circular textiles

EURATEX

PROSPERING IN THE CIRCULAR ECONOMY

January 2020

EURATEX

THE EUROPEAN APPAREL
AND TEXTILE CONFEDERATION

IN THIS DOCUMENT

EUROPE IN A BIGGER WORLD

About the urgency to work together for radical changes.

PART I

What are textiles? What is Circular Economy?

12 points & 6 conditions to make it happen.

PART II

Circularity in a textile value chain, an industry perspective.

PART III

9 Proposals and 38 specific actions seeking for solutions.

NEXT STEPS

Calling for action in 2020 and industry commitments.

IN ANNEX

Signed Voluntary Commitments from companies' CEOs
of the textile value chains who Welcome, Act and Commit

EUROPE IN A BIGGER WORLD

The world population is growing with approximately 1 billion people every generation, every 12 years.[1]

While conscious and responsible consumption by people, states or industries may delay resource exhaustion, there is a need to find and agree on new ways for making, using and disposing products, such as textiles.

Resource intensive consumption and production models, climate change, biodiversity and pollution are global challenges which affect the global society and thus require coordinated efforts. The European Union (EU) has already pioneered breakthrough policies in the plastic value chain. This has proved how actions well-coordinated between business players, society and Member States can deliver change-driving policies in less than 1 year.

In 2019, the new European Commission sets out a policy guideline[2] to address global environmental challenges and circularity. With a population of 513 million people and 18.705 trillion GDP, the EU has the capacity to lead the way and inspire many world regions with a frontrunner successful policy.
Meanwhile, grim warnings on the health of the global economy affect people, businesses and governments. A prolonged economic downturn and weakening of global manufacturing sector would top up challenges because economic decline would worsen without solving the climate challenges.

A successful EU Textile strategy for Circular Economy is an opportunity to solve both societal and economic problems. It is an opportunity to reconcile the Environmental-Social-Economic sides of sustainability in the sector and unleash opportunity for resource-decoupled growth, especially for the European SMEs and the employment they provide. It is an opportunity to lead by example in global policy making and deliver on the UN's Sustainable Development Goals.

EURATEX with its Members welcome the ambition of the EU Institutions to change the old way. We commit to engage with all relevant parties to deliver and implement a new Textile Strategy which will boost circular economy and will be fit for the present and future generations.

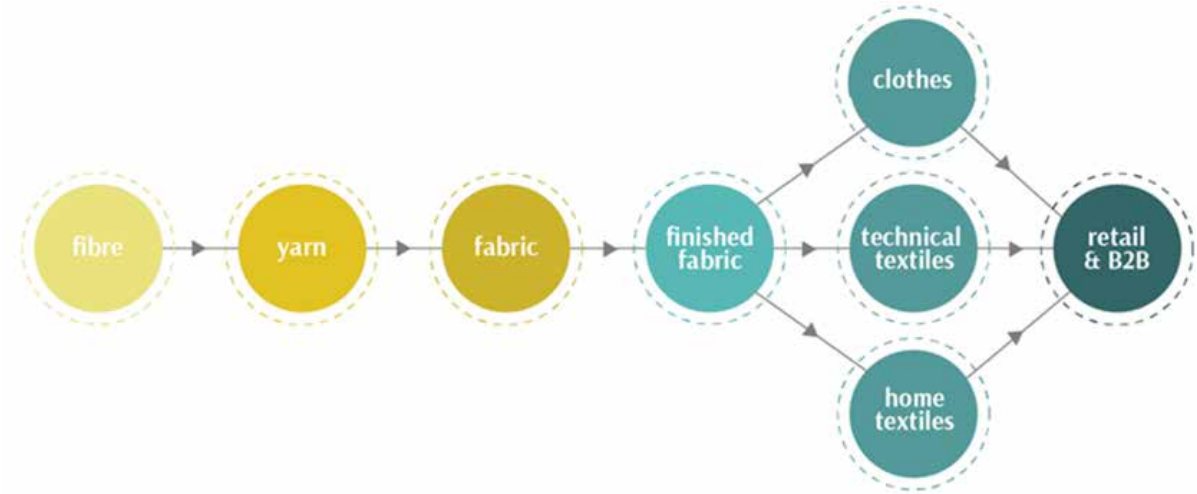
1 Source United Nations https://www.un.org/en/sections/issues-depth/population/index.html

2 Political guidelines for the next European Commission 2019-2024

PART I

What textiles really are

Manufacture of textiles is one of the oldest human skills and its origins can be found in the ancient times. Textiles from the Latin word “textilis”, meaning “woven”, is material made from various longitudinal filaments of different construction. A wide range of natural and man-made fibres, recycled fibres, various types of threads and wide treatment possibilities give rise to an almost unlimited range of fabrics made by different methods such as weaving, knitting, felting or tufting generating a large variety of products.



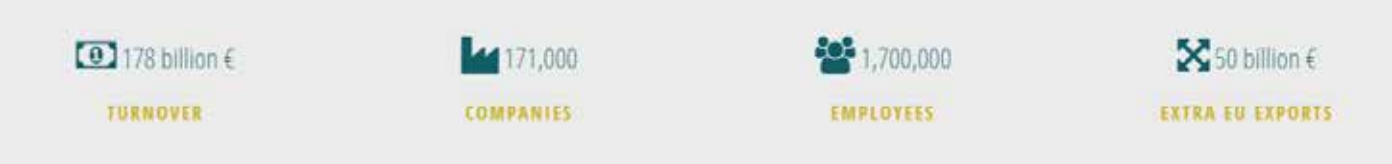
Current linear production model for textiles

Manufacturing process of textiles is a sum of technological operations and processes, in which products are gradually formed and is based on the conversion of fibres into yarn and yarn into fabric to a wide range of products. All textiles are made up of fibres of different origin either mechanically twisted together to create yarn or in the case of Man-Made fibres often, extruded through a spinneret to create a filament. This process is called spinning and is fundamental process in textile manufacturing. Yarn is subsequently either woven in which two sets of yarns are interlaced at right angles to form a fabric or knitted by forming symmetric loops. Yarn can also be braided into ropes/net or embroidered into laces. Beside referenced ways, fabric can be created through production of non-woven fabrics directly from either fibres or filaments.

Pre-treatment processes, as well as dyeing and printing can be done in several processing steps either on yarns of fabrics. Pre-treatment processes prepare textiles for subsequent dying, printing or finishing. Finishing or coating comprises a large variety of processes meant to give textiles special functional properties such as flame retardance, water resistance, antistatic or antibacterial to the finished fabric and serving to improve properties of textile materials. This also indicates the vast diversity of textiles.

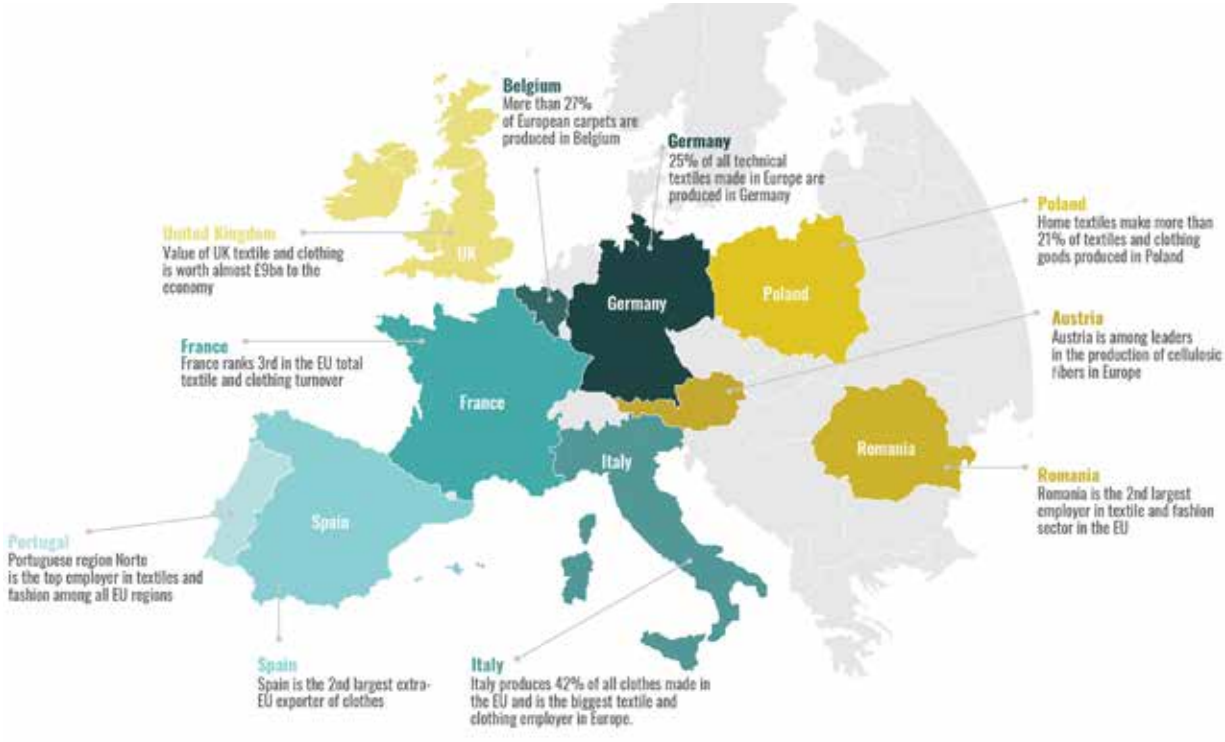
The Textile and Apparel Industry in Europe

The predominantly SME-based European textile and clothing industry employs 1.7 million people in 171,000 companies of which 99% are SMEs, generating a turnover of EUR 178 billion. It is the second largest world exporter of textile and fashion goods. Every step in the production chain, from fibre-making through fabric to ready-to-use product, is present within the Europe, making the sector a powerful industry. EU external trade accounts for almost €50 billion of Textile and Clothing products exported and almost €115 billion imported.

