

# Interreg



## North-West Europe

# Fibersort

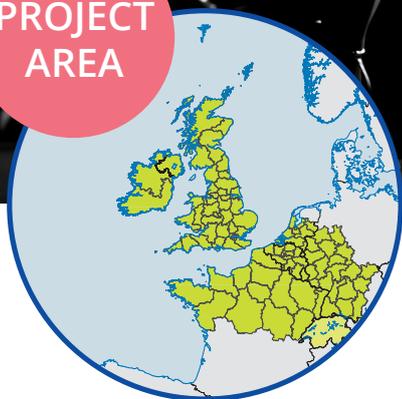
European Regional Development Fund



RESOURCE AND  
MATERIALS EFFICIENCY



PROJECT  
AREA



## **POLICY RECOMMENDATIONS**

towards a zero waste textiles industry

October 2019

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## Project Partners



## 1. Introduction – Post-consumer textiles in NWE

In Europe we are facing a growing mountain of used textiles. Latest research shows that in North-West Europe (NWE) 4700 kilo tonnes of post-consumer textile waste (PCT) is generated annually. While the European, national and regional governments have expressed their ambitions to transition to a circular economy for textiles, the reality is that less than 1% of textiles collected are currently recycled into new ones, and around half of them are being downcycled, incinerated or landfilled<sup>1</sup>.

Automated sorting technologies could enable the industry to turn non-rewearable textiles that currently have no other destination than downcycling, landfill or incineration into valuable feedstock for high-value recycling. One of these technologies is the Fibersort, a Near Infrared (NIR) based technology able to categorise textiles based on their fiber composition, structure and colour. While the technology is promising, identified socio-cultural, physical, economic and regulatory barriers must first be overcome to ensure its successful implementation. In May 2019, the Fibersort Interreg NWE project published an overview of these potential barriers for the implementation of Fibersort technology for collectors and sorters<sup>2</sup>. This overview reflected macro trends in textiles, and identified their implications for the importance, fit and potential of the Fibersort technology.

Within this report, policy recommendations are formulated showing the instruments that regional, national and the European governments have at their disposal to allow the Fibersort, as well as other automated sorting technologies, to live up to their full potential.

Throughout this document, policy recommendations are categorised according to the policy intervention categories formulated by Circle Economy in the report 'The role of municipal policy in the circular economy'<sup>3</sup>. The conclusions chapter of this report analyses the types of instruments required to tackle the barriers for commercialisation of the Fibersort technology:



**Regulatory and legislative instruments,**

are designed to achieve compliance through enforcement (prohibitive or prescriptive). Next to enforcement, regulatory instruments give strategic direction to stimulate focused action or coordinate and implement policies. As such, governments can issue concrete guidelines and frameworks or compulsory legal rules and objectives for the circular economy. Examples of regulatory instruments are: bans, performance standards, monitoring, strategy and targets or labelling.



**Economic instruments,**

are designed to influence stakeholder behaviour by making use of, and influencing market dynamics through fiscal, economic or financial incentives. They serve to overcome market entry barriers, market failures and financial barriers that impede efforts to comply with regulations or create socially desirable outcomes. As such, economic instruments harness market dynamics to influence behaviour and decisions by changing prices, imposing or exempting taxes or mandating carbon accounting. Examples of economic instruments are: subsidies, grants or public procurement.



**Soft instruments,**

create boundary conditions to smoothen the transition to the circular economy by influencing knowledge levels, collaboration and network structures and governance structures. They represent essential means to accelerate the transition towards the circular economy. Examples of soft instruments are: information campaigns, education programmes, matchmaking platforms and institutional design.

**2. Making recycled the new norm: exploring socio-cultural barriers**

*It is widely recognised that culture is extremely important when looking to successfully implement a technology. Culture, whether it is organisational, national or community-driven, shapes individual perceptions. These in turn, have an impact on industry and consumer practices determining the success of the implementation of a new technology.*

**2.1 Empower a thriving collecting and sorting industry**

*The last decades have seen an exponential rise of textile consumption<sup>4</sup>. Meanwhile the average quality of textiles in circulation continues to experience a decline<sup>5</sup>, and clothing disposal rates are accelerating, with global clothing utilisation decreasing by 36% since the early 2000s<sup>6</sup>. Both factors lead to an increase in volume of clothing entering sorting facilities, of which a smaller percentage is rewearable.*

The Fibersort offers a tangible solution to tackle the growing mountain of non-rewearable post-consumer textiles. It has the potential to valorise this vast volume of textiles.

