) report, large sports apparel companies and big fashion brands are leading the way in investing in new technologies and business models. However, companies in the mid-price segment are also making big improvements, and even fast fashion is becoming more sustainable. The 2019 edition, however, warned that, while overall sustainability continued to improve, the rate of improvement had slowed down. The majority of improvements were from small, mid-range companies, and medium and large companies producing entry-level fashion. There have been warnings that companies that do not change their ways may be hit by the rising cost of materials and have no resources to work with in the future.¹⁵ However, the situation is even more complex, as efforts to reduce environmental impact can lead to higher prices for consumers, and convincing consumers to buy fewer clothes could reduce businesses' profits.

Since a large proportion of the environmental impact comes from the production phase, a lot of effort has been invested in extending the longevity of clothes. According to Environmental Coalition on Standards (ECOS) [estimates](#), extending the lifetime of clothes by nine months would reduce environmental impact by 20 to 30%. Doubling the number of times a garment is worn on average would reduce GHG emissions by 44% compared with producing a new garment. Therefore different concepts have been developed to extend clothes' lifetime.

Slow fashion, unlike fast fashion, is an attempt to convince consumers to buy fewer clothes of better quality and to keep them for longer. The philosophy [includes](#) reliance on trusted supply chains, small-scale production, traditional crafting techniques, using local materials and trans-seasonal garments. It calls for a change in the economic model, towards selling fewer clothes. It is however not supposed to be simply a marketing stunt to sell even more clothes. As a result it could threaten the economic survival of clothes producers unless consumers are also willing to pay higher prices.

Circular fashion on the other hand seeks to reduce waste to a minimum and keep the materials within the consumption and production loop as long as possible. For this to be possible, clothes should be designed from the outset with the circular economy in mind. They must be more durable to withstand multiple life cycles, include recyclable materials that are tailored to the intended use, and use timeless styles and design suitable for disassembly and recycling – for instance, avoiding mixed materials that are difficult to recycle. Zips, fasteners and other sewing items should be easily detached, and there must be fewer seams, to facilitate recycling.

Smart and instant fashion could reduce waste dramatically. The 2018 Pulse of the Fashion Industry report suggests that the clothes of the future could use smart technology to instantly adjust to the wishes of the consumer, by changing colours for example, also reducing the need to produce multiple versions of the same garment. Instant fashion could enable on-demand production at point of sale, with the help, for instance, of future improvements in 3D printing, which could also [bring manufacturing back](#) to the EU. Consumers would be able to get what they want produced locally with no overproduction. Some smaller brands are already avoiding overproduction by producing only what consumers order. **Virtual fashion**, meanwhile, could be used by social media users who

feel pressured to constantly appear wearing new clothes. An Ellen MacArthur Foundation [study](#) notes that some companies are already offering digital clothes, providing users with a picture of themselves for social media use, removing the need to produce physical products.

Circular business models

Achieving sustainable fashion may require new business models. An EEA [report](#) identifies four main circular economy business model types for textiles:

- **longevity and durability:** using sturdy, high quality materials and repairable designs for products, often combined with offering consumers maintenance and repair services. As part of such models, some companies offer long-term warranties that include free repair or replacement of a product, or instructions for repair or upcycling. The key is to offer products that are physically durable and timeless in design, so that they do not depend on the fashion of the day.
- **access-based models:** also referred to as '**fashion as a service**', these business models could increase the number of wears of particular items by renting, leasing and sharing clothes. Some brands already offer clothes as a service – leasing their clothes instead of selling them – taking their example from already well-established services of renting wedding and special occasion wear, protective clothes and newer services of renting maternity and baby clothes. Other businesses operate clothes subscription services, where consumers pay a monthly fee to rent a fixed number of garments at a time, enabling them to change their wardrobe frequently without buying new clothes (this already works well with bags and high-end fashion, but increasingly also for everyday clothes).
- **textile collection and resale:** companies can take back clothes of their own brand to re-sell in their own shops to make sure that they are properly recycled. Alternatively, they can organise the collection of used clothes, regardless of brand, to be resold on the global second-hand markets. Some online marketplaces also take back clothes to sell them on their own platforms, and there are also platforms that facilitate the sale of used clothes for individual users.
- **recycling and material reuse:** used clothes can be used for remanufacturing (reusing fabrics to make new items, also known as upcycling) or for recycling textile fibres. Several companies use these business models as a key component of their branding. To support such businesses, **extended producer responsibility (EPR)** schemes can be introduced, making producers and importers legally responsible for ensuring that used clothes are reused or recycled, with companies either organising their own programmes or contributing financially to an accredited collectively responsible organisation.¹⁶

