WHITE PAPER ON TEXTILE WASTE MANAGE-MENT

Good practices identification
in european municipalities
–
2022-2023
–

Acte Europe
Asociación de colectividades
europeas del textil

acte

Asociación de Colectividades Europeas del Textil

ACTE (Asociación de Colectividades Europeas del Textil) was founded in Portugal in 1991, by different municipalities and associations with authority at European level. The interest of this Association is to represent and defend the interests of the textile-fashion and leather industry.

Nowadays, the presidency of ACTE falls to the city of Boros (Sweden) and the vice presidency of Spain, to the city of Igualada.

ACTE gives all cities a voice in Europe in order to defend their interests and face common challenges in a concerted manner. The main objectives of ACTE are:

Represent the interests and needs of territorial members, the European Union as national institutions.

–

Establish ties of institutional collaboration and promote the exchange of experiences between members in areas such as economic development, employment, training, culture, the conversion of industrial heritage and development cooperation.

–

Promote innovation policies to anticipate and manage structural changes in the textile, clothing, leather, footwear and fashion accessories sectors at local and regional level.

–

ACTE has financed the White Paper project to create a tool that serves municipal technicians and the agents involved in the management of textile waste. The aim of the document is inspiring and publicizing good practices at an European level. In a deeper manner this document wants to contribute generating circular textile economy in the European territories, through new employment and preventing the generation of textile waste.

ACTE's main objective is to represent and defend the interests of local communities and affiliated organizations that represent the textile, clothing, leather, footwear and fashion accessories sectors in the territories.

This present document has been written and created by the technical team from the Catalan Fashion Cluster, Modacc.

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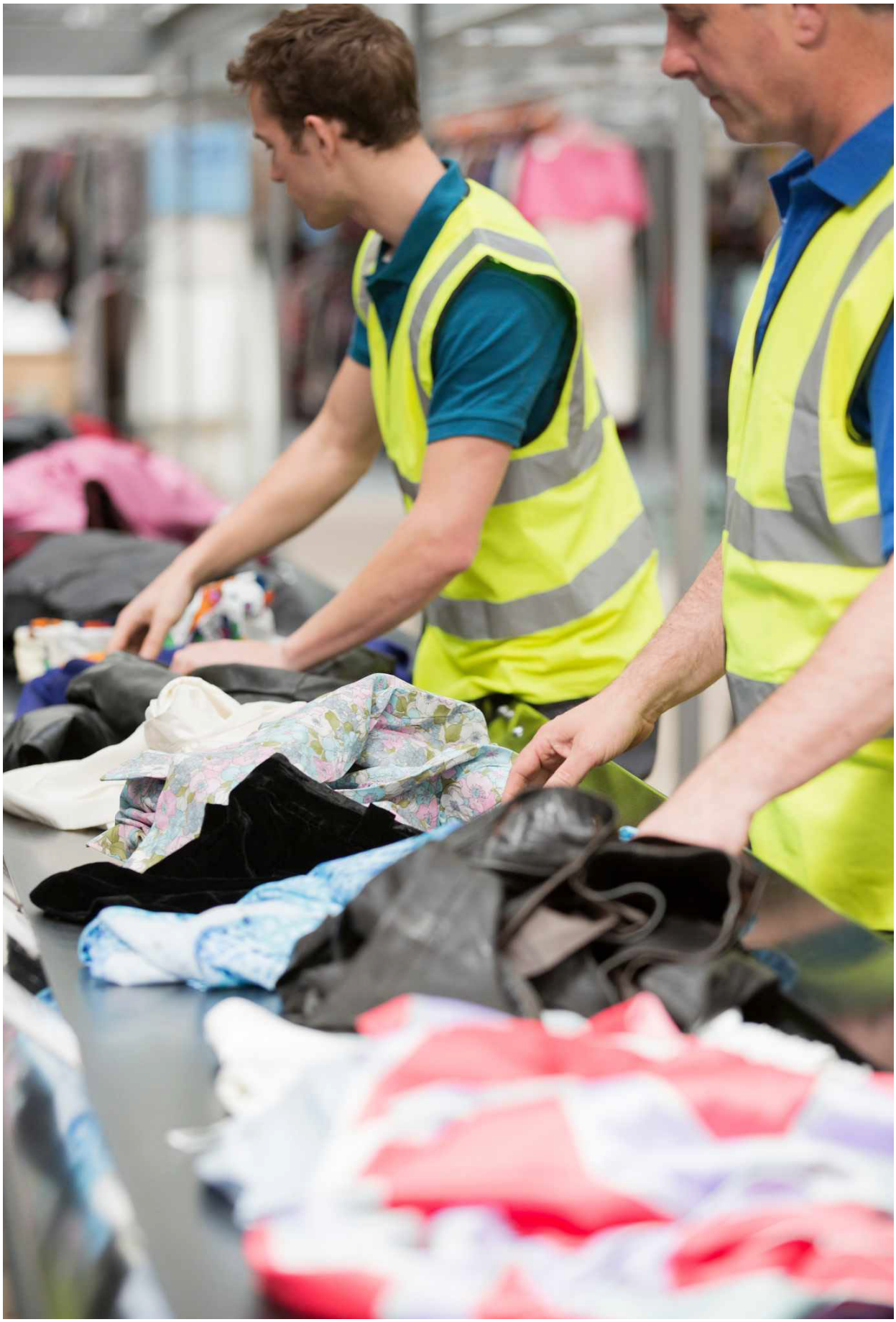

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Introduction

Following the guidelines and the roadmap set up by the European Commission, thorough the Waste management Directive, textile collection at the municipal level must be implemented by 2025, complying with various levels and collection rates and the recovery of resources. Besides, they will have to include and work with the New Green Deal objectives and the Circular Action Plan, which promotes a textile system based on circularity, with special emphasis on the product's end of life, turning them into resources.

This has meant that in recent years many municipalities and organizations at a European level have considered improving their textile management models, a fraction that has historically been managed by social entities and has been linked to social and solidarity projects. Some of the projects, Interreg, Cosme, and Life, among others, have studied and implemented several good practices aimed to optimize management models at an environmental, social, and economic level.

Therefore, the present project is framed by identifying good practices generated by projects, studies, and study cases that have implemented technologies, innovations, and actions applied throughout the final management stage of textile products, based on benchmarking.

The idea of this document is to collect the good practices implemented in European municipalities in terms of textile waste management. The purpose of the document is to be able to draw up a White Paper that gathers up initiatives, actions, and innovations that have been studied and implemented in different municipalities across Europe. A White Paper that encompasses the variety of solutions that municipalities and other agents within the textile circular economy are currently implementing for the improvement and optimization of textile waste management.

Good practices are collected in this document to inspire municipalities, but also other agents in this environment. The aim is to improve textile waste management framed within a circular and holistic vision, identifying opportunities in each of the stages at the end of life (collection model, transport, classification, recovery, etc ...), taking into account the waste hierarchy and transforming the waste into a resource.