However, this is still very much a hypothetical potential. The EU has outlined the need for a separate collection infrastructure for textiles by 2025<sup>7</sup>, however no requirements for textiles reuse or recycling have been stipulated. In the current setting, European countries tend to export their post-consumer textiles at an early stage - either as a deliberate strategy or indirectly as collectors' margins do not always allow for regional sorting. The bidding processes employed by regional governments to select the collectors for post-consumer textiles incentivize maximization of collection rates. While quantities of collected textiles are on the rise, their potential for future reuse decreases due to increasing pollution of collected textiles with household waste. Additionally, the volume-based remunerations paid by collectors to regional governments for the right to collect textiles significantly affect their margins<sup>8</sup>. To turn the potential of these growing amounts of used post-consumer textiles into an actual (regional) circular economy for textiles, regional governments need to assess their current strategies for used textiles and ensure incentives are created for their collection, regional sorting, reuse or recycling.

Regional govts	National govts	European govts
<ul style="list-style-type: none"> <li>Optimize collection methods Inform citizens on how to dispose of textiles</li> <li>Assess current textiles strategies to ensure the right incentives are created</li> </ul>	<ul style="list-style-type: none"> <li>Set targets for textiles reuse and recycling</li> </ul>	

## 2.2 Create market pull for recycled content

While some brands are already using recycled textiles on a small scale, the vast majority of brands are not sourcing PCT. Concerns mostly relate to the price, quality, consistency and colour availability. On the other side of the value chain, there does not seem to be a strong pull from consumers to drive the industry to use recycled content in their products either.

Besides policy changes, governments have another, more powerful instrument to showcase the possibilities of recycled content derived from post-consumer textiles: Green Public Procurement. As an important user of textiles in uniforms, bedding, linen, furniture and office appliances, governments can create a direct demand for specific materials. Considering the specific requirements often stipulated by governments for the textiles they use, this could imply a need to assess the trade-offs between performance specifications, price, and footprint. In doing so, governments could provide the necessary proof points for the industry whilst advancing the technology and the infrastructure for the use of recycled content. With governments paving the way and sharing learnings, they could actively change the industry's perspective of post consumer recycled content.

Informative campaigns to promote the right disposal practices and advocating the advantages of purchasing products containing recycled materials are another way for governments to incentivise consumers to change their behaviour.

Regional govts	National govts	European govts
<ul style="list-style-type: none"> <li>Procure recycled content in own materials and disseminate lessons learnt</li> </ul>	<ul style="list-style-type: none"> <li>Procure recycled content in own materials and disseminate lessons learnt</li> <li>Inform consumers on the advantages of recycled content through campaigns</li> </ul>	<ul style="list-style-type: none"> <li>Procure recycled content in own materials and disseminate lessons learnt</li> <li>Inform consumers on the advantages of recycled content through campaigns</li> </ul>

## 2.3 Assess and communicate the urgency of action

The lack of urgency to develop the end-of-use value chain hinders the possibilities to gain momentum to drive investment in the collection, sorting and recycling practices of post-consumer textiles. All in all, the awareness around the availability and potential of recycled PCT is still not big enough to drive a shift in consumption and production practices.

The impact of the current consumption and disposal practices of textiles is not widely known nor discussed in the political arenas at regional, national or European levels. There is relatively little information or data available on the international trade of used textiles. Without data available on the final destination and subsequent use of textiles, no government will be able to fully grasp the magnitude of the problem and its consequences. Therefore, an extensive research on the post consumer textile flows within, to and from Europe are required. to inform a collaborative strategy to move to a circular system.

Meanwhile, regional and national governments should start assessing the situations within their own territories. Not only will these assessments of the current situation guide the regional and national strategies towards a circular economy for textiles, their outcomes should also inform the European assessment and strategy. Standard terminologies and methodologies for these assessments will be key to make them comparable and compatible and should be defined at European level.