The Ellen MacArthur Foundation [study](#) identifies three main goals for new business models for fashion: more use per user, more users per product, and bypassing physical products altogether by creating virtual fashion. According to the study, the new business models that are dominant in the fashion industry today are rental, resale, repair and remaking. In 2020, they were worth US\$73 billion and accounted for 3.5 % of global fashion market revenue, with the potential to grow to 23 % by 2030 (US\$700 billion), while reducing GHG emissions by 16 %. The study estimates that these new business models will see faster growth in Europe and North America, and in Europe could account for 43 % of total fashion market revenue by 2030.

To enable the new business models to work, clothes need to be designed with the circular economy in mind to make them more durable in terms of both physical and emotional durability (for instance, through timeless design), to enable increased usage and cleaning. Clothes must also be designed for easy repair and recycling. An EEA [briefing](#) warns that 40 % of all reasons for consumers discarding clothes are linked to poor durability of clothes, including holes and tears, worn-out appearance, loss

of elasticity or shape and stains. It therefore advocates technical requirements for colour fastness and fabric resistance and availability of repair kits and spare parts for clothes.

The deployment of these business models on a mass scale requires the development of **reverse logistics**, i.e. organising the taking back of rented and used products or products in need of repair from consumers. The Ellen MacArthur Foundation study provides examples of companies that specialise in organising the return of products in need of repair, enabling brands and retailers to offer after-care services. Other companies connect consumers with local seamstresses and tailoring businesses while organising pickup and delivery. Some companies specialise in **resale as a service**, i.e. they make it easy for consumers to sell their second-hand clothes, by taking care, for instance, of pre-printed labels, dry-cleaning and repair, or even offering a complete service of selling clothes, including enabling consumers to send their clothes in bulk, with the company sorting them, listing them, and delivering to the new buyers. Alternatively, companies offer **rental and resale logistics** to brands and online marketplaces, taking care of picking up the clothes from consumers, cleaning them, running quality checks, and refurbishing, packing and shipping.

The study warns, however, that current resale and rental business models are not always beneficial to the environment, as they require additional washing and drying, transport and other logistics to move items between users. However, provided that low emissions technologies are used, the overall impacts can be lower than with traditional, linear business models, thanks to lower impacts from the production and end-of-life phase.

EU policy

The current [Waste Framework Directive](#) requires Member States to set up schemes for the separate collection of textiles, at the latest by 2025. It also requires the European Commission to consider, by the end of 2024, whether targets for textile waste re-use and recycling should be introduced as well. The directive sets mandatory targets for general municipal waste re-use and recycling of 55 % by 2025, 60 % by 2030 and 65 % by 2035. Although not specifically aimed at textiles and clothing, other directives in the 2015 [circular economy package](#) could also mitigate some of the environmental impacts of textiles and clothes. The [Packaging and Packaging Waste Directive](#) introduced targets for the recycling of 60 % of all packaging by 2025 and 70 % by 2030. It also introduced material-specific targets for recycling, for instance, plastics, paper and cardboard packaging. The [Landfill Directive](#) requires Member States to reduce the share of municipal waste landfilled to 10 % by 2035.

EU legislation and initiatives focusing directly on textiles and clothes can help consumers make more sustainable decisions. The EU began harmonising legislation on the names of fibres, fibre content in fabrics and names of textile products in the 1970s. The 2011 [Textiles Regulation](#) lays down rules for the labelling and marking of all textile products, including an obligation to state the full fibre composition of textile products at all stages of industrial processing and commercial distribution, and rules on textile fibre names.