Objectives

Main Objective

The main objective of this project is to provide municipalities and their technicians with knowledge on best practices related to domestic textile waste, since this fraction will become mandatory for municipalities to do it separately, from 2025. In addition, and by European regulations (Directive 2018/851 Waste) Member States will have to achieve several objectives in terms of reducing waste generation and increasing preparedness for recovery.

Specific Objectives

To achieve these goals, a series of specific objectives are set for the execution of the project. These specific objectives are:

Collect municipal data on the status of collection rates and collection objectives creating a benchmark between municipalities.

–

Carry out exhaustive research of good practices, initiatives, and actions implemented in European municipalities that increment three key values; environmental, social value, and economic value.

–

Identify these good practices in terms of textile waste collection and citizen awareness.

–

Compilation of best practices.

–

Writing a WHITE PAPER on the municipal management of the textile fraction.

–

Knowledge transfer to municipal technicians.

–

Research methodology

The methodology used for the collection and research of good practices relating to the management of textile waste has been configured from various activities. From bibliographic research and European projects, a Design Thinking session with the municipal technicians of the Catalan region and a survey directed at the municipal technicians of the European regions that are part of the ACTE. A learning mission has also been carried out to know a territory with good practices implemented and an organization at a superregionals level to increase collection levels and generate employment in the territory.

Bibliography research:
The consultation of various studies at the European level that have analysed this fraction over recent years, due to its particularity, and due to its problems with generation volumes.

The research for best practices at the level of European projects has been carried out through various European programmes such as Interreg, Life, and Cosme, among others.

The **Design Thinking** session was held to draw the main needs and challenges faced by local technicians today, right at the time when national legislations that come from the EU Waste Framework Directive (2008/98/EC) were transposed.

The **survey** geared towards European technicians is designed to gather the current situation in terms of needs and challenges, but also to look for initiatives and good practices in the territories surveyed.

The **learning mission** was designed to be able to know the organisational proposal of a region that has already been organised in terms of textile collection and is working in cooperation. We went to visit the Netherlands, and explore their good practices gathered in a three ay trip.

From these research tasks, thematic analysis and prioritisation of concepts and relevant aspects of the management of textile waste have been formed. And from this subject classification, several initiatives that work towards achieving the goals set by legislation and building a textile model based on circularity and low impact have been sought.

Fig 1: **Methodology**

PART 01 — CONTEXT

Legal framework

The challenges posed by the 17 Sustainable Development Goals set by the United Nations Agenda 2030 are an opportunity for the European industrial transformation. Adding the will of the European Union to make a transition from the current linear model of production to more circular models, the opportunity for agents that participate throughout the entire textile value chain is evident.

In 2018, the EU adopted the Circular Economy Package, which for the first time ensured that textile waste should be selectively collected in all member states from 2025. A first step to be able to address the recovery of this waste to direct it to recovery flows and create a circular economy. European regulations provide various challenges and opportunities within the textile sector in terms of creating new business models, new products, and new services that may emerge from this waste recovery and thus transform them into a resource.

This willingness to transform into a productive model is also reflected in the latest EU publications and strategies. The **Circular Economy Action Plan**[1] and the EU's **New Industrial Strategy**[2] are the foundations that provide the path that the Member States must follow. Specifically, and within the framework of the New Industrial Strategy, it is intended to work based on two very clear objectives; that European industry should be more competitive and that it should be more autonomous. This strategy has three driving principles; a globally competitive industry, climate neutrality, and an industry shaped by a digital future. It promotes it through six proposals:

Industrial Innovation
–
Digitalisation
–
Building of a circular economy and a low carbon economy of climate neutrality.
–
International dimension, yet with the relocation of the industry in European territory.
–
Single market and empowerment of people, work on social rights, etc...
–
Investment, financing the transition.
–

Directly linked to this industrial strategy, the Circular Economy Action Plan, published in December 2019, dedicated an entire chapter to textile problems. In a general outline, it aims to boost sustainable and circular textile products by promoting new business models. These objectives are to be achieved based on various measures as well as a comprehensive strategy for textile products based on the input of the industry and the stakeholders. These are the measures to be adopted that stand out:

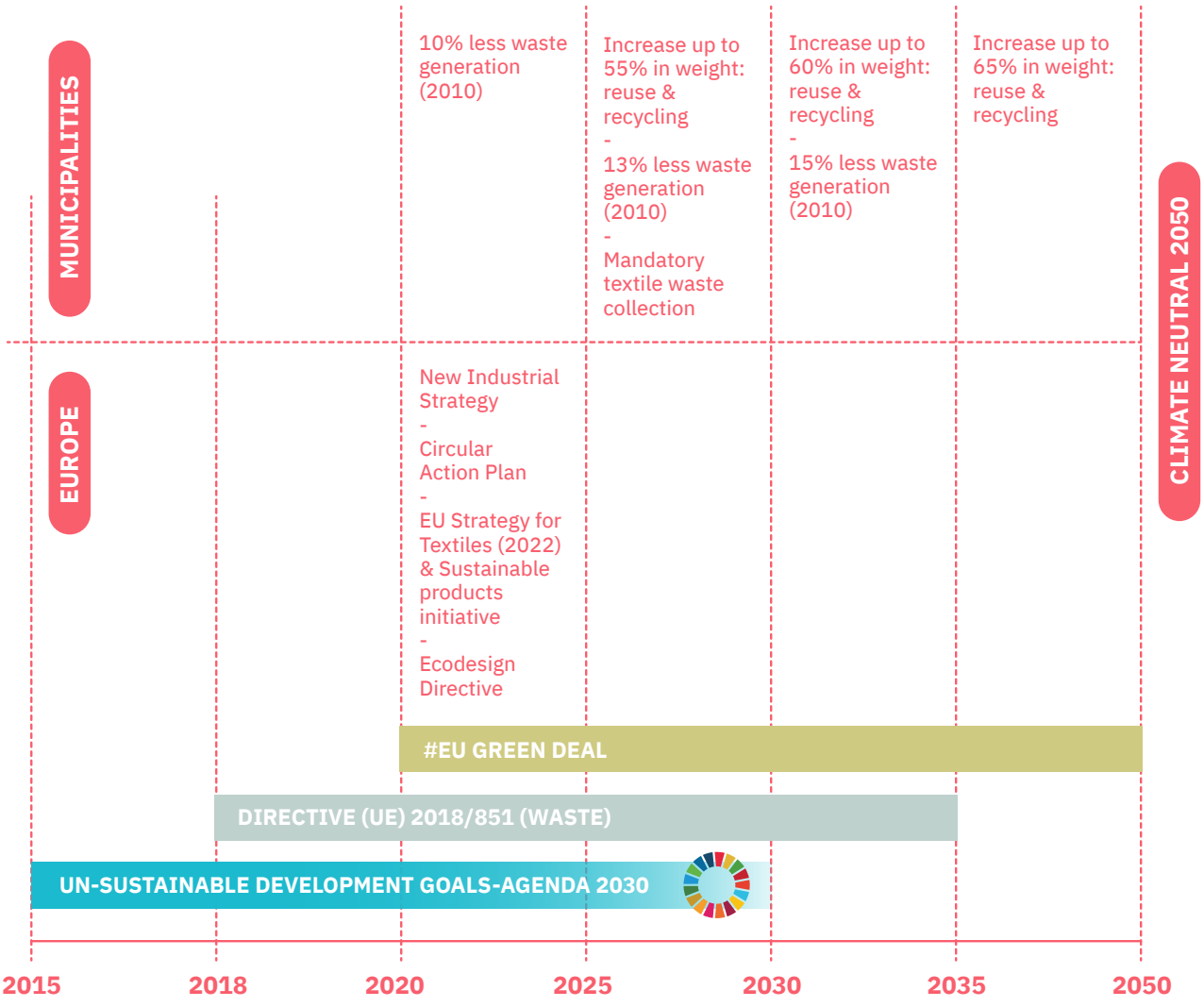
[1] https://ec.europa.eu/environment/circular-economy/