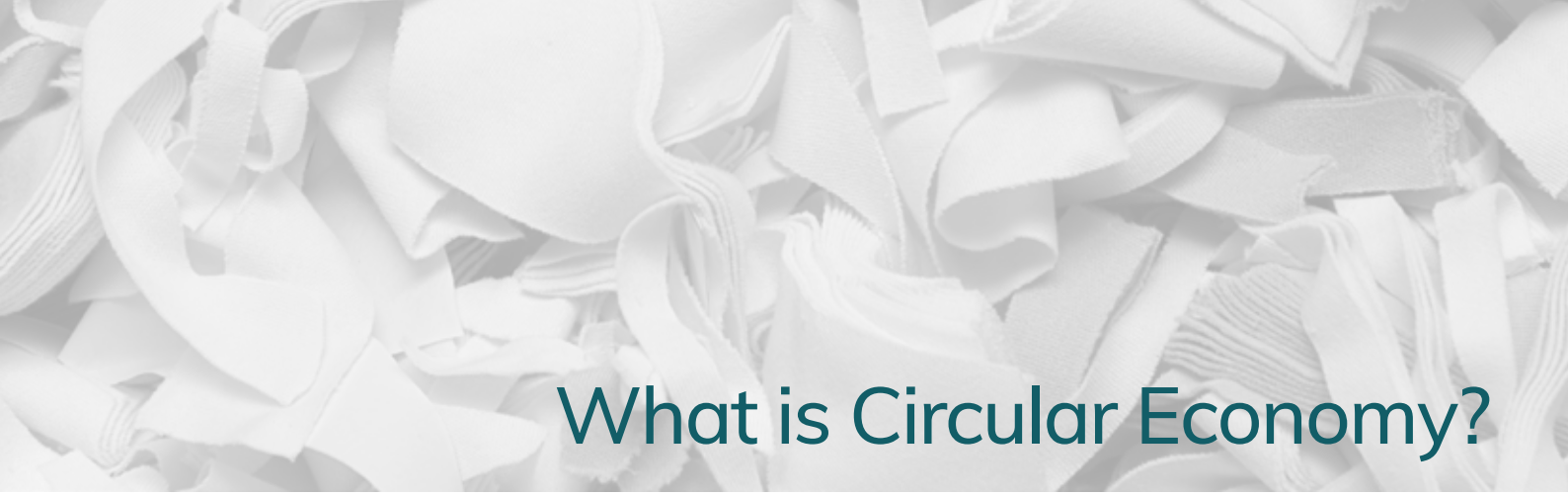


European industry facts & figures

Top EU producers of textiles and fashion goods producing fibres, fabrics, clothes, home and technical textiles, used in various sectors are Italy, Germany, France, Spain, Portugal, UK, Belgium, Poland, Romania and Austria. Europe hosts global decision makers/influencers in the global world of textiles.



Top 10 EU textile and clothing producers



What is Circular Economy?

A common understanding of what shall be meant by "Circular Economy" is necessary from the very beginning.

In this document we adopt the concept definition introduced by the European Commission in 2015 and refer to it as a production and consumption system where **"the value of products, materials and resources is maintained in the economy for as long as possible, and the generation of waste minimised, is an essential contribution to the EU's efforts to develop a sustainable, low carbon, resource efficient and competitive economy. Such transition [to a more circular economy] is the opportunity to transform our economy and generate new and sustainable competitive advantages for Europe"**[3] . Other concept definitions[4] may apply.

While the original concept definition of the European Commission maintains its value, several building blocks have merged more recently and may include:

- Valuing high quality, long lasting products; reuse or recycle of materials
- Managing materials and waste in a sustainable manner
- Valuing climate-neutral production and consumption models
- Valuing repairing
- Circular models to address also products designed in a linear model
- Ensuring economic viability for companies adopting circular models
- Using discarded textile materials as raw materials for new products in other industries
- Using discarded materials as raw material for textiles[5]

3 Communication of the European Commission 2.12.2015 COM (2015) 614 final

4 Ellen MacArthur Foundation: A circular economy is an economic system where products and services are traded in closed loops or 'cycles'. A circular economy is characterised as an economy which is regenerative by design, with the aim to retain as much value as possible of products, parts and materials. This means that the aim should be to create a system that allows for the long life, optimal reuse, refurbishment, remanufacturing and recycling of products and materials.

5 For instance processing hemp in pharmaceutical or other sectors may provide materials for textiles applications.

How can the EU Textile Strategy enable circularity and support industry?

Today the markets of textiles products show how circular economy in the sector is already a reality. However, the circular economy is much more than recycling. Its operational models include the efficient use of materials in product design, services to lengthen the life cycle of the product and directing products for reuse, among other things.

Companies have invested and introduced circularity in both production and products, however most of the solutions already delivered, being researched or upcoming usually represent relatively small portions of the company business models and faces barriers which no company can address alone.

A well-designed EU Action Plan can remove structural barriers, address or prevent market failures and bring harmonised solutions across the European single market. It may also inspire wider action at global level.

Policy measures resulting from the Action Plan shall support the creation of a reverse logistic system in which collecting, sorting, and use of discarded textiles is implemented in an efficient manner; it shall support funding to invest in research and innovation, remove barriers and coordinate efforts which may be summarised in 12 points and 6 conditions.

12 specific points to make the EU Textile Circular Economy happen

1. **PARTNERSHIPS**, between buyers (fashion brands/authorities) and makers (from fibres to finished products) needs to be established to educate each other, launch pilots. Collaboration between EU authorities, NGOs, industry, farmers, retail, waste-managers and machine manufacturers need to be set up to use each other's competences and to build up the Circular Economy Action Plan. Industry stakeholders must join the discussion table with all other stakeholders and offer their unique manufacturing knowledge.

2. **DEMAND lowers COST**. While decreasing over the last years, the cost of using recycled materials (e.g. material purchase, new machinery, testing, training, logistics/supply of material) is still significantly higher than virgin materials. This is a critical bottleneck for large-scale market uptake. A clear market signal and higher demand from brands/ retailers and Public Authorities make it possible for the value chain to invest in the available solutions and research into new ones. A higher demand will trigger investments and partnership.

3. **PRODUCT DESIGN** (or designed for circularity) shall be rewarded/ incentivised/ recommended. This includes: i) design for recycling or ii) design with recycled or regenerated materials iii) design for longevity. While these features present different requirements, they shall all be promoted and can be combined for greater impact.

4. **CONSUMERS** shall choose what is best for them and the environment. We need educated responsible consumers matching consciousness when purchasing.

5. **NOT ALWAYS**. A Life Cycle Assessment (LCA) shall be considered to assess whether some products/ waste shall be recycled or used for energy recovery, or other. In some case, the cost and impact of recycling may exceed the benefit, however technological innovation may change this over time.

6. **STANDARDS**. Lack of standardisation for recycled materials and their quality, as well as lack of end of waste criteria is a bottleneck, we need agreed European/ global standards. Private initiatives like GRS are used in the market and appear to work.

7. **COLLECTING AND SORTING** of discarded textiles from end-users and factories is complex and time-consuming. This can be modified through organisational changes (partnerships), logistic improvements and new technology.

8. **GREEN PUBLIC PROCUREMENT** and short-supply chains, e.g. in Personal Protective Equipment (PPE) and workwear, may present relatively easier opportunities for circularity. The interest of public procurers for circularity in textiles is welcome and it shall lead to innovation and technical discussions. The national, regional and local procurers can play a key role in incentivising a transition to circularity with their choices, giving signals to markets and rewarding efforts.

9. **LEGACY OF CHEMICAL** substances in recycled materials appears not to be a problem in chemical recycling or if it can be controlled by testing, traceability in the supply chain, others. However better market surveillance to ensure REACH compliance of products introduced to the EU market will be necessary. Products made from recycled materials should fulfil the same requirements as products made from virgin materials.

10. **NATIONAL BARRIERS**. Across the EU countries there is a need to review national/ local legislation on "waste" management or shipment to understand what barriers to circularity shall be removed, and how to harmonise legislation.