There are also [EU standards](#) relating to textiles and clothing.¹⁷ Some of the standards relate to minimum performance requirements for certain types of textile products, and environmental aspects of textile products. For instance, the European standard [CEN/TS 16822:2015](#) refers to self-declared environmental claims. In addition, the [EU Ecolabel](#) for clothing and textiles, a voluntary certification programme, establishes ecological criteria guaranteeing limited use of substances harmful to health and environment, reduction in water and air pollution, and criteria for extending the lifetime of clothes (resistance to shrinking during washing and drying, and colour resistance to perspiration, washing, wet and dry rubbing and light exposure).¹⁸ The EU's [green public procurement \(GPP\)](#) criteria for textiles facilitate the inclusion of green requirements in public tender documents. This is a voluntary instrument that Member States and public authorities can implement to the extent they wish.¹⁹

New EU sustainable textiles strategy

The 2020 [new circular economy action plan](#) identified textiles as a key product value chain where urgent EU action was necessary, and announced several initiatives that would help make production and consumption of textiles more sustainable. This vision was presented in the [EU strategy for sustainable and circular textiles](#), which the Commission adopted on 30 March 2022. The strategy is part of the circular economy package that also includes a proposal for a [regulation on ecodesign requirements for sustainable products](#) and a proposal for a [directive on empowering consumers for the green transition](#). According to the strategy, by 2030, textiles on the EU market should be durable and recyclable, made up largely of recycled fibres, free of hazardous substances and produced in an environmentally friendly way while respecting social rights. Fast fashion should be 'out of fashion', and re-use and repair services should be widely available. Textiles should be collected at the end of their lifetime, and their incineration and landfill reduced to a minimum thanks to innovative fibre-to-fibre recycling. The strategy explains how new legislative proposals will help make textiles in the EU more sustainable by 2030.

The proposed **new ecodesign regulation** would enable the laying down of minimum requirements for all products on the internal market regarding circularity (durability, reliability, reusability, reparability, upgradeability, recyclability, and possibility to remanufacture, recycle and recover materials). It would also cover resource use and resource efficiency, the use of secondary materials, the presence of hazardous chemicals, environmental impacts, and expected generation of waste materials. Rules for specific products would be decided later, in delegated acts. The regulation would introduce a mandatory **digital passport**, which would, in the case of textiles, provide businesses and consumers with information, for instance, on harmful chemicals, repair, and fibre composition. In addition, the regulation would introduce an obligation for businesses to make public information on the **destruction of unsold products**, while the Commission would be given the authority to ban such practices outright. Specific rules for textiles, including on product requirements, digital passports, green public procurement, disclosure of discarded products and measures banning the destruction of unsold textiles are planned for 2024.

The proposal for an **empowering consumers for the green transition directive**, which would also apply to all products, would help create demand for products that are sustainable, by informing consumers which products are more durable and repairable. When buying products, consumers would have to be informed if the producer offered a **commercial guarantee of durability** longer than the current two-year legal guarantee. They would also get information on the reparability of products, through a **repair score** or other relevant repair information. At the same time, commercial practices that mislead consumers regarding environmental and social impacts, durability and reparability would be banned, and a number of specific commercial practices relating to false green claims would be added to the blacklist of practices that are considered misleading in all contexts.

A proposal on **substantiating green claims**, which is planned as part of the second circular economy package later in 2022, is expected to tie the information on sustainability that consumers and businesses receive to a harmonised product environmental footprint (PEF) methodology. PEF methodology for apparel and footwear is also expected to be presented in 2024.