[2] https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/european-industrial-strategy_en

New framework for sustainable products that take eco-design measures, that present adaptability to circularity, ensure secondary raw materials, combat the presence of dangerous chemicals, and easy access to reuse and repair services.
–
Improving the business environment in terms of regulation, incentivising, and assisting "product as a service" models, encouraging transparency, circular processes, and international cooperation.
–
Increase the levels of selective collection of textile waste by 2025.
–
Enforce the classification, reuse, and recycling of textile products, promoting innovation, industrial applications with regulatory measures such as the extended producer responsibility.
–

These EU strategies, objectives, and wills transmitted to the Member States are translated into new directives and regulations which make them adapt the laws and policies that directly affect the processes of the whole textile production chain.

Fig 2: **Legal European context**



New textile strategy

The **EU Strategy for Sustainable and Circular Textiles**[3] aims to create a coherent framework and a vision for the transition of the textiles sector whereby: by 2030 textile products placed on the EU market are long-lived and recyclable, to a great extent made of recycled fibres free of hazardous substances and produced in respect of social rights and the environment.

The Strategy implements commitments made under the *European Green Deal*, the *new Circular Economy Action Plan*, and the *Industrial Strategy*, and aims to create a greener, more competitive, and more modern sector, more resistant to global shocks. The Strategy proposes actions for the **entire lifecycle of textiles products, while supporting the ecosystem in the green and digital transitions.** It addresses the way textiles are designed and consumed, including by looking also at sustainable technological solutions and innovative business models.

Key actions:

Introducing mandatory Eco-design requirements
–
Stopping the destruction of unsold or returned textiles
–
Tackling microplastics pollution
–
Introducing information requirements and a Digital Product Passport
–
Green claims for truly sustainable textiles
–
Extended producer responsibility and boosting reuse and recycling of textile waste
–

Waste Management EU Directive

DIRECTIVE (EU) 2018/851 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of May 30, 2018, amending Directive 1999/31/EC on the landfill of waste.

DIRECTIVE (EU) 2018/815 of the European Parliament and of the Council of May 30, 2018, which will modify the Spanish Law 22/2011 of July 28. This directive focuses on creating a circular economy promoted by the efficiency and **waste recovery** converted into new resources. To reduce the high demand for natural resources, the EU encourages and promotes a change in the design and production of goods from this directive. It transforms the concept of waste into a resource promoted by public policies, forcing the selective collection of textiles[4], so that these are ready for reuse and recycling. The textile waste is now compulsory to be selectively collected in all Member States. In addition, one of the tools it introduces for states to be able to cope with these changes in regulations is **the Extended Producer Responsibility**. Several key aspects of textile waste management introduced by the directive are detailed below:

Collection

Article 11:
«1. Member States shall take measures to promote preparing for re-use activities, notably by encouraging the establishment of and support for preparing for re-use and repair networks, by facilitating, where compatible with proper waste management, their access to waste held by collection schemes or facilities that can be prepared for re-use but is not destined for preparing for re-use by those schemes or facilities, and by promoting the use of economic instruments, procurement criteria, quantitative objectives or other measures.

Member States shall take measures to promote high-quality recycling and, to this end, subject to Article 10(2) and (3), shall set up separate collection of waste.»

[3] https://environment.ec.europa.eu/publications/textiles-strategy_en

[4] Points 41 and 42 of the Directive

Subject to Article 10(2) and (3), Member States shall set up separate collection at least for paper, metal, plastic and glass, and, by 1 January 2025, for textiles.

Preparation targets for reuse

«2. To comply with the objectives of this Directive, and move to a European circular economy with a high level of resource efficiency, Member States shall take the necessary measures designed to achieve the following targets: »

c) by 2025, the preparing for re-use and the recycling of municipal waste shall be increased to a minimum of 55 % by weight.
(d) by 2030, the preparing for re-use and the recycling of municipal waste shall be increased to a minimum of 60 % by weight.
(e) by 2035, the preparing for re-use and the recycling of municipal waste shall be increased to a minimum of 65 % by weight.»;

Extended Producer Responsibility

The Extended Producer Responsibility (EPR) is “an environmental policy approach in which producer responsibility for a product is extended to the post-consumer stage of the product's life cycle”[5]. This tool is understood as a change in responsibility, both administrative and financial, which changes from governments to producers. This is also understood as a stimulus for producers to take environmental considerations into account during the stages of design and manufacturing of products. It is based on the 'polluter pays' principle. The EPR seeks to reduce the environmental impact of products throughout their life, from production to the end of their useful life.