Regional govts	National govts	European govts
<ul style="list-style-type: none"> <li>Assess the flows and impact of used textiles within own territory</li> <li>Define a regional strategy towards a circular economy for textiles</li> </ul>	<ul style="list-style-type: none"> <li>Assess the flows and impact of used textiles within own territory</li> <li>Define a national strategy towards a circular economy for textiles</li> </ul>	<ul style="list-style-type: none"> <li>Define terminologies and methodologies for the assessment of used textiles flows</li> <li>Assess the flows and impact of used textiles within and from Europe.</li> <li>Define a European strategy towards a circular economy for textiles</li> </ul>

### 3. Creating new materials from post-consumer textiles: overcoming physical barriers

The Fibersort revolutionises sorting activities within the industry, as it allows the sortation of large quantities of clothing and textiles by fibre composition at high speed. The theoretical estimation expects that, with an automated feed-in, a single piece of textile could be sorted every second. Sorting by fibre composition through the updated NIR technology scanners will result in reliable outputs which are consistent input for textile-to-textile recyclers. The additional features of colour sorting and the detection of woven vs. knitted structures to be integrated in the Fibersort in the coming months, can only enhance the potential the technology has to support a new circular textiles industry.

#### 3.1 Maximize quality and consistency of inputs

One of the main physical barriers is that post-consumer textiles, PCT, which serve as input to the Fibersort, lack consistency.

PCT consists of a wide array of materials and their blends. To ensure the right fractions are being sorted at the right capacity, a thorough understanding of available volumes and their composition at national level is required. Not only will this inform investments in the sorting infrastructure, it will also provide guidance for the development and/or upscaling of recycling technologies for specific materials and their blends. It is known that products containing more than one fabric type (multi materials instead of mono materials) and specific material blends can currently only be downcycled. A factor hindering the mechanical recycling of PCT is the presence of labels made of different materials than the garment itself. For some product groups, this could be solved by using printed labels. To achieve a closed textiles loop and ensure destinations can be found for sorted non-rewearable products, the use of blends should be restricted to those that can be recycled with existing or upcoming technologies. The European Government can implement Design Guidelines limiting the materials used in textiles and incentivising the use of mono materials. This may build on several industry efforts to define design guidelines for circularity, for instance by the Ellen McArthur Foundation<sup>9</sup>, Circle Economy<sup>10</sup>, circular fashion, Center for Circular Design and Fashion for Good<sup>11</sup>.

Regional govts	National govts	European govts
		<ul style="list-style-type: none"> <li>Implement Design Guidelines</li> </ul>

#### 3.2 Safeguard the value of sorted materials as recycled content

The lack of traceability of most textiles carries the risk of re-introducing textiles into the system which could pose a threat to product safety due to chemical contamination.

Textiles sold in the European Union need to meet the European legislation on REACH compliance, restricting their contents of hazardous chemicals<sup>12</sup>. Enforcement of this Directive is the responsibility of national governments in collaboration with the European Chemicals Agency (ECHA). With mechanical recycling methods, contaminated input could potentially be carried over to output. Therefore, non-REACH compliant post-consumer feedstock could lead to non-REACH compliant materials with recycled content being sold on the European market. Testing of feedstock before recycling is expensive and non-exhaustive. Further, no testing procedures have been defined by the European government. In case textiles circulating on the European market do not follow REACH requirements, retailers offering products containing recycled content face legal and reputational risks.. While no precedent case is known for recycled content not meeting the REACH Directive, the use of recycled content originating from post-consumer textiles at scale will most probably lead to such cases, and is already a cause for concern with brands and manufacturers. The European Government should therefore proactively research the likelihood and severity of this potential issue and provide guidance for protocols to prevent and manage this risk. Besides, the enforcement of the REACH Directive by national governments and the ECHA is key to prevent non-compliant materials from entering the European market. This risk is most prevalent for mechanically recycled textiles, as chemical alternatives will only extract fibers and leave other materials as residual waste.

Standards for recycled content do exist for textiles<sup>1</sup>. However, these standards are not yet widely adopted by the industry. If these standards were to be adopted on a larger scale, their assurance delivery system should be reliable yet efficient and communication guidelines should be crystal clear to safeguard the legitimacy of claims. As shown with other textiles standards like organic cotton<sup>13</sup>, the reliability of chain of custody-focused standards have their limitations. For claims on recycled content, the main concern is the origin of the actual feedstock used. To tackle this concern, input specifications might need to be reassessed and tracked within standards used.