11. **PUBLIC-PRIVATE FUNDING** needed to trigger: i) creation of reverse logistic infrastructure for consumers and companies, ii) research and innovation and iii) "Materials pools" storing recycled materials. To make innovations commercially profitable, we need bold investments and support for marketing new ecological solutions. It is of paramount importance also in the circular economy that the solutions are told about and marketing of new innovations to consumers is invested in.

12. **NEW SERVICES** from the textile industry to consumers and value chain partners and other sectors shall be encouraged and enabled.

... and 6 enabling conditions across all twelve points

I. **SAFETY FIRST**, health and safety of recycled products will have to be the same as those provided by virgin materials.

II. The **WASTE HIERARCHY** of use less, repair, reuse and recycling shall be respected.

III. There are and will be many **DIFFERENT SOLUTIONS**, not a single silver bullet. Solutions vary based on product (garment/ technical textiles), materials (natural/ man-made), markets (Consumer goods, industry, Public Procurement).

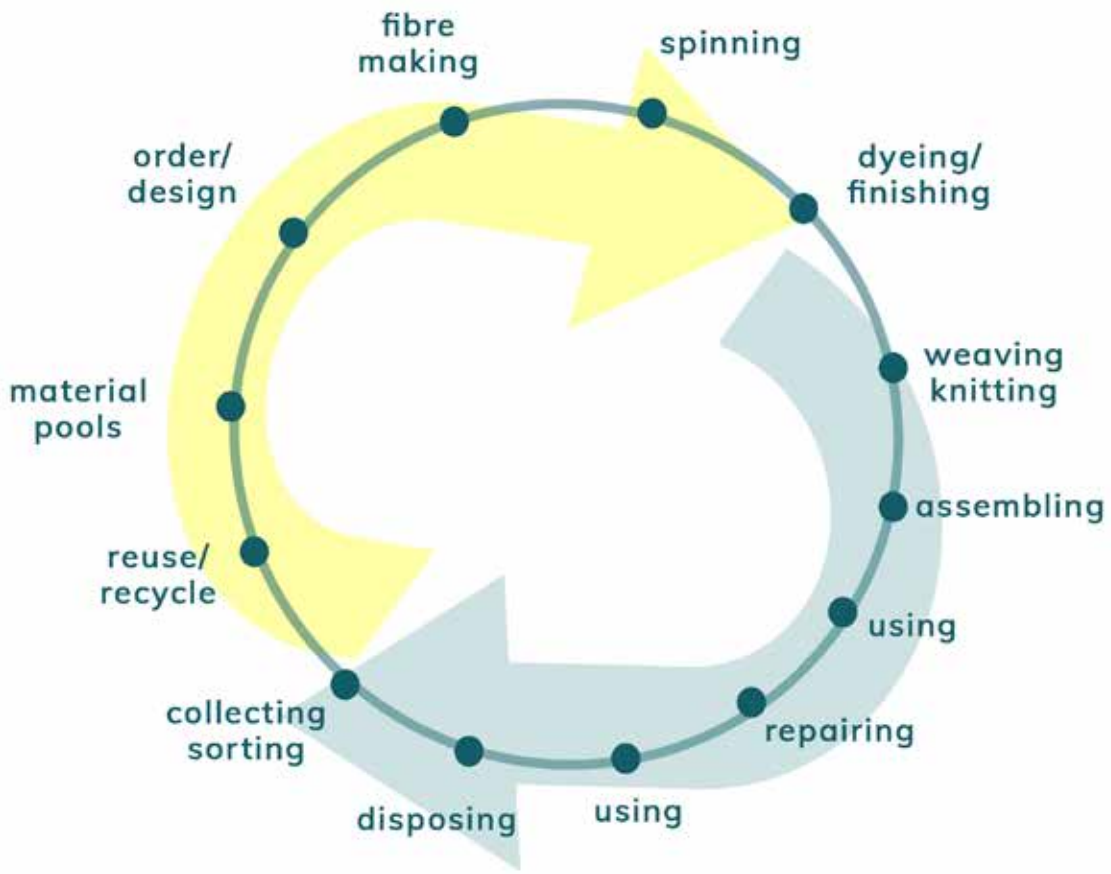
IV. **DIFFERENT SPEEDS** changing a whole sector, namely how textile products are made and used in Europe and beyond, will not happen overnight. An Action Plan shall make room for changes happening at different speeds as appropriate. Pioneering companies shall be rewarded, while the large majority of SME's in the sector shall be supported in the transition towards circularity in textiles.

V. **RESPECT OF LAW**. Need for better market surveillance and REACH enforcement.

VI. **EUROPEAN GROWTH, GLOBAL ROLE**, a European Action Plan shall contribute to strategic investments, European economic growth, creation of prosperity and employment especially for SMEs. Many opportunities shall be unblocked. The costs for the transition shall not be pushed to SMEs. At the same time a pioneering European policy making initiative shall consider the global value chain and may inspire actions worldwide.

PART II

Circularity today, an industry perspective



Industry perspective of today's circularity

In an industry perspective, the Textile Circularity starts with a demand, namely an order placed by a buyer, whether a fashion brand, retailer, a public procurer or another industry sector. The best way to stimulate circularity is, therefore, to stimulate a demand for circularity[6], from buyers and consumers.

6 As provided under the Belgian initiative Circular Flanders, Green deal Circular Purchasing, 2017

To full-fill a demand key steps take place as follows:

Step	Main actor/s	Role to enable circularity
Purchasing & Design	Buyer	Request characteristic, performances and price
Efficiency in Production	Textile industry and suppliers	Reduction of resource use by re-using or avoiding use of raw materials, water, chemicals or energy
Fibre making	Textile Industry	Generates the material from virgin or recycled raw materials (or a combination)
Spinning	Textile Industry	Transform the fibre into a yarn or non-woven. Different properties of the recycled fibre (if any) emerge in this step and influence the following steps
Weaving, knitting and finishing	Textile and Clothing Industry	Transform yarn into a fabric. Different properties of the recycled yarn (if any) emerge in this step and influence the following steps. Generates left over
Product makers (knitters, Cut, Make & Trim (CMT)	Textile and Clothing Industry	Transform a fabric into a product. Knitting transform a yarn into a product and may avoid leftovers.
Use and disposal	Consumer or user	Selection and use of the product influence the demand, disposal of the product defines costs of the next steps. Biodegradability can influence disposal
Collecting	Non-profit, public or private organizations	Organise and perform collection of textiles materials discarded after use or during production
Sorting	Non-profit, public or private organizations	Separate textiles based on features and/or potential use
Reuse	Non-profit, public or private organizations	Use of a finished product in the same or in a different function without changing its structure and/or upon reparation if necessary
Recycling or regeneration	Various	Mechanical recycling takes place at textile companies or related service providers. Chemical recycling takes place in fibre making companies, chemical or other type of companies
Material pools	Various	New Materials generated from recycling process are available with same or different characteristics from virgin materials

Purchasing & Design

"Circularity needs design of garments for recyclability, with recyclability or designed for longevity"

Many of today's products are not yet designed with durability/longevity or recycling in mind. They often consist of mixed fibres and multi-material compositions that are hard to disassemble with current technologies. Many designers still lack the tools to design for circular textile system. Leading Fashion representative organisations encourage fashion industry leaders to train their design and product development teams to create products that are made for longevity, durability, disassembly and recyclability and to increase the share of recycled fibres in their products. Retailers should also increase their efforts to collect end-of-life garments. Based on current technologies, recycling is more difficult when it comes to blends, particularly blends of synthetic and cellulose fibres.

Buyers and designers have a crucial role in every textile and clothing supply chain. They select the materials, the finishes, the products and its haberdashery and they define the target group for the products. In a circular supply chain, their role will become even more difficult and complex, as they also have to take into account the end-of-life strategy for the product and to look into the use of secondary materials. In some sense they can be seen as the circular chain manager. However, many designers are lacking the technical background to be able to fulfil that role. In the future they have to be assisted by a more technologically skilled person or an expert system. Together they will have to manage the circular supply chain in textiles and clothing. One of their most important roles is to connect stakeholders in order to optimise the whole chain with respect to the reduction of the environmental impact. Although there is not one correct Design manual for the textile and clothing chain, important aspects are given by the specification of the requirements of the end-product in terms of service life, mechanical properties, physical properties and aesthetical properties.

These specifications define:

- Selection of materials: type, virgin or recycled, mono material or blend
- Yarn: Yarn count, twined yarns, monofilament or multifilament
- Construction: Woven and weaving techniques, Knitted and types of knits, Non-woven and bonding method
- Textile finishing: Type of dyeing, printing, finishing (mechanical, chemical); coating, lamination
- Production of end-product: combination of fabrics/materials or accessories, assembly method, Haberdashery/trims
- Use, Care method(s), Expected time of service, instructions, way of disposal

All these aspects are interrelated to each other and all have to be dealt with in a circular system. As designers might not be aware of some of these aspects, it might be difficult to design a product suitable for recycling at the end of the functional life of the product.