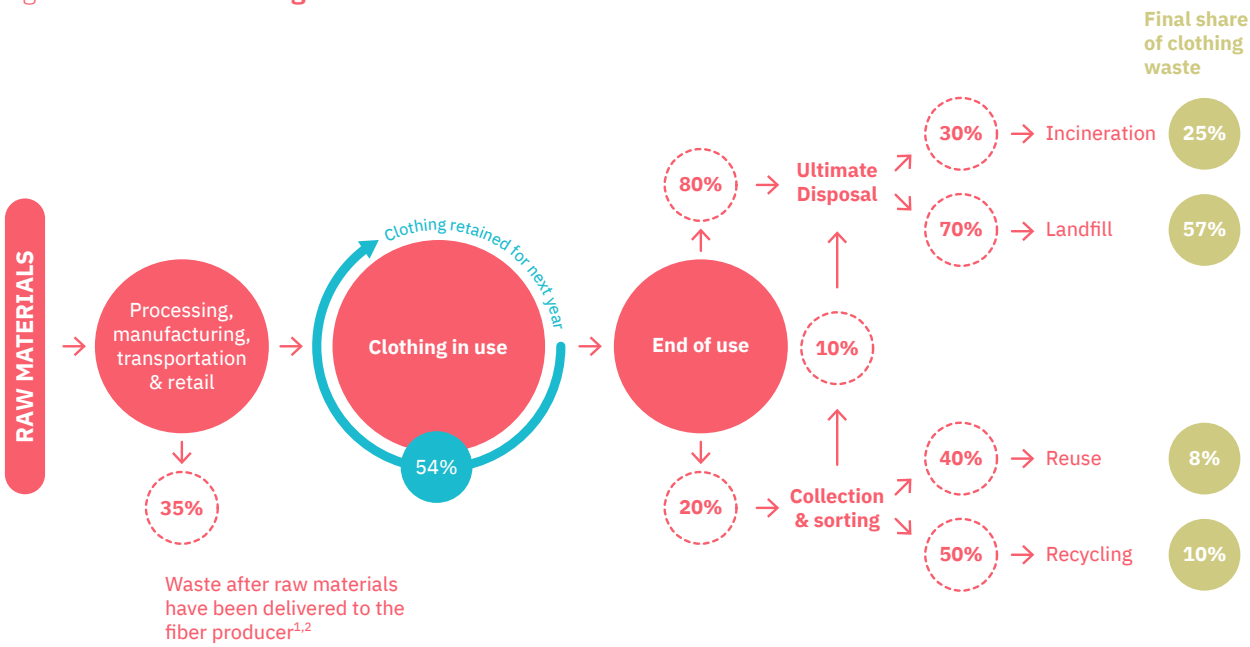
[5] https://ec.europa.eu/environment/archives/waste/eu_guidance/introduction.html

Textile waste: concept characterization and challenges

Textile waste comes basically from two sources, domestic waste, and industrial waste. Domestic textile waste comes from clothing, footwear, and other textile material such as household clothing, bags, cloths, etc. which after being used become waste. This waste is called **post-consumer textile waste**. In terms of industrial waste, textile waste is produced in different proportions throughout the textile production chain, as seen in the following scheme. One of these types of waste is all those pieces of clothing that for some reason, either because they have some tare, because they have become unsold stock, or because of overproduction, etc. remain undeveloped in the chain and remain as waste. There is also waste during the productive manufacturing stage, where waste is produced from cutting, clothing, remnants of threads, etc. Both types of waste are called **pre-consumer waste.**

From this scheme, we learn that globally only 80% of the collected clothes are reused. Yet if we take a step backward, we see that at the end of life, only 20% of the post-consumer waste is collected. The remainder 80% remains uncollected to be reused later. At a European level, 38% of textile waste is collected on average, Spain being the country with the lowest collection rate, 12%, and Germany the highest, with 60%. The 55% is sold as re-wearable textiles, with the purpose of reusability[6].

Fig 3: **Textile waste along the value chain**



1. ~9% waste in fiber production, ~91% in yarn, fabric and garment production
2. Excluding co-products and waste associated with chemical, oil and agricultural production
Note: Figures based on studies of the UK and the EU27
Source: BCG analysis; Wrap (2012); Beton et al. (2014)

Source: A Pulse of the Fashion Industry 2017. Global Fashion Agenda

6 *SORTING FOR CIRCULARITY EUROPE* (2022) Circle Economy and Fashion for good.

PART 02 – ANALYSIS

Main issues and topics

Drivers for the research of the good practice

The drivers for the research for good practices at European level are based on the legislative objectives that come from the European regulatory framework, which has been transferred to the laws of all member states. The collected objectives for the good management of textile waste are:

Increase collection:
It is estimated that between 1.7 and 2.1 million tonnes of used textiles are collected annually throughout the EU. The majority of the remaining 3.3 to 3.7 million tonnes are thought to be discarded in mixed household waste, with a much smaller amount being stored in increasing stockpiles in households. The best practices that have been sought, respond to this willingness to increase separate collection.
–
Increase awareness:
to be able to work on aspects such as the reduction in waste generation, public awareness must be raised so citizens are aware of the problems of textile waste. That is why we need to have proper disposal of waste at the level of source separation, for the citizen to know what is done with the clothes that citizens deposit in the containers, how the clothes should be prepared for recovery, etc...
–
Increase recovery volumes:
all waste collected is potentially transformable into resources. To generate a circular economy, it is necessary to recover separately and with optimum quality all waste that can be recovered.
–
Increase reuse:
reuse practices should be encouraged to contribute to the waste hierarchy, prevent, reuse, and ultimately recycle.
–
Increase recovery pathways:
recovery pathways must be increased to be able to manage and assume the increase of textile waste volumes that the new legislation pursues.
–
Employment creation and local economy:
this more circular model is an opportunity to generate employment at the municipal level and an opportunity to generate local economy.
–

Classification themes and subthemes

The different analysis techniques have enabled to detect key concepts in the search for good practices. These findings have allowed us to make a theme and sub-theme classification. The main findings for each of the research actions that have been carried out are detailed below.

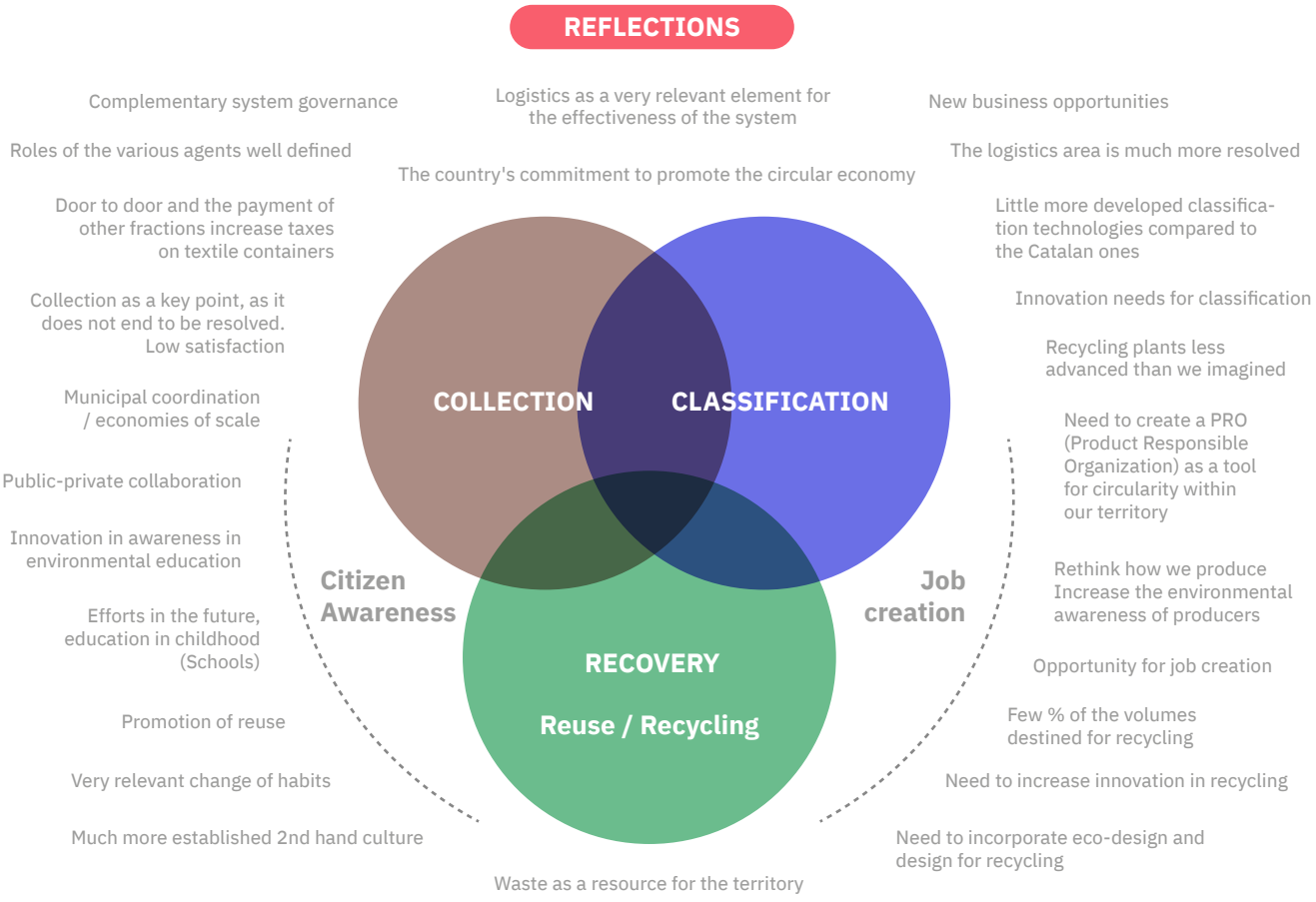
Bibliographic research:
Bibliographic research has provided a solid basis for large topics focused on challenges within the sector. From the need to optimise logistics to raising public awareness, to issues such as introducing repair spaces in municipalities, as well as promoting reuse from community spaces.