Another way to tackle the challenges associated with the unknown origins of PCT would be to establish traceability for textile products sold on the European market, for instance through the use of material passports showing the origin and specifications for each individual garment. Several traceability solutions for textiles are currently being developed and tested, some with the financial support of the European and/or national governments. In the coming years the most viable solutions should be selected and implemented at a European scale. The European Government should create the right conditions for the industry to apply these solutions in a consistent manner.

Regional govts	National govts	European govts
	<ul style="list-style-type: none"> <li>Enforce REACH Directive</li> <li>Invest in the development of traceability solutions</li> </ul>	<ul style="list-style-type: none"> <li>Assess the implications of REACH for recycled content</li> <li>Define testing procedures for recycled content</li> <li>Assess use and limitations of standards for recycled content</li> <li>Invest in the development of traceability solutions</li> <li>Lead the adaptation of traceability solutions in the industry</li> </ul>

### 3.3 Create market pull for recycled content

Missing or underdeveloped infrastructure hinders the smooth flow of textiles into developing PCT markets.

There is an increasing demand for local production and reshoring. However, the active development of collection, sorting and recycling facilities will need to balance proximity with economies of scale. Considering the wide range of materials that could be sorted and made available as feedstock for recycling, and the immaturity of existing infrastructure, there is a unique opportunity for governments to incentivise development of the right technology at the right location.

Another logistics challenge is the classification of non-rewearable used textiles as 'waste' and associated trade restrictions posed by international trade law. End-of-waste criteria have been established by the European Commission for a number of specific recyclable materials like scrap of copper, waste paper and waste glass. Similar criteria should be defined for sorted used textiles to ensure they can be traded as feedstock for recycling.

Regional govts	National govts	European govts
	<ul style="list-style-type: none"> <li>Map infrastructure requirements to process post-consumer textiles</li> </ul>	<ul style="list-style-type: none"> <li>Establish end-of-waste criteria for sorted used textiles</li> </ul>

### 4. Making recycling a sound business choice: reducing economic barriers

The success of the Fibersort depends on the conditions and context under which the technology is implemented. It is crucial to be aware of the market demands, costing and pricing of sorted PCT.

#### 4.1 Accelerate the development and implementation of recycling technologies

There is no certainty on the size and demand of all PCT end-markets. This arises both from the relative immaturity of some recycling technologies as well as from the lack of awareness of availability and potential of recycled fibres and fabrics made from PCT by brands and consumers.

There is a mature industry for the mechanical recycling of textiles, mainly for materials consisting of pure cotton or wool preferably sorted based on composition, colour and structure. While there is some demand for feedstock by these recyclers, their focus on pure (post-industrial) materials and the limited performance of mechanically recycled fibers compared to virgin alternatives means existing technologies will only allow for a part of the uptake of sorted materials<sup>6</sup>.

Chemical recycling technologies have the potential to process particular blended materials. Automated sorting based on composition could provide them with the right and consistent feedstock. While the potential of these technologies is significant, their further development and scalability requires a continued (financial) push from the European and national governments.

Both design guidelines restricting the use of non-recyclable blends as well as the use of non-compliant labels should allow for the right feedstock to be available for mechanical and chemical recyclers. A more elaborate assessment of the existing and upcoming technologies that will drive demand for Fibersorted materials will be provided by the project consortium in October 2019.

On the sorting side, there is a specific need for automated solutions to remove hardware, like zippers and buttons, and tags at efficient speed and cost. Governments should incentivise the development and scalability of these technologies through innovation grants. Alternatively, regional governments should assess the potential of subsidized sheltered workshops to remove hardware at reduced costs.

Regional govts	National govts	European govts
<ul style="list-style-type: none"> <li>Assess the potential of sheltered workshops for hardware removal</li> </ul>	<ul style="list-style-type: none"> <li>Invest in the development and scalability of recycling technologies</li> <li>Invest in the development and scalability of hardware removal technologies</li> </ul>	<ul style="list-style-type: none"> <li>Invest in the development and scalability of recycling technologies</li> <li>Invest in the development and scalability of hardware removal technologies</li> </ul>

## 4.2 Ensure price parity of recycled with virgin

*To date, recycled fibre and fabrics made from post-consumer textiles are priced higher, which is intimately related to the higher costs required to process post-consumer textiles.*

In the current landscape, the higher costs can mostly be associated with the lack of scale. Innovation grants and the active support of the establishment of the required infrastructure from the European and national governments will allow technologies in development to scale in the coming years. Additionally, governments can directly contribute to scaling by making the use of recycled content a requirement in the public procurement.