Efficiency in production

The first waste reduction comes from avoiding waste/efficiency. Efficient production processes enable little consumption of raw materials, water, energy and chemicals. Best practices for efficient productions are assessed under the Best Available Techniques (BAT) Reference document. The definition of BAT is currently being developed in cooperation between the EU Member States, the industry and NGOs under coordination of the JRC. As part of this process, emerging techniques resulting from pioneering companies or research project are also investigated. Similar BAT exercises are carried out across the world notably in US, China, Korea or Israel[7]. It shall be stressed that different product applications such as garment or technical textiles require different production processes.

Fibre-making

The industry is responsible for making the production as efficient as possible by using the most efficient techniques (BAT) and making use of best available technologies. The origin of the raw materials is traditionally divided as: natural (cotton, wool, flax, silk, hemp etc), synthetic (polyester, polyamide, polypropylene, acrylics etc) or man-made bio-based (cellulosic fibres). In the textile sector, different types of raw materials have their own environmental and social impacts.

For circularity, durable fibres are needed to achieve recyclability, however mechanical and chemical recycling technologies provide for different approaches and solutions. In the case of renewable fibres, it is now essential to use durable type of fibres.

For natural fibres upmost care is needed in planting the most productive seeds and using the best-fit productive soils and technologies in irrigation, pest and disease management and picking/sorting/ packaging and delivery. Similar measures are needed in animal hair type of fibre production. The best available technologies must be shared globally for the sake of global interest.

For man-made fibres, similarly best available techniques and equipment need to be used and regulated by authorities globally for achieving the upmost efficiencies. For all man-made fibres, it is possible to make durable fibres since these can be engineered to specification, within certain limits. In addition, for the case of man-made fibres, if needed, fibres can be modified by design so that they can be designed easily depending on the type of the recycling process. Some examples can be easy dye/easy dye removal, easy depolymerisation or use of bio-based feedstock. All need R&D development and financial support.

7 OECD (2018), Best Available Techniques for Preventing and Controlling Industrial Pollution, Activity 2: Approaches to Establishing Best Available Techniques (BAT) Around the World, Environment, Health and Safety, Environment Directorate, OECD.

TEXTILE FIBRES				
natural fibres		man-made fibres		
plant based fibres	animal fibres	organic		inorganic
		natural polymers	synthetic polymers	
abaca coconut cotton hemp flax jute kapok maguey ramie sisal	alpaca angora cashmere camel lama mohair silk vicuña wool	acetate alginate cupro elastodiene (rubber) lyocell modal rayon triacetate viscose	acrylic aramid chlorofibre elastane elastodiene elastolefin fluorofiber melamine modacrylic polyamide polyester polyethylene polyimide polylactide polypropylene polyurethane trivinyl vinyal	carbon ceramic glass metal

Types of most commonly used fibers[8]

8 Purchase guide for circular textile - Raw materials - Textile Fibers (in Dutch language) available at: https://data.secmureserver.be/databases/bedrijven.nsf/webopen/downloads/$file/GDCA2vezels.pdf

Spinning

Spinning mills are playing an essential role in a circular supply chain and can truly change the status of a potential waste into new intermediate product in the textile supply chain. As circular textile and clothing supply chains will become more important in upcoming years, it is essential that textile collectors and textile sorters will establish contacts with textile spinning companies with respect to the qualities and quantities needed.

Recently, the focus has started to shift towards the use of the recycled materials in textile spinning. During spinning process, staple fibres are turned into high quality yarns in a mechanical process where they are twisted together. These yarns have to be produced in a strictly quality-controlled way to fulfil well defined specifications. During spinning process, waste, such as dust, raw material or short fibres occurs. This waste is used as new raw material in composite materials, e.g. buttons or in insulation for construction. So called soft waste, such as short fibres, unable to be spun into yarn again, can be reused and is valuable for nonwovens or become a good raw material for other types of textile fibres. Therefore, an important part in spinning is the mixture of fibres in the pre-spinning process. The textile spinning of recycled fibres needs ideally traceable fabrics and-materials sorted based on colour and type. This makes it possible for spinning mills to deliver structures focusing on Circular textile solutions.

Weaving and Knitting

With respect to strategies improving the recyclability of textile materials, in a circular textile and clothing supply chain, weaving and knitting play an important role in the application of yarns. The selection of the yarns is important. Mono-materials are strongly preferred for mechanical recycling operations and based on current technologies. It is important for economical reason to produce longer runs of one product in weaving and knitting.

Yarns from recycled materials are more difficult to process due to the larger variations in strength and elasticity and their irregularity. However, it has been shown by a number of weaving and knitting companies that they can produce high quality fabrics based on yarns with a high recycled content.

Product makers

Product makers transform a textile material into either a garment, a home-textile or technical textiles. Producers make finished products normally based on specifications received by buyers.

Producers of Technical Textiles deliver high added value products with specific performances and strict requirements to all type of industry value chains and customers (e.g. automotive, aerospace, medical, construction, agro-food etc.)

A garment maker is also known as CMT business (Cut, Make & Trim). Weaving and Knitting can also produce a finished product for instance a fully fashioned knitwear delivers a single piece finished products such as t-shirts, sweaters, scarfs, socks etc. A weaver can deliver a finished product in home-textiles or technical textiles applications.

Finishing

Some finishing processes enhance the mechanical properties, increase longevity, and ease of use of natural fibres (for instance reduced drying energy and ironing needs) and could be used on both virgin and recycled fibres.

Use and disposal

Successful change from the linear to the circular model and the speed of these changes depends on knowledge, awareness, engagement and choices of all the participants in the value chain. The offer, quantity and quality of products and the manner of using these products influence the success and speed of this transition.

With respect to the use phase, a designer has to be aware of the expected time of service, the lowest care impact, the care method, the care instructions and the way of repair and disposal at end of life.

The environmental impact of the use phase of a product appears to be close 30%[9] of the total environmental impact. A large part of the impact can be attributed to the drying phase; therefore, the choice of the fibres has a large impact. Washing temperature represent another issue. For hygienic reasons high washing temperatures might be needed (60-75 °C) to eliminate micro-organisms present in clothing, however most textile items can be washed at 30 or 40 °C as suggested by consumer awareness campaigns[10]. The number of washings should be limited to actual needs as washing damages the material, hence reducing its lifetime.

As for disposing textiles, high efficiency is gained by people bringing textile items, damaged or in good condition (but clean and dry) to collection points or bins. Consumers' behaviour shall be considered as research suggests reasons for not handing in used clothing and textiles may be complex and include unknown factors[11]. The bin location may influence the quality of collection.

Collection and Sorting

Reuse of materials can operate at large scale only if an efficient system to collect, identify, trace to the extent possible, sort and deliver such materials is in place. This represents a challenge for textile reuse and recycling as a comprehensive and widespread collecting system throughout Europe is missing, and would be needed for:

i. Collection, sorting and delivery of post-production waste (generated in production)
ii. Collection, sorting and delivery of post-consumption waste
iii. Collection, sorting and delivery of products

9 JRC Scientific and policy report: Environmental Improvement Potential of textiles (IMPRO Textiles)

10 https://www.aise.eu/our-activities/sustainable-cleaning-78/engaging-with-consumers/low-temperature-washing-campaign.aspx

11 http://www.ecap.eu.com/wp-content/uploads/2019/07/Guidance-for-Textiles-Collections.pdf

Collection, sorting and delivery of waste generated in production

Depending on the material costs, the production step required, quality level and other factors, different range of production left-over can be made, ranging from 3% and 9% of household products and between 10% to 21% for garment products[12]. At global level these amounts translate in large quantities which manufacturing companies can address as an economic resource or a burden and cost to dispose. Whether production leftovers are an asset, or a cost may depend on the following factors:

- Company knowledge of its supply chain or the characteristic of the leftover
- The cost of processing the leftover are economically sustainable
- Absence of legislative or administrative barriers to transfer the leftover to another user
- Presence of treatment plants in a geographical area subject to similar or compatible rules
- A market demand for the material

Collection, sorting and delivery of post-consumption waste

Textile waste collectors play an active role in gathering textile waste. The focus of textile waste collectors is to collect quality textiles which they can either easily sort by themselves or sell to specialised textile sorting companies. Trends in the market suggest that volumes collected are relatively stable but the quality appears to decrease. This would put players in the textile waste management under economic pressure.

Different mechanisms exist across Europe to collect unwanted garment textile products including municipality-operated, charity-based schemes, mandatory collection and voluntary business initiatives.

While European countries are expected to set up schemes to separately collect textile material by the end of 2024, an efficient mechanism for separate collection and handling of textile waste appears not to be properly addressed at national and European level.

Finland aims to adopt a separate textile waste collection by 2023 with a nationwide collection system involving all Finnish municipal waste companies and mechanical processing plant, with intentions to process post-consumer waste from Finland and potentially also from the Baltic sea region. Research[13] suggests a market potential in Finland for mechanical recycling of textiles worth between €60 million and €120 million with employment creation between 150 and 300 jobs following initial investment in the range of €20- 30 millions.