Design thinking session:
The participation session conducted with the Catalan municipalities also allowed us to detect several topics that are currently of concern to municipal technicians. These issues were mainly related to the fee system, the gathering of collection data and waste generation data, lack of experts in the field of textile waste, anti-robbery systems, collection models, and public funding aspects. Other important aspects of the session also came from the point of view of the valorisation and the whole textile production chain.

Survey:
From the survey we can see that charity or social organizations are managing the textile waste. Also, that municipalities do not have data available about the volumes of textile waste. The current situation in the surveyed municipalities is generally the same. Historically, collection has been carried out by social entities, without interfering with municipal management. Some municipalities are working with these entities to deal with the new legislation, creating new plans and public procurements.

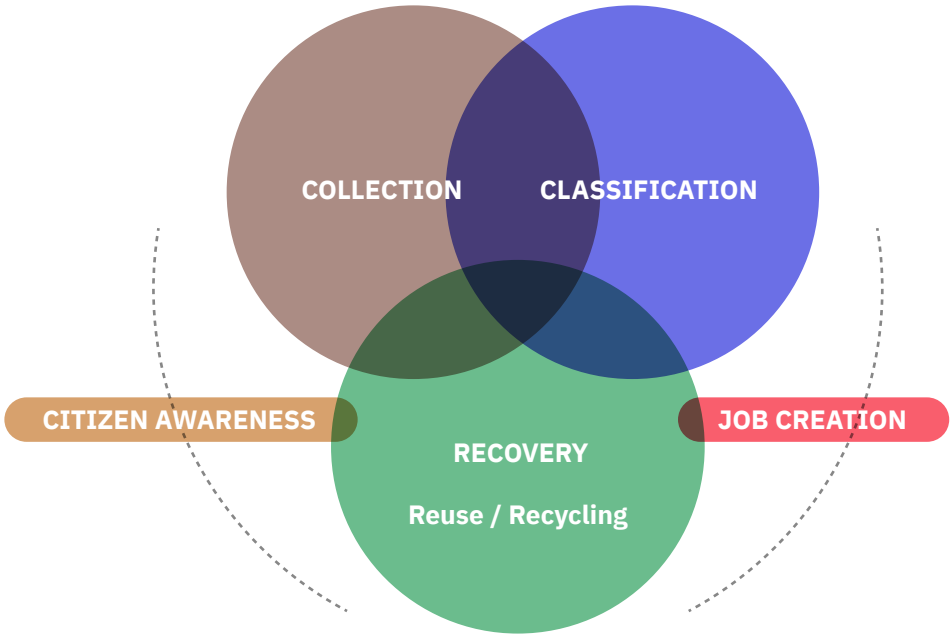
Learning trip:
The mind map reflects all key aspects and reflections done by all the travellers from the learning trip.

Key points and learnings



From these findings on themes, needs, and challenges, a first classification of topics was proposed to look, and investigate the good practices;

Plus two main topics that are transversal among the first ones; **Citizen awareness and job creation**



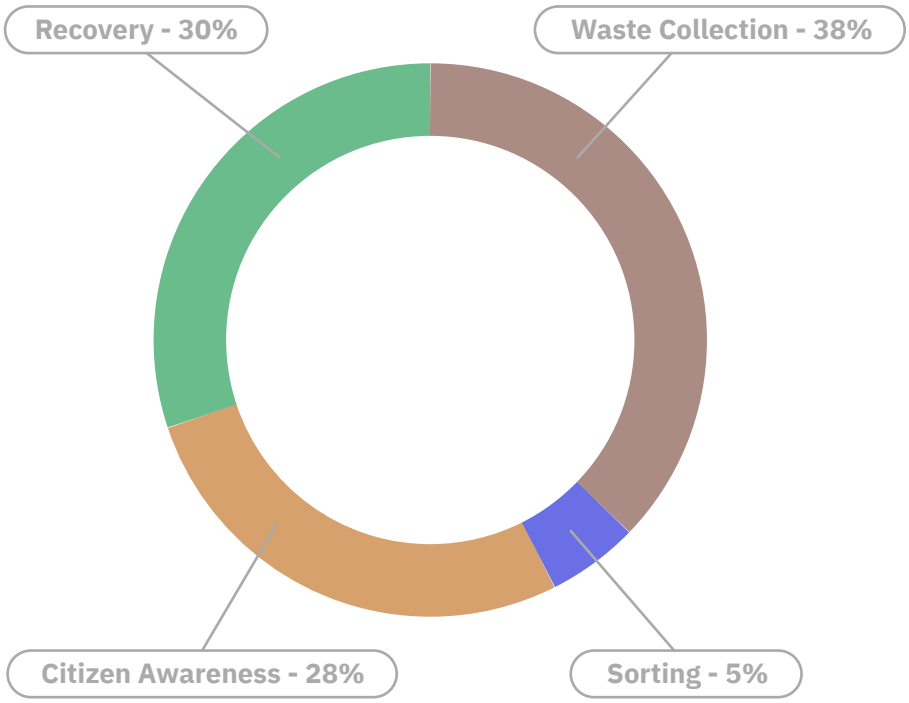
From this conceptualization of the very big topics that emerge from the waste management in the textile sector, sort of other subtopics was gathered.