The Commission is meanwhile planning a number of other proposals relevant to textiles:

- [revision](#) of the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation in 2022, which would address the presence of hazardous substances used in textiles;
- revision of the Waste Framework Directive in 2023, which would harmonise EU extended producer responsibility (EPR) for textiles, with the main objective to provide incentives for producers to ensure that products are designed in line with circularity principles. A 'notable' share of contributions to EPR schemes would be dedicated to waste prevention and preparation for reuse;

- revision of the Textiles Regulation in 2023, which could introduce mandatory disclosure of sustainability and circularity parameters and possibly of the country where the manufacturing took place ('made in' labelling);
- revision of the EU Ecolabel criteria for textiles and footwear in 2024 to support its uptake among producers, and help consumers choose eco-friendly textile products;
- a legislative proposal on [reducing the release of microplastics into the environment](#) will also include measures on microplastics in textiles.

The [revision of the Waste Shipment Regulation](#), which is currently being considered by the co-legislators, will address shipments of problematic waste outside the EU. The Commission will meanwhile work on developing criteria for distinguishing waste from second-hand textile products, to avoid waste from being falsely declared as used goods for export and ending up in landfill in the destination countries.²⁰ The adoption of the proposal for a [corporate sustainability due diligence directive](#), which the Commission submitted in February 2022, would require big companies to identify, prevent, mitigate and end actual and potential impacts on human rights and the environment in their global value chains.

As part of the EU's textiles strategy, in line with the EU's industrial strategy, the Commission has launched the process of co-creating a [transition pathway for textiles ecosystems](#), to create an agreed vision for the sector together with the stakeholders. This initiative is expected to facilitate the scaling up of new circular business models in the textiles sector, with a view of reversing the overproduction and overconsumption of clothing. In 2024, the Commission plans to put forward guidance on promoting circular business models through investment, funding and other incentives. Research, innovation and investments will also be promoted through the [New European Bauhaus](#) initiative. Skills necessary for the textiles industry of the future – including eco-design, fibre development, innovative textile production, repair and reuse – will be developed through the [EU pact for skills for the textiles ecosystem](#).

European Parliament position

In its own-initiative [resolution](#) of 10 February 2021 on the new circular economy action plan, Parliament stated that the new EU textiles strategy should promote sustainability, circularity, traceability and transparency in the textile and clothing sector. It called for the strategy to include 'a coherent set of policy instruments and support new business models to address the full range of environmental and social impacts throughout the value chain and to improve the design of textiles to increase durability, reusability and mechanical recyclability and the use of high-quality fibres, notably through a combination of ecodesign type requirements, producer responsibility schemes, and labelling schemes'. It welcomed the application of the new product policy framework to textiles and said that it should prioritise waste prevention and durability, reusability and reparability, while also tackling hazardous and harmful chemicals. It also called for measures to address the release of microplastics from textiles, through measures that include developing 'preventive controlled and non-polluting industrial pre-washing and standards for equipping new washing machines with microfiber filters'. It also called for the new product policy framework on textiles to be coherent with other policy instruments, in particular with the proposal for EU human rights and environmental due diligence legislation, so as to uphold workers' rights and human rights, and ensure that gender equality issues are addressed at all stages of the textiles value chain.

In its [resolution](#) of 10 July 2020 on the chemicals strategy for sustainability, Parliament stressed that a sustainable chemicals policy requires alliances among sectors, to work on circular economy initiatives, including with the textiles industry. It called on the Commission to present an action plan, as part of the strategy, to close the gaps in the current legal framework on the presence of chemicals in products that consumers come into close and frequent contact with, including textiles.

In its previous term, in its own-initiative [resolution](#) of 27 April 2017 on the EU flagship initiative on the garment sector, Parliament called on the Commission to promote the use of ecological and

sustainably managed raw materials and the re-use and recycling of garments and textiles within the EU. It called on the EU, Member States and businesses to increase funding for research and development, including in the field of clothes recycling. It also called for the Commission to propose binding legislation on due diligence obligations for supply chains in the garment sector and stressed the right of consumers to be informed on the sustainability, human rights compliance and environmental credentials of garment industry products. It had already called for the establishment of a legal obligation of due diligence for EU companies outsourcing production to third countries in its [resolution](#) of 29 April 2015 on the second anniversary of the Rana Plaza building collapse in Bangladesh.