However, the current low margins on the processing of post-consumer textiles in the context of a growing supply of textiles that do not yet meet eco-design guidelines might severely jeopardize the business case for collectors, sorters and recyclers in the years to come. Therefore, the establishment of an Extended Producer Responsibility (EPR) approach for textiles throughout NWE countries, is recognised as a major area of improvement.. As is currently done in France, EPR should ensure the infrastructure stays financially feasible and innovation is supported.

A major concern for the processing of post-consumer textiles remains the price compatibility with virgin materials and to a lesser extend recycled post-industrial textiles. In the current landscape, recycled content created using PCT will not reach the price levels of virgin alternatives. A more effective yet more radical policy intervention would be to reassess economic incentives created through the current VAT system. As taxes on labour are higher than on materials, the labour intensiveness of used products for the creation of new ones will never make economic sense. Several agencies have outlined ways to create the right incentives for price parity through changes in the VAT regulation, such as those described in the Ecopreneur.eu report<sup>14</sup>. Other governments have illustrated the feasibility of reduced taxation by adopting this policy instrument to incentivise reuse and repairs<sup>15</sup>. The European government should seriously consider these interventions if it aims to make a circular economy for (post-consumer) textiles a reality.

Regional govts	National govts	European govts
	<ul style="list-style-type: none"> <li>Support the establishment of the required infrastructure through innovation grants</li> <li>Source materials with recycled content through Green Public Procurement</li> <li>Establish EPR to ensure affordability of infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>Support the establishment of the required infrastructure through innovation grants</li> <li>Source materials with recycled content through Green Public Procurement</li> <li>Investigate potential of VAT changes to allow for price parity of recycled content with virgin alternatives</li> </ul>

## 5. Conclusions

While the challenges and opportunities of used textiles are increasingly in the spotlight of governments, industry, and civil society, considerable system changes are required to transition towards a circular economy for textiles. Regional, national and European governments can and should play a pivotal role to create the right conditions and incentives to accelerate this transition. This report shows the full pallet of policy interventions is needed. Creating a conducive environment for PCT requires the deployment of regulatory, economic as well as soft instruments at all levels of governance - as shown in the full overview below.

In order to close the textiles loop all players within the textiles value chain need to be able to create a viable business case. In their engagement processes, governments will need to include those organisations that have not yet been part of the solution: those in charge of the end-of-use textiles value chain (collectors, sorters, recyclers). Ambitions to transition to a circular economy for textiles will never become reality if incentives do not exist for used textiles to flow back into the chain.

The Interreg NWE Fibersort consortium hopes the European, national and regional governments will explore the policy interventions outlined in this report. As a next step, the consortium will illustrate the potential of automated sorting technology for different actors throughout the future closed loop value chain of used textiles in its upcoming Case Study report, to be published at the end of this Interreg project in March 2020.