The general classification within topics and subtopics is:

Topic	Subtopic
Waste collection	Public procurement process Collection models Logistics Digitalization Taxes
Sorting	Sorting for Reuse Sorting for Recycling
Citizen awareness	Repair & Reuse - Spaces and Workshops Environmental education Communication campaigns
Recovery	Reselling Reusing Textile Lab Financing Digitalization Recycling

Good practices identification

Based on all the research carried out, 40 representative good practices have been chosen for each of the detected subtopics. The following graphic shows a distribution of these practices according to the group they belong to, Recovery, Waste Collection, Sorting and Citizen Awareness.



As the textile waste collection and management doesn't have been mandatory since the new Directive, we have chosen some good practices from other fractions of the waste management. This is because we believe that this practices can be a good inspirational source that could be perfectly applied in the management of the textile fraction. From the whole 40 practices, 9 of them come from other kind of fractions. In the datasheet explaining each good practice it will be noticed.

The following table shows the good practices classified according to the themes and sub-themes, identifying the different drivers where they contribute:

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	Topic	Subtopic	Good practice	Increase Collection	Decrease waste generation	Increase Recovery	Increase Ocupation	Increase Awarness	Increase Digitalization	Region
01	Waste collection	Public procurement process	The Collectie, improving textile waste collection	•		•				Belgium (Antwerp)
02			WRAP, Guidance on textile collection	•		•				UK
03			Fundació Deixalles, new tendering social enterprise	•		•				Spain (Balears)
04		Collection models	Vilablareix, door to door experience	•	•					Spain (Vilablareix)
05			Best bag textile collection	•		•	•			Netherlands
06			Humanita textile recycling	•				•		Bulgaria
07			TEXAID, Take back scheme	•		•				Switzerland
08			Pop up Recycle Stations	•						Belgium (Antwerp)
09		Logistics	SNAGA logistics in waste collection	•						Slovenia
10		Digitalization	Smart waste data management	•					•	Spain (La Rioja)
11			Smart iBins	•					•	Malta
12			EKOCHARITA smart textile containers	•					•	Slovakia
13			LIPOR Datacenter	•		•			•	Portugal
14		Environmental taxation	Pay as you throw (PAYT)	•	•				•	Italy (Treviso)
15		EPR System	Re:Fashion			•		•		France
16	Sorting	Sorting for Reuse	Reshare Sorting Plant		•	•	•			Deventer (Netherlands)
17		Sorting for Recycling	Textile 2 Textile Sorting plant		•	•				Wormerveer (Netherlands)
18	Citizen awareness	Repair & Reuse - Spaces and Workshops	The Edinburgh Remakery		•	•		•		Edinburgh
19			Smart Re-Use Park - Noamol.at			•		•		Austria
20			Repair Café "Stajnia"			•		•		Poland (Kujawsko-Pomorskie)
21			Didaltruck, textile mobile service			•		•		Spain (Barcelona)
22		Environmental education	"Erre que erre", environmental education					•		Spain (Aragón)
23			Race Against Waste, social enterprise	•		•		•		Netherlands
24			Know as you throw (KAYT)	•				•		Italy (Bergamo)
25			Tropa Verde, rewarding recycling	•				•		Spain (Santiago de Compostela)
26		Communication campaigns	Humana Italy: communication campaign	•				•		Italy (Rome)
27			Love Your Clothes		•	•		•		UK
28			Love Not Landfill		•	•		•		UK (London)
29	Recovery	Reselling	Retuna, the world's first recycling mall			•	•	•		Sweden (Eskilstuna)
30			Spearheaded by Halle 2		•	•	•			Germany (Munich)
31			Moda-RE, second hand shops			•	•			Spain
32			Alargascencia - achieving a sustainable society		•	•				Spain (Aragón)
33		Reusing	Utebo's social wardrobe			•				Spain (Aragón)
34			The library of things			•		•		Spain (Barcelona)
35			United Repair Service		•	•	•			Amsterdam
36			Store for reused textiles			•				Finland
37		Recycling	Frivep. livret d'éco-conception			•				France
38		Textile Lab	CiLAB boosting circular textiles			•	•	•		Belgium (Antwerp)
39		Research	Telaketju network development programme			•	•			Finland
40		Digitalization	SUGAR management software			•			•	Italy (Emilia-Romagna)

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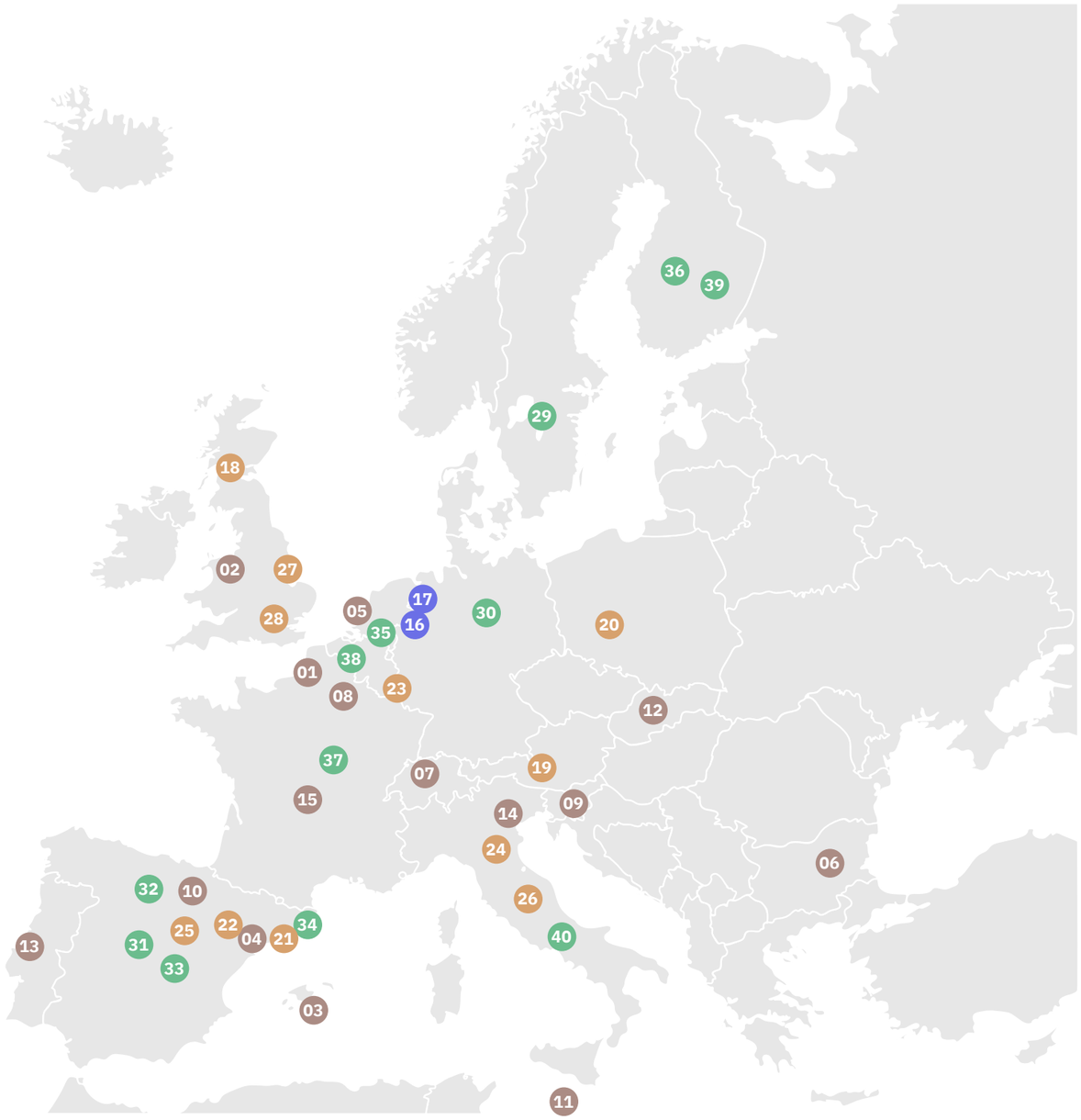
Geographical distribution