Parliament advocated strongly for textiles recycling in the 2017 interinstitutional negotiations on the Waste Framework Directive, as part of the circular economy package. It [insisted](#) that setting up separate collection of textiles should be made mandatory for Member States by 2020. However, while it succeeded in including the obligation for separate collection in the final version of the [directive](#), during negotiations with the Council the deadline was put back to 2025.

MAIN REFERENCES

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Joint Research Centre, [Circular Economy Perspectives in the EU Textile Sector](#), 2021.

Textile Exchange, [Preferred Fiber & Materials – Market Report 2021](#).

ENDNOTES

- ¹ European Environment Agency, [Environmental indicator report 2014](#), p. 107.
- ² Trends are similar globally. According to a McKinsey [analysis](#), an average consumer buys 60 % more clothes per year than 15 years ago, but keeps the clothes for only half the time.
- ³ The turnover for just clothes decreased by 17 %.
- ⁴ According to the McKinsey report on the [State of Fashion 2018](#), the increasing speed of fashion has recently also been driven by social media and the need to deliver fashion trends to consumers as fast as possible.
- ⁵ For more on global value chains in the textile and garment industry, see the EPRS briefing [Improving global value chains key for EU trade](#) (2016). For more on the social sustainability of fashion industry, see the EPRS paper [Textile workers in developing countries and the European fashion industry: Towards sustainability?](#) (2020).
- ⁶ The study looked at contribution to global warming, abiotic depletion (including coal and oil), human toxicity, water pollution, etc.
- ⁷ This estimate is based [Environmental Coalition on Standards](#) (ECOS) and [Mistra Dialogue](#) studies, both quoting research relating to the Swedish clothing sector.
- ⁸ Textile Exchange 'preferred cotton' also includes types of cotton that are not organic, such as fair trade cotton, as well as types of cotton that prescribe minimum environmental requirements, such as Better Cotton Initiative (BTI) standards, but that do not necessarily reach the organic standard. For more, see Textile Exchange [Organic Cotton Market Report 2020](#).⁹ The second most used synthetic fibre is polyamide with 5 % of the global fibre market in 2020.
- ¹⁰ In 2019, Sweden and France [proposed](#) an EU-wide ban of more than 1 000 allergenic substances found in textile and leather products.
- ¹¹ For more on industrial [enzymes](#) see for instance [Biovision in textile wet processing industry](#).

- ¹² See for instance M. Jaller and A. Pahwa, [Evaluating the environmental impacts of online shopping: A behavioral and transportation approach](#), 2020; and J. Allen et al., [Understanding the impact of e-commerce on last-mile light goods vehicle activity in urban areas: The case of London](#), 2018.
- ¹³ The JRC estimates this could grow by 65 000 to 90 000 tonnes per year as the Member States prepare for the 2025 deadline for introducing separate collection of textiles.
- ¹⁴ According to an Ellen MacArthur Foundation's study on [A new textiles economy: redesigning fashion's future](#), this includes recycling of factory cut-offs, while the rate of recycling of clothing after consumer use could be below 0.1 %. The report also states that globally, around 2 % of input for clothes production comes from recycled materials. But this comes mainly from plastic bottles used for production of recycled polyester, not from recycled clothes.
- ¹⁵ The [Pulse of the Fashion Industry 2017](#) warns that unless fashion brands take decisive action, they could see their profitability levels fall by three percentage points by 2030.
- ¹⁶ France is the only EU Member State to have an EPR law for clothes, in place since 2006.
- ¹⁷ These are developed through technical body CEN/TC 248 of the European Committee for Standardisation.
- ¹⁸ For more, see Commission [decision 2014/350/EU](#) establishing the ecological criteria for the award of the EU Ecolabel for textile products and the [factsheet](#) on the EU Ecolabel for textile products.
- ¹⁹ For more detail, see the 2017 Commission Staff Working Document [EU green public procurement criteria for textiles products and services](#) and the 2017 JRC technical report [EU Green Public Procurement \(GPP\) Criteria for Textile Products and Services](#).
- ²⁰ For more, including the progress of the legislative process, see EPRS briefing [Revision of the EU's Waste Shipment Regulation](#).

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