12 JRC Scientific and policy report: Environmental Improvement Potential of textiles (IMPRO Textiles)

13 Telaketju project: https://www.collectors2020.eu/news/first-phase-of-telaketju-project-reveals-promising-market-potential-for-circular-textiles-in-finland/ Finland produces an estimated 70,000-100,000 tons of textile waste per year and consumes some 13 to 18 kg of textile waste per capita annually.

France has a national collection system for textile products since 2008 implemented through an ad-hoc constituted non-profit private organisation[14] ECO-TLC.

The Belgian textile and clothing industry and relevant stakeholders plan to have a voluntary waste collection system[15] operational by mid-2020. In the initial phase it will focus on flat linen, work wear and protective wear.

While proposals exist to set up EU-wide mandatory Extended Producer Responsibility schemes (EPR), lessons learned from the only currently existing mandatory EPR scheme in France shall stimulate more reflection about what actual barriers EPR scheme may successfully address. EPR scheme for textiles would cause double EPR for many companies. Most of the clothing manufacturers are already involved in EPR-system through their packaging.

Possible benefits from EPR in relation to the goals of circular economy appear to include awareness raising with consumers and set up of mechanism to physically collect discarded textiles. However, the main bottleneck appears not in the collection of discarded clothes but in the use, availability and recyclability of these materials. Clothing retailers have only a small or even no collection system for end of life products in their shops.

Barriers to collection include:

- Lack of clarity in waste legislation regarding the collection of textiles in shops and whether a waste handling permit is needed. When is a textile defined as a waste and when as material.
- Financial and administrative burdens hinder the smooth management and shipment of textile from collection sites to recyclers. For instance, companies can cover the costs of transporting the waste from the collection point to the recycler within an area of 250 km according to some business cases; going beyond this distance appears not be financially viable without new investments and innovation. Voluntary business initiative enables collection of discarded clothing in shops, which facilitate interaction with consumers.

14 https://www.ecotlc.fr/page-309-cadre-legal.html (in French Language)

15 The "Circletex" initiative https://vlaanderen-circulair.be/nl/doeners-in-vlaanderen/detail/circletex (in Dutch language)

Collection, sorting and delivery of products

Textile Services – oriented business model exists in the sector in a number of areas notably in workwear and home textiles. Companies using these business model opt to lease rather than own textile products.

Sorting discarded textiles for further processing is a labour-intense activity in which post-consumed discarded textiles, are received, stocked, manually clustered based on type of materials, colours, quality and possible destinations.

Sorting requires development of new technologies to overcome the greatest challenges notably to address the i) **lack of a comprehensive and cost-efficient system** to collect and sort textile wastes on an industrial scale; ii) the **manual-intensity** increasing costs, and iii) address the diversity of **fibre blends**, iv) **stable volumes** of incoming textiles waste from the quantity and quality points of view.

Textile materials can have very different properties, and different fibres require different treatments. The development of sorting techniques would enable shredding fibres mechanically and promote the widespread use of recycling processes. Sorting is important when recycling end of life textiles, but it is also an important factor from the perspective of the efficient processing of leftover material from the textile industry (fabric cuttings, second choice products, fabric fibre and yarn leftovers).

Reuse

When a designer has made a design according to recycling principles, the product should be re-used or recycled when disposed. The textile recycling industry is doing its best to recover the intrinsic value of the product and to give it a second life.

Textile products discarded together with municipal solid waste, become wet and soiled and cannot be reused (unlike plastics and paper). The textile recycling industry will need consistent/steady volumes of textile waste in order to be able to sort it in consistent and reproducible fractions. Only then the materials can be recycled and re-used generating the lowest environmental impact and the highest economic benefit.

Recycling

"Circularity needs to scale up existing mechanical recycling as well as investment into new chemical recycling technologies & infrastructure"

Recycling can be mechanical, chemical or thermal. It uses textile waste as raw materials to make the same or new products. It is considered that textile waste will be a valuable raw material for the businesses in the near future. However, for this to happen, there is a need for critical mass to scale up the initiatives.

Mechanical recycling of materials

Textile waste can be mechanically shredded to obtain new fibres. This is most often done with pre consumer industrial-textile waste (remains from cutting). Mechanical recycling includes shredding of textile waste. After each round of shredding, the fibres get shorter and weaker. Most current outputs of mechanical recycling are upcycled yarns and/or downcycled various insulation and filling material.

Mechanical recycling for textiles has its long history in all European textile districts and these activities are still ongoing – the produced recycled fibres are sold to textile spinning companies called "shoddy spinning".

In all textile regions in Europe, mechanical textile recycling plants were present to process the industrial textile waste. In some regions in Europe they still exist, and the recycled fibres they produce, are sold to textile spinning companies. In other regions where the textile and clothing industry activity has decreased, these textile recycling companies started to use discarded textile products as their primary source of materials. The recycled fibres from these companies are most often converted into non-woven for sound insulation (automotive, washing machines), for pressure distribution (mattresses, furniture), as filter material in drainage pipes, and as wiping materials. Only a small percentage of post-consumer recycled textiles are used in the textile and clothing industry[16].

The recycling of post-consumer cotton and wool is an established business in different European Regions in some case for more than 70 years.

16 Examples of yarns and products with recycled contents are provide by MudJeans, Italdenim, Reblend, Recover (Hiltauras Ferre), Eco-Life (Belda Llorens), Pure Waste Textiles, HNST jeans, Dr. Green (Utexbel), ESG green (European spinning group), Ecotec (Marchi & Fildi)

Recycling by extrusion

Melting and extrusion of new fibres can only be done with 100 % synthetic fibres such as polyester and polypropylene. These fibres, reprocessed into monofilaments, are used for technical textiles or in injection moulding. They are not suitable for the textile industry because even small amounts of impurities may prevent the spinning of multi-filament fibres (breakage of filaments).

The most common source of recycled polyester fibres used in the textile industry are PET-bottles. However, it is still challenging to obtain high quality fibres from recycled PET-bottles.

Chemical recycling of materials

Even though chemical recycling appears to be a promising technology, it is not sufficiently developed to become a readily presentable solution yet for many countries in the world.

In chemical recycling, polymers are split in their original monomers under controlled conditions. These monomers can be further processed (purified) and synthesised into polyester and polyamide. This can be done for instance with polyamide 6 (PA6) and polyester and is still limited to small scale activities. The resulting fibres have the same quality as the virgin ones[17].

When it comes to cotton based and other cellulosic fibres, the waste first needs to be purified by removing all dyes and finishes, and later depolymerised resulting in a cellulose solution. The solution is quite similar to wood cellulose solution from viscose or lyocell process[18].

Textile waste can also be recycled into secondary raw materials for the chemical industry. This can be done by pyrolysis. In this process textile waste is heated without oxygen and it decomposes into monomers and oligomers. These products can be utilised in the chemical industry or used as fuel like pyrolysis oil.

Chemical recycling provides for an unlocked potential – compared to incineration, chemical recycling can indeed save CO_2 emissions particularly when choosing the right technology. Existing processes of chemical recycling for PET are divided into i) hydrolysis, ii) microwave assisted hydrolysis iii) glycolysis, iv) methanolysis and iv) bio-chemical processes through enzymes (research stage).

17 Existing brands with recycled PET include EcoCircle™, ECOPET™ or Repreve®. Existing recycled PA6 include: ECONYL® of Aquafil

18 Market based solutions include REFIBRA™ by Lenzing (Austria), Re:Newcell (Sweden), Infinited Fiber Company (Finland) while other examples, some still in development, include Evrnu (USA), Ioncell-F (Finland), SaXcell (the Netherlands).

Recycled fibres used in garments

As the textile and clothing industry is moving towards circular economy approach, the use of recycled fibres, yarns and fabrics are the main focuses. Implementation of recycled fibres into garments not only reduces the volume of virgin materials used in the production but also minimises overall water, energy and waste consumption. Many companies[19] already have products that are made with recycled content.

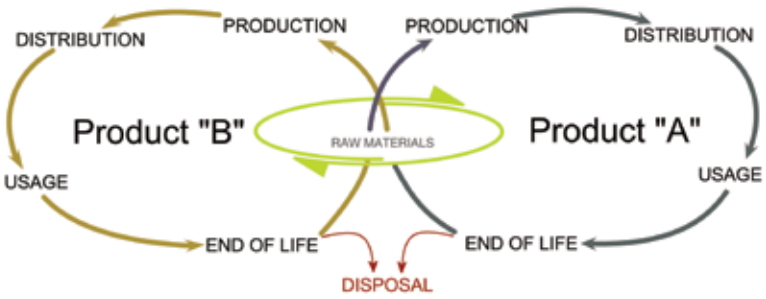
The recycling of garments is however nowadays still complicated: mixed composition, seams and buttons make the recycling very challenging and is costly to divide the garments for further processing.

Moreover, outside of the EU these jobs are done at a lower price which increases the cost of transportation and pollution.