Waste collection	01. The Collectie, improving textile waste collection 02. WRAP, Guidance on textile collection 03. Fundació Deixalles, new tendering social enterprise 04. Vilablareix, door to door experience 05. Best bag textile collection 06. Humanita textile recycling 07. TEXAID, Take back scheme 08. Pop up Recycle Stations 09. SNAGA logistics in waste collection 10. Smart waste data management 11. Smart iBins 12. EKOCHARITA smart textile containers 13. LIPOR Datacenter 14. Pay as you throw (PAYT) 15. Re:Fashion
Sorting	16. Reshare Sorting Plant 17. Textile 2 Textile Sorting plant
Citizen awareness	18. The Edinburgh Remakery 19. Smart Re-Use Park - Noamol.at 20. Repair Café "Stajnia" 21. Didaltruck, textile mobile service 22. "Erre que erre", environmental education 23. Race Against Waste, social enterprise 24. Know as you throw (KAYT) 25. Tropa Verde, rewarding recycling 26. Humana Italy: communication campaign 27. Love Your Clothes 28. Love Not Landfill
Recovery	29. Retuna, the world's first recycling mall 30. Spearheaded by Halle 2 31. Moda-RE, second hand shops 32. Alargascencia - achieving a sustainable society 33. Utebo's social wardrobe 34. The library of things 35. United Repair Service 36. Store for reused textiles 37. Frivep. livret d'éco-conception 38. CiLAB boosting circular textiles 39. Telaketju network development programme 40. SUGAR management software

Good practices
identification datasheets
–

WASTE COLLEC-TION

The Collectie, improving textile waste collection

Cooperation to improve textile collection

#reuse #cooperation #coordination #collection

Topic: Waste Collection | **Subtopic:** Public procurement process

Objective: Promote the uptake of reusable products and support re-use activities.

Region: Belgium | **Year:** 2014

Promoting entity: De Kringwinkel Antwerpen Wereld Missie Hulp

Partners: Kindervriend and Mensenzorg Oxfam

https://www.wereldmissiehulp.be/nieuwe-collectiepunten-antwerpen/

Description:

In 2014, the City of Antwerp decided it needed to better coordinate its collection of textiles. The city subsequently developed guiding principles for textiles collection which suggested that collected textiles should be re-used/resold within the local market as much as possible via various channels and different partners, and that the collection and processing of textiles should contribute to social employment and training opportunities. These principles were then included in a public tender for the collection of used textiles issued in 2016: the number of containers in the streets should be reduced as far as possible; the collection of textiles should rather take place via door-to-door and/or textile containers; collected textiles should be reused/resold via local markets, etc. Before this, there were several collectors active in the city working separately. The de Collectie partnership was not a requirement in the tender; the 5 partners made the decision themselves to cooperate instead of competing. De Collectie brings together five non-profit organizations, that have been active in the collection and processing of textiles for many years and share clear social, transparency, and environmental principles. These organizations are: *De Kringwinkel Antwerpen, Oxfam, Wereld Missie Hulp, Kindervriend and Mensenzorg.*

Improvement / Contribution:

- The initiative has resulted in increased collection. The partners in de Collectie collected 925 tons in 2017 compared to 823 tons in 2016; a 12% increase.
- Collection via containers has reduced as containers are gradually removed from the street. Collection at meeting points (libraries, shopping centers, post-kiosks, etc.) has filled the gap.
- According to the Collectie, the average quality that it receives has increased as containers are phased out. This is a result of reduced contamination of textiles by other waste that is thrown into containers.

Challenges encountered:

1. The partnership has not yet been developed far enough with consolidating a common vision or policy.
2. Expansion of logistics has proved difficult for some of the partners of de Collectie.

Source:

http://www.ecap.eu.com/wp-content/uploads/2018/07/ECAP-Textile-collection-in-European-cities_full-report_with-summary.pdf

WRAP Guidance on textile collection

Textiles Collections Procurement Guide

#guide #collection #textilewaste #reuse

Topic: Waste Collection | **Subtopic:** Public procurement process

Objective: Help local authorities and textile collectors in the management of textile collections for reuse or recycling.

Region: UK | **Year:** 2016

Promoting entity: WRAP (climate action NGO) Sustainable Clothing Action Plan (SCAP)

Public / Private: NGO

https://wrap.org.uk/taking-action/textiles

Description:
This Guide is for anyone who needs to organize and manage textiles collections. It is not intended to be prescriptive, but it is a guide on the issues to consider and the options available individually, or as a partnership, regarding the procurement of textiles collections for reuse or recycling. It helps local authorities and textile collectors to operate effective and resilient collection arrangements that strike a balance between service costs and quality.

Link to the Guide:
https://wrap.org.uk/sites/default/files/2021-05/WRAP-textiles-collections-procurement-guide-2016.pdf

Improvement / Contribution:
- Textile bring banks and kerbside collections are well-established routes for local authorities and recycling firms looking to source used textiles. However, changes in market conditions can lead to a reduction in the prices paid for second-hand clothing - especially for exported materials - resulting in challenges to the viability or quality of services.
- This guidance has been developed by WRAP as part of its work for the Sustainable Clothing Action Plan (SCAP). The SCAP Re-use and Recycling Working Group helped with the development of this guidance.
- SCAP aims to improve the sustainability of clothing across its life cycle. By bringing together industry, government, and the third sector, SCAP aims to reduce resource use and secure recognition for corporate performance by developing sector-wide targets.