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<b>Making recycled the new norm: exploring socio-cultural barriers</b>	<ul style="list-style-type: none"> <li> Optimize collection methods</li> <li> Inform citizens on how to dispose of textiles</li> <li> Assess current textiles strategies to ensure the right incentives are created</li> <li> Procure recycled content in own materials and disseminate lessons learnt</li> <li> Assess the flows and impact of used textiles within and from own territory</li> <li> Define a regional strategy towards a circular economy for textiles</li> </ul>	<ul style="list-style-type: none"> <li> Set targets for reuse and recycling</li> <li> Procure recycled content in own materials and disseminate lessons learnt</li> <li> Inform consumers on the advantages of recycled content through campaigns</li> <li> Assess the flows and impact of used textiles within and from own territory</li> <li> Define a national strategy towards a circular economy for textiles</li> </ul>	<ul style="list-style-type: none"> <li> Procure recycled content in own materials and disseminate lessons learnt</li> <li> Inform consumers on the advantages of recycled content through campaigns</li> <li> Define terminologies and methodologies for the assessment of used textiles flows</li> <li> Assess the flows and impact of used textiles within and from Europe</li> <li> Define a European strategy towards a circular economy for textiles</li> </ul>
<b>Creating new materials from post-consumer textiles: overcoming physical barriers</b>		<ul style="list-style-type: none"> <li> Enforce REACH Directive</li> <li> Invest in the development of traceability solutions</li> <li> Map infrastructure requirements to process post-consumer textiles</li> </ul>	<ul style="list-style-type: none"> <li> Implement Design Guidelines</li> <li> Assess the implications of REACH for recycled content</li> <li> Assess use and limitations of standards for recycled content</li> <li> Invest in the development of traceability solutions</li> <li> Lead the adoption of traceability solutions in the industry</li> <li> Establish end-of-waste criteria for sorted used textiles</li> </ul>
<b>Making recycled a sound business choice: reducing economic barriers</b>	<ul style="list-style-type: none"> <li> Assess the potential of sheltered workshops for hardware removal</li> </ul>	<ul style="list-style-type: none"> <li> Invest in the development and scalability of recycling technologies</li> <li> Invest in the development and scalability of hardware removal technologies</li> <li> Support the establishment of the required infrastructure through innovation grants</li> <li> Source materials with recycled content through Green Public Procurement</li> <li> Establish EPR to ensure affordability of infrastructure</li> </ul>	<ul style="list-style-type: none"> <li> Invest in the development and scalability of recycling technologies</li> <li> Invest in the development and scalability of hardware removal technologies</li> <li> Support the establishment of the required infrastructure through innovation grants</li> <li> Source materials with recycled content through Green Public Procurement</li> <li> Investigate potential of VAT changes to allow for price parity of recycled content with virgin alternatives</li> </ul>

## Endnotes

1. Interreg NWE, Fibersort, 2018. Industry Reference Sheet (<https://www.circle-economy.com/fibersort-industry-reference-sheet>)
2. Interreg NWE, Fibersort, 2019. Potential Barriers for long term implementation of the Fibersort (<https://www.nweurope.eu/media/6811/fibersort-barriers-report-final.pdf>)
3. Circle Economy, 2019. The role of municipal policy in the circular economy, (<https://new.circle-economy.com/jobs-skills/municipal-policy-in-the-circular-economy>).
4. Measuring the Dutch Clothing Mountain: data for sustainability-oriented studies and action in the apparel sector, 2017 (SiAs KIEM VANG funded). Data referenced in this study was sourced from Euromonitor (2017).
5. Niinimäki, K., 2011. From disposable to sustainable: the complex interplay between design and consumption of textiles and clothing. Aalto University.
6. Ellen MacArthur Foundation, 2017. A new textiles economy: Redesigning fashion's future, (<http://www.ellenmacarthurfoundation.org/publications>).
7. European Council, 2018. Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste, (<http://data.consilium.europa.eu/doc/document/PE-11-2018-INIT/en/pdf>)
8. Watson et al., 2018. Used Textile Collection in European Cities. Study commissioned by Rijkswaterstaat under the European Clothing Action Plan (ECAP)
9. Ellen MacArthur Foundation, 2019. The jeans redesign, (<https://www.ellenmacarthurfoundation.org/assets/downloads/Jeans-Guidelines-MASTER.pdf>)
10. Circle Economy, 2018. Circle Fashion Tool, <https://www.circle-economy.com/case/circle-fashion-tool/#.XWeEKZMzZTY>
11. Fashion for Good, 2017. C2C How to guide, ([https://d2be5ept72nvlo.cloudfront.net/2017/04/C2C-How-To-Guide\\_v1.03.pdf](https://d2be5ept72nvlo.cloudfront.net/2017/04/C2C-How-To-Guide_v1.03.pdf))
12. Official Journal of the European Union, 2006. Regulation No 1907/2006 of the European Parliament and of the Council, (<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006R1907&from=EN>)
13. Organic Cotton Accelerator, 2016. Developing a scalable assurance delivery system for organic cotton, (<https://www.organiccottonaccelerator.org/portfolio-item/it-is-all-in-the-garment/>)
14. Ecopreneur.eu, 2019. Circular Fashion Advocacy, (<https://ecopreneur.eu/wp-content/uploads/2019/03/EcoP-Circular-Fashion-Advocacy-Report-28-3-19.pdf>)
15. RREUSE, 2017. Reduced taxation to support re-use and repair, ([http://www.rreuse.org/wp-content/uploads/RREUSE-position-on-VAT-2017-Final-website\\_1.pdf](http://www.rreuse.org/wp-content/uploads/RREUSE-position-on-VAT-2017-Final-website_1.pdf))