Material pools

Recycling operations on industrial level, based solely on specific product input streams, such as carpets, are not feasible, due to limitation in volumes, colour issues and different decreasing time. To recycle effectively certain products, materials from different sectors and sources must be combined. Material pools approach has to be established.

The diversity and high variations of available volumes for polymers have to be considered and products with polymer fibres have to be consolidated in order to be transferred into other products, such as PP fibres from carpets combined with PP fibres from synthetic turf or PA6 fibres from carpets with apparel applications or/ and old fishing nets.



Raw material sources for different product cycles[20]

19 Such example of European garment makers with products, that contain recycled content can be found on http://www.circulary.eu/sectors/textiles-apparel-and-leather/

20 Polymer pool manual by ECRA

PART III

Action #1 Make Partnerships

Addressing the points: partnership, demand lowers cost, product design, collecting and sorting, Green Public Procurement, national barriers, consumers, standards, new services.

The most important step to enable circularity in textile is to enable collaborations, in particular among the following actors:

- Collectors/sorters, fiber producers and spinners
- Authorities & industry involved in recycling
- Brands, designers, retailers & manufactures
- Public procurers & industry
- EU & National Authorities
- Strategic partners

#1.1 Partnerships between Collectors/Sorters, fiber producers and Spinners

Collectors and sorters of textile shall establish contacts with textile spinning companies and address technical issues about qualities and quantities of recycled fibres. This might result in new business models in which an extra process is developed to remove non-textile parts from the products to be unravelled for spinning process. The mechanical and chemical recycling of discarded garments or other finished textiles show the role of the transformation of textile materials into fibres, hence the key role of fiber producers and then from fibre into yarns, the latter can be used to produce again all kinds of new products.

Because of that, the spinning process plays a key role in circularity because it is the critical step which changes the status of a potential waste into a new product for the textile value chain.

Related actions include:

I. support concerned spinning mill structures in setting up partnerships outside traditional value chains
II. support investments and Research & Innovation pilot actions,
III. facilitate business to invest in technologies and business models while avoiding additional costs on waste processing which would block investments.

#1.2 Partnerships between Authorities & industry involved in recycling

"there are no textile recycling companies in Finland"

"we need a textile recycling facility within 250km from our factory"

"there is a need for a reprocessing industry and creation of reverse logistic, e.g. Scotland faces problems on what to do with the waste which now are to be shipped out of the country"

For technical and economic reasons, textile wastes are currently not sufficiently used to justify mid/large scale industrial facilities which processes discarded textiles. A sort of chicken-and-egg circle prevents new business model to match the growing demand for circularity. Furthermore, the mandatory separate collection of textiles[21] by end of 2024 requires economically effective solutions which are replicable throughout Europe for authorities to manage textiles collection and the business to give it a meaningful value.

Relevant actions include:

IV. European Authorities shall consider options to facilitate setting up recycling facilities and of new business models. This shall consider and value the local availability of textiles

V. manufacturing, the current research efforts on mechanical and chemical recycling, the investment plans of companies in both the textiles and chemical value chains

21 Introduced under the Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste

#1.3 Partnerships between Public procurers & industries

On average, public procurement accounted for 13.1 % of the GDP in 2015 in the EU[22], this means almost €1.923 Billions were spent by public bodies purchasing goods or services. That is a formidable leverage which Member States can use to boost closed-loop productions, promote scale economies which lower costs and proactively drive changes, or lead by example.

As many as €8.6 billions were allocated to textiles (e.g. uniforms, home textiles, others) that might include services (cleaning, treating).

Examples of circularity principles applied in the procurements for textiles can include:

VI. define agreed criteria to support collaboration for Green Public Procurement to bridge a growing demand and offer. Procurers shall be empowered to sustain higher costs of circularity in textiles products due to higher complexity

VII. promote and offer incentives across all European States for circular procurement notably to choose high quality and durability of procured products, reward low-impact manufacturing processes[23], favour products designed with recycled or biobased/biodegradable materials or are designed for recycling or designed for longevity (i.e. durability)

VIII. aggregate public procurement demands with request for circularity of textiles, this allows for orders to be placed in larger volumes which enable scale economies and lower costs

IX. support EU regions, cities and governments in pursuing a common strategy while considering: i) manufacturing options of how textiles can be made; ii) options to treat textile products after the end of life

X. promote training on textiles recyclability and low impact materials and materials made from renewable sources

22 http://www.europarl.europa.eu/RegData/etudes/STUD/2017/602065/IPOL_STU(2017)602065_EN.pdf

23 Once operational, the Product Environmental Footprint (PEF) of the European Commission may be used to assess products and productions impact.

#1.4 Partnerships between Designers/ brands/ retailers & manufactures

The global garment and fashion industry is a powerful engine for global growth and development but the current mainstream models are not fit for resource efficiency, for social justice and for sustainable consumptions.

In the EU more than 28 billion[24] of garment products circulates in 2018, whereas some sources indicate 100 Billion of items are made and used world-wide.

While many brands and fashion businesses address too-fast consumption models, sustainable production processes and products, too many players still need to engage to reconcile economic, environmental and social sustainability.

Action may include:

XI. launch large scale action to educate designers and consumers on circularity in textiles

XII. promote responsible business practices which include circularity for instance by rewarding low-impact manufacturing processes[25], favouring products designed with recycled or biodegradable materials or are designed for recycling or designed for longevity (i.e. durability)

XIII. promote Research and Innovation to support recyclability of blended materials and mix of raw materials which can facilitate upcycling and recyclability; also engaging with textile machinery manufacturers

24 Data Source EUROSTAT, Prodcom nomenclature (production) codes 1392, 1393, 14 and EUROSTAT, CN nomenclature

25 Once operational, the Product Environmental Footprint (PEF) of the European Commission may be used to assess products and productions impact.

#1.5 Partnerships between EU and National Authorities

Successful recycling of textiles will inevitably address more than 20 Billion of consumer good products which are made outside the jurisdiction of the EU. This limits results to what policy makers can achieve by regulating domestic productions and suggests a reality check on consumers' preferences and market dynamics. In particular uncontrolled circulation of products containing harmful chemical substances or counterfeits will pose burdens, costs and challenges to the full-scale recycling of discarded garments.

On a different level, fiscal policies coordinated across Member States would quickly deliver formidable incentives to reduce the higher costs of circular products.

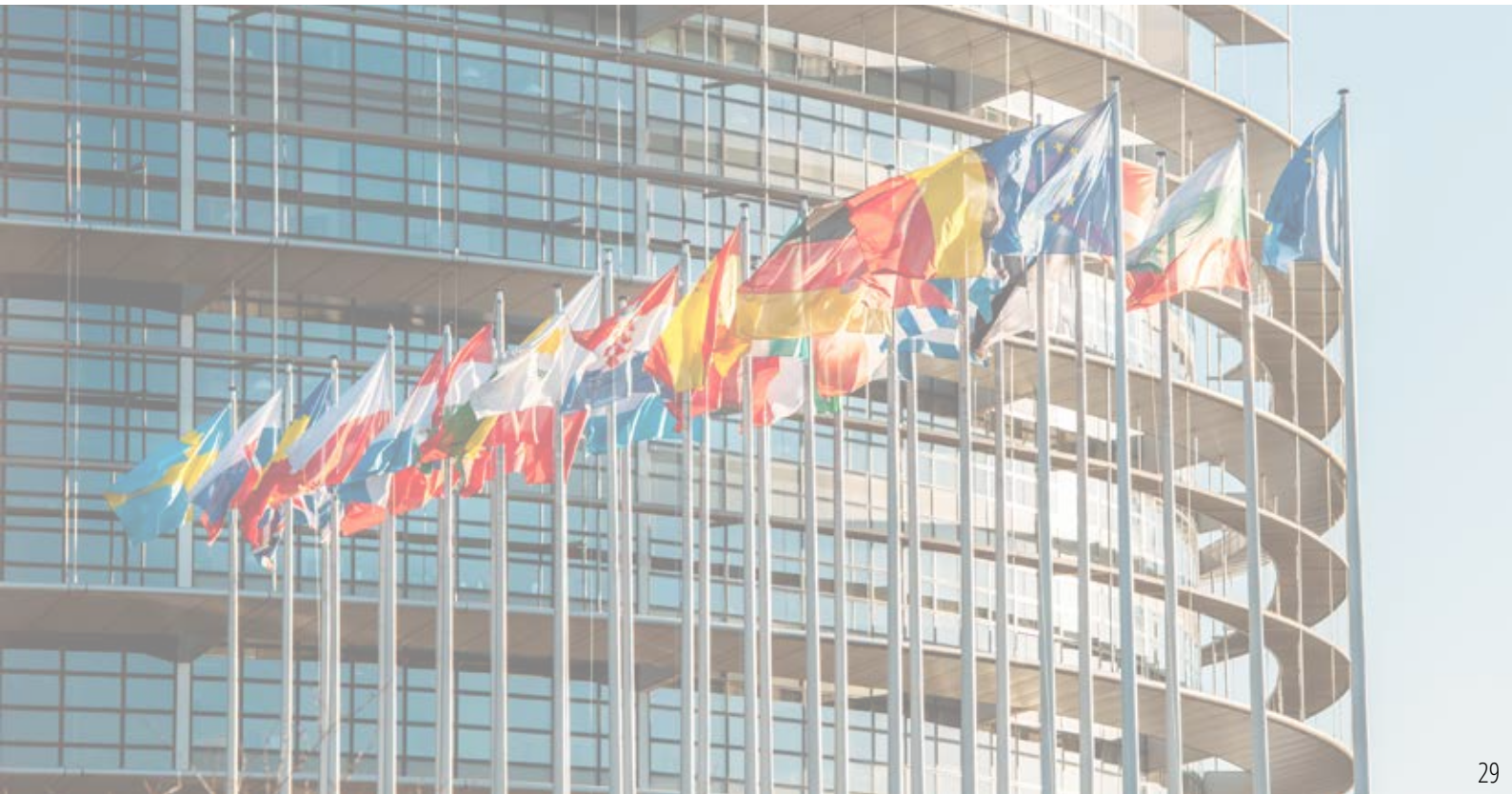
Relevant actions include:

XIV. design effective mechanisms which drastically improve market surveillance and, deter systematic free-riding behaviour of business which are non-compliant with EU regulation

XV. support the coordination between Market Surveillance Authorities, customs, ECHA forum and other relevant EU authorities

XVI. coordinate VAT reduction for sustainable products across EU Member States

XVII. support roll out and implementation of a global transparency and traceability standard which facilitate the smooth exchange of data across Business, notably the SMEs, and public operators



#1.6 Partnerships between Strategic Partners

"building on the Plastic Strategy the Commission may facilitate partnerships by coordinating round-tables with key actors who select, make, work with and use textiles"

Collective intelligence is needed to design policy measures which can remove the actual barriers to the current circularity practices and to support breakthrough changes on how products are made, used and re-used after the life stage.

Under the coordination of the European Commission, the work and early results of several multinational representative players may be used to speed up the design and implementation of new polices.

Key players running actions to enable large scale circularity of textile materials include:

- The European Coalition for Chemical Recycling founded by CEFIC and Plastics Europe in 2019, is a coalition of plastics value chain representatives aiming to deploy chemical recycling thus contributing to the EU Circular Plastics Alliance goal of 10 million tonnes of recycled plastics by 2025. Actions relevant for the textiles include those on the use of recycled polyester and for chemical recycling
- ECO-TLC, running an EPR scheme in France since 2008
- the Ellen MacArthur Foundation runs since 2017 the "Make Fashion Circular" initiative
- EURATEX runs since 2017 the "Prospering in the Circular Economy" initiative
- Fashion Pact, launched in August 2019 by 32 companies supports the adoption of 'circularity' principles across fashion brands
- The Global Fashion Agenda (GFA) runs since 2017 the "2020 Circular Fashion System" including companies' commitments
- Governments of Finland, France, Sweden (Fashion 2030) and The Netherlands (Transitieagenda Circulaire Economie Consumentengoederen). These Members States have taken pioneering initiatives for circularity in textiles involving different stakeholders
- The Policy Hub, including the SAC, GFA and FESI organisations runs since 2019 to explore how circular economy solutions could be best applied to their value chains

Key players running actions with high value to enable circularity include:

- ECHA Forum, works for enforcement of REACH and better market surveillance
- European Recycling associations
- OECD, facilitates due diligence at global level
- Textile Exchange, organisation managing the Global Recycling Standard (GRS)
- UNECE, works for a traceability standard and transparency in the value chain
- UNEP, tackles unsustainable fashion business practices
- UNFCCC, tackles climate change in fashion and net-zero emissions by 2050
- WRAP launched a Sustainable Clothing Action Plan
- ZDHC, Okötex, Blue Sign addresses sustainable chemistry in textiles processes and/or products
- Organisations involved in Research and Innovation projects at EU, national or regional levels including but not limited to: Belgium green deal circular procurement and Flanders circular (BE), Circletex (BE), Dutch Circular Textile Valley (NL), ECAP (EU), RESYNTEX (EU), RETEX (cross-regional BE-FR), Telaketju (SF), the Textiles European Technology Platform (EU) and SPIRE (Future partnership on carbon neutrality and circular industry)

Action #2 Creation of New Markets

Addressing the points: “New Services, Demand lowers cost, Collecting and Sorting”

New Market can be enabled by the availability of consistent and sustainable quantities of recycled textiles materials, both man-made and of natural origin and which provides: i) stable volumes, ii) predictability of operation necessary for business decision-making, iii) assured qualities.

“my companies produce furniture in Sweden and may ship out leftover to Italy to be reprocessed, unfortunately today that is too complex”

Textiles and garment production processes imply creating leftovers such as textiles fabrics, scraps, or other semi-finished products. The leftover percentage may change significantly between 3% up to 21% depending on the degree of efficiency applicable, the materials cost and other variable. Currently, these leftovers are treated as wastes and disposed or used in other production, however the costs and process to treat leftover severely limit the potential of its re-use.

Relevant Actions include:

XVIII. support the creation of Material Pools in which recycled materials can flow in and which can be used to supply all sorts of industry value chains

XIX. thoroughly review the EU, national and local legislation related to handling of industrial textiles wastes; identify un-necessary burdens, overlapping and quantify related costs for the business

XX. harmonise legislation related to waste across all the EU

Action #3 Support voluntary traceability

Addressing the points: “Partnerships, Consumers, Green Public Procurement, Legacy of Chemicals, Public Private Funding, New Services”

“a brand or manufacturer providing or enabled to do traceability in its value chain, allows consumers or buyers to make an informed circular choice”

Sharing information and exchanging data smoothly is a basic need for business to operate in modern society. The whole value chain shall be able to exchange information on materials, products, production and products’ end-of-life aspects, in full respect of business confidentiality and of other business needs. Voluntary traceability which is interoperable and used at large scale can enable due diligence, transparency and circular economy to exchange data on: products’ origin, raw materials, chemicals, parts, processes/ manufacturing, logistic and workers, correct data for customers and consumers; social and environmental conducts of businesses; anti-counterfeiting and un-authorised parallel markets; customs clearance duties and safety inspections; legislation compliance (e.g. REACH); standards and labels. Voluntary traceability ultimately enables consumers to take informed decision.

Actions may include:

XXI. support strategic actions to accelerate the uptake of traceability solutions to address present and future societal/ business needs

XXII. ensure interoperability in data exchange and low burdens for SMEs in traceability solutions

Action #4 Support harmonisation and standards

Addressing the points: “Standards, National Barriers”

“to ship out scraps production leftover I need to fill papers and certify who will be using the material, I don’t have this information”

Stakeholders’ interest in facilitating circularity in textiles shall rely on a globally acknowledged sign and system to identify the use of recycled materials in textiles. The proliferation of different systems of labels is confusing for buyers, consumers, business or procurers, and may lead to promoting unjustified claims often referred to as “green washing”. The garment industry widely utilises standards like the GRS standard[26] for recycled materials in textiles. Albeit widespread in private business, the use of GRS appears relatively limited in public procurement. The handling of waste across Europe appears non harmonised and leads to costly, complex procedures which discourage the use of post-consumption or post-production waste.

Actions may include:

XXIII. support by private and public buyers in using robust certification systems confirming recycled materials in textiles

XXIV. promote consumers’ and buyers’ understanding of robust certification systems

XXV. revise waste framework criteria and procedures across the EU Members States and local area, find best practices, remove un-necessary burdens which were designed in a linear economy model and may no longer be fit for purpose

XXVI. facilitate the use of Life Cycle Assessment (LCA) and keep LCA calculation realistic and at cost and organisational range of SMEs

26 GRS is managed since 2011 by the organisation Textile Exchange along with the Recycled Content Standard (RCS).

Action #5 Consumers

Addressing the points: “Consumers, Demand lowers cost”

“for consumers to make informed choices, our product claims need to be easy understandable and verifiable”

The policy debate on sustainability in fashion stresses as consumers, particularly those of young age, increase their demands for sustainable clothes and textiles. However, market experience suggests that key elements driving purchasing decisions are price and style. Most consumers may not be aware of the general environmental and social impact of manufacturing and may not understand the real cost of sustainable and recycling processes. The word “recycled” may even suggest lower costs to some.
Differences have been identified in willingness to pay for clothing made of materials that are more environmentally friendly based on consumers’ wealth and other characteristics [27]. Regarding labels, research suggest that only few consumers might frequently look at labels in the purchasing decision, the potential impact and effectiveness of labels is questionable.[28]

Actions may include:

XXVII. educate and inform consumers to support a higher demand for more sustainable processes and appropriate prices

XXVIII. fact-based analysis of labelling and actual impact in consumer decision-making

27 Source: “An Environmental Perspective on Clothing Consumption: Consumer Segments and Their Behavioral Patterns” W. Gwozdz *, K. Steensen N. and T. Müller Department of Management, Copenhagen Business School, Society & Communication, CBS Centre for Corporate Social Responsibility

28 Source Dickson, 2000; Iwanow et al, 2005 in Mistra Future Fashion report on Fashion Consumption and Sustainability among Young Swedes https://research-api.cbs.dk/ws/portalfiles/portal/58873956/Report_mistra_future_fashion_sustainable_consumption.pdf

Action #6 Focus on SMEs

Addressing the points: “Partnerships, National Barriers, Public-Private funding, new services ”

In Europe alone as many as 99% of the 171,000 textile and apparel companies are Small and Medium Size (SMEs). Ample amount of research is available on the SMEs limited leverage concerning influence in the whole value chain to which they belong and in coping with new regulatory burdens. SMEs stand out for their capacity to innovate, flexible production and creation of wealth and employment.

Actions may include:

XXIX. tailor policy measures based on the size of the business while ensuring level playing field in the market

XXX. support access to markets and export for SMEs also considering their efforts on sustainability and potential influence in global regions

Action #7 Research, innovation and investments

Addressing the points: “Partnerships, Product Design, Life Cycles Assessment (not always), Green Public Procurement, Legacy of Chemicals, Public-Private funding, New Services,”

A wide adoption of Circular Economy practices in textiles production and resulting final products presents huge opportunities for innovative companies both in the immediate and in long term. To seize such opportunities, the development and adoption of new technologies and business models have a key role to play. The European Union can be at the forefront of matching ambitious policy goals with smart support to industry innovators by building on programmes such as Horizon 2020 and its successor HORIZON EUROPE, notably in the missions and partnerships, the successors to the COSME and LIFE programmes and above all through the intended European strategy for green financing and a Sustainable Europe Investment Plan[29].

Actions may include:

XXXI. launch of strategic research and innovation actions to remove critical technology bottlenecks for large-scale industry adoption of circularity

XXXII. facilitate investments, especially by SMEs, in piloting and early-market adoption of innovative enabling technologies and business models, also making use of regional funding instruments.

XXXIII. avoid additional costs and remove burdens which would block companies’ investment plan on circularity

29 A Union that strives for more. POLITICAL GUIDELINES FOR THE NEXT EUROPEAN COMMISSION2019-2024. Candidate for President of the European Commission Ursula von der Leyen, July 2019 https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf

Action #8 Reduce cost of testing

Addressing the points: “Legacy of Chemicals”

“the last restriction under the REACH regulation may increase testing cost of up 1500€ [+50% of comparable testing costs]”

Responsible Businesses invest large amounts to ensure that the raw materials, whether virgin or recycled or intermediate products they receive and process. Increase of circularity process may require additional certifications or quality check to verify product claim, qualities and performances. Increase of such additional cost may jeopardise economic sustainability of circular practices.

Actions may include:

XXXIV. create scale economies to reduce testing costs

Action #9 Policy options and existing legislation

Addressing the point: “National Barriers, Product Design, Collecting and Sorting”

In the policy debate around circularity for textiles a number of policy options or actions are frequently discussed such as: Extended Producer Responsibilities (EPR) schemes, Eco-design, implementation of separate textile waste collection, centralised database[30] on data over harmful chemicals, others. In some cases, different interpretations and reasoning behind the same wording may apply.

In line with the Better Regulation principles set by the European Commission and calling for open and transparent approach, evidence and impact assessments in policy making, EURATEX welcomes reflection on policy options considering: i) the actual value which proposed measures can generate in real world scenario; ii) assessing the enforceability of legislation by authorities; iii) assessing un-intended consequences for society and the business; iv) evaluating efficiency and efficacy of measures against alternatives.

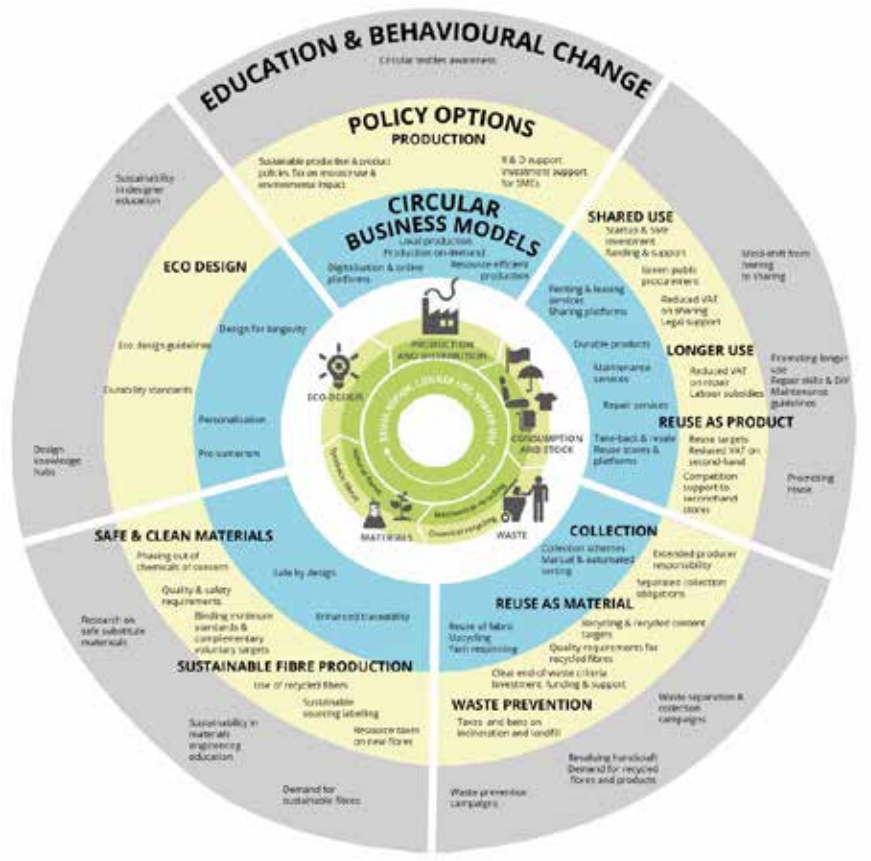
Actions may include:

XXXV. for EPRs: consider lessons learned from existing EPR schemes, applicability in case of on-line selling, facts-based assessment of what issues may be solved by EPR schemes versus other opportunities

30 European Chemical Agency (ECHA) SCIP Database (https://echa.europa.eu/scip-database)

XXXVI. for Eco-design: consider progress of technology for chemical recycling, enforceability in case of products made outside EU jurisdictions

XXXVII. for separate waste collection by end 2024: harmonise solutions across all EU Member States considering local specificities and avoiding proliferation of un-coherent and complex solutions



Role of circular business models, policy options and education and behavioural change[31]

Regarding existing legislation, the Textile Regulation[32] on fibre names precedes the goal of boosting circularity in textile products and, therefore, does not take into account needs of recycled fibres marking. The terms "recycled", or "regenerated" fibres/materials are not foreseen hence cannot be used in marking the garment composition. Likewise, the legislation does not support the recycling of parts of textiles which are re-assembled into new textile products.

Actions may include:

XXXVIII. Review of needs related to fibre composition and marking

31 EEA "Textiles in Europe's Circular Economy" report 2019 avaiable at https://www.eea.europa.eu/publications/textiles-in-europes-circular-economy

32 EU No 1007/2011 on fibre names and related labelling and marking of the fibre composition of textile products

THE NEXT STEPS

The European Textile and Apparel Industry **calls for a joint development** in 2020 of the EU Textiles strategy under the coordination and supervision of the European Commission.

The outcome of such joint development shall deliver a strategy and a coordinated action planning for all stakeholders to deliver circularity in textiles as of 2021.

This paper represents a starting point and shares insights of solutions based on a 14-month consultation with EURATEX Members, with over 100 companies and key stakeholders, focusing on applied circular practices and future opportunities.

The European industry is eager to be part of sustainable solutions for circularity. Already more than 40 Companies' CEOs across the value chain have subscribed the Voluntary Commitment which:

WELCOME the ambition of the European Commission for a Green Deal and a new Circular Economy Action Plan for sustainable resource use in textiles.

Stress the current ACTING of their own companies and the exploring of solutions.

COMMITT to keep working in the pursue of sustainable resource use and offer to contribute with lessons learned to build up a new Circular Economy Action Plan, in the wider contest of the EU Textile Strategy.

The companies subscribing the EURATEX led Voluntary Commitments may or may not endorse the EURATEX strategy in full or in part, based on their role in the value chain and their interests.

About EURATEX

EURATEX is the European Apparel and Textile Confederation, representing the interests of the European textile and clothing industry at the level of the EU institutions. Textile and apparel manufacturing is an essential pillar of local economy across the EU regions. EURATEX member federations represent in the EU some 171,000 companies with a turnover of €178 billion, employing 1.7 million workers.

The EU is the world's second biggest exporter of textiles and clothing with 23% and 28% of world sales respectively in 2018. The textile and fashion products made in the EU stand out for respect of environment, consumer safety and labour rights. EURATEX has an ambitious programme to enhance sustainable growth of the European textile and clothing industry.

EURATEX Members