Source:
https://wrap.org.uk/taking-action/textiles

Fundació Deixalles, new tendering social Enterprise

Tendering for collection services

#collection #social enterprise #clothing #collecting

Topic: Waste Collection | **Subtopic:** Public procurement process

Objective: Promote collection, reuse and the social insertion of disadvantaged groups and/or at risk of exclusion

Region: Spain (Balears) | **Year:** 2022

Promoting entity: Fundació Deixalles

Partners: Calvià 2000, Càritas

https://www.deixalles.org/

Description:

The municipal public company Calvià 2000 published in 2022 a new licitation agreement where for the first time, the municipality contract the services of the waste management companies. In this case, Fundació Dexialles won the procurement, with an agreement bteween them and Caritas, for the provision of the service for the collection and treatment of used clothing and footwear deposited in containers located on the public road or municipal public ownership spaces. With this type of contract, the organization no longer pays to occupy the public highway with containers, but the municipalities pay the organization to carry out the collection service. Càritas Mallorca and Fundació Deixalles manage the textile deposited in 26 containers (13 each organization) distributed in all the centers of Calvià municipality. By selling the parts that can be recovered for reuse, recycling is promoted, using part of these fabrics to produce new textiles, and social inclusion is also fostered, through the creation of social and sustainable employment.

Improvement / Contribution:

- In 2018, 66,486 kg of used clothes were collected in Calvià, which amounts to some 137,000 pieces of recovered clothing.

Source:

https://www.deixalles.org/es/el-mundo-de-deixalles/calvia-2000-caritas-i-deixalles-promocionen-leconomia-circular-i-social-amb-el-conveni-de-recollida-de-roba-usada-al-municipi/

Vilablareix door-to-door experience

Door-to-door system to increase selective collection through citizen participation

#participation #door to door #collection #data

Topic: Waste Collection | **Subtopic:** Collection Models

Objective: Implementing a new door-to-door system to increase the levels of selective collection and remove containers from the streets to gain public space

Region: Spain | **Year:** 2016

Promoting entity: Vilablareix

http://www.vilablareixportaaporta.cat/

Description:
Since 2013, the values of selective collection have been increasing and the quality of the waste collected has been notably improving in the municipality of Vilablareix. The implementation of the door-to-door waste collection model in October 2013 and the new waste rate based on the 2018 participation fee, have been the main culprits for these good results. In 2022, the average recycling rate of Vilablareix is 91.11%. In 2016, the City Council added textile collection to its door-to-door selective collection system. The municipality's collection system has varied over time due to various issues related to bag theft. For this reason, citizens can currently deposit their clothes on a designated day of the month and must notify beforehand through the town hall app. Citizen can also use the municipality collecting green point, and some disseminated bins.

Improvement / Contribution:
- Introducing door-to-door textile collection increased the participation of other collection systems (Clean Point and bring banks).
- In 2016, 3,819 kg of textiles were collected door-to-door. In 2020 the number decreased (689 kg) because most of the textile collection took place at the Clean Point (2,777 kg).
- Door-to-door collection has decreased from 2015 to 2020, while green point collection has increased.

Difficulties encountered:
1. Data Monitoring
2. Robberies

Source:
http://www.residusmunicipals.cat/uploads/editor/n_198(JTL)/2021_06_03_Webinar_textil_ARC_VILABLAREIX.pdf

BEST bag textile collection

Books, Toys, Textile, and small electronics

#collection #social enterprise #clothing #collecting

Topic: Waste Collection | **Subtopic:** Collection models

Objective: Incentivize citizens to donate/separate their used clothing and other goods for reuse/recycling

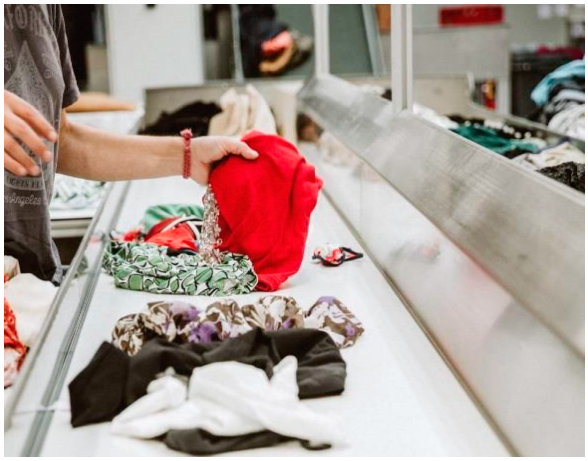
Region: Netherlands | **Year:** 2016

Promoting entity: Circulus Berkel & R4d

https://www.circulus.nl/home/ https://rd4.nl/

Description:

Two municipal-owned waste and service companies Rd4 and Circulus Berkel working in two different regions of the Netherlands work with a collection system for textiles, books, small electronics, and toys called BEST bag. The goods are sorted by socially disadvantaged groups for reuse and recycling at municipal supported Kringloop Reuse Centres. The BEST bag collects several fractions in a single bag to reduce collection costs per fraction. Householders receive the BEST bags from the waste company and are asked to place their unwanted textiles, etc. in the bag and place it out on the curbside on the day of collection.



The collected bags are scanned by their QR tag in local collection centres to identify which households have delivered them. Following scanning, the bags are transported for sorting to 3 sorting centres run by the Kringloop organizations. Some of the items are sent for resale in Kringloop shops.

Improvement / Contribution:

- Introducing door-to-door textile collection increased the participation of other collection systems (Clean Point and bring banks).
- In 2016, 3,819 kg of textiles were collected door-to-door. In 2020 the number decreased (689 kg) because most of the textile collection took place at the Clean Point (2,777 kg).
- Door-to-door collection has decreased from 2015 to 2020, while green point collection has increased.

Challenges encountered:

1. Robberies of the filled bags
2. Losses of the BEST bags by households
3. Finding suitable markets for the non-reusable textiles

Source:

http://www.ecap.eu.com/wp-content/uploads/2018/07/ECAP-Textile-collection-in-European-cities_full-report_with-summary.pdf

HUMANITA Textile recycling

An innovative approach to textile collection in Eastern European countries

#collection #strategic places #awareness #containers

Topic: Waste Collection | **Subtopic:** Collection Models

Objective: The system for textile collection by using containers on the streets failed in Eastern European countries. A different model for Bulgaria has been already running successfully for 2 years.

Region: Bulgaria | **Year:** 2016

Promoting entity: Bulgarian Association of Municipal Environmental Experts - NGO

Description:

The first important difference is that the collecting containers are placed not on the streets, but only in premium urban locations in cooperation with big supermarkets, shopping malls, schools, hospitals, residential and business complexes, and others. Second, the selected areas are also protected either by video cameras or fences, live guards, big traffic, and others. Furthermore, a very appealing design for the collecting containers is developed and produced locally. A campaign is also implemented for increasing the awareness, and popularization of the environmental, social, and economic benefits of the separate textile collecting and the circular economy in the media as well as by participating in public and school events including also fun elements like mascot animators for making the idea more sympathetic. The last but not least component, that is important for success, is the donation. For every collected kg, funds are donated to the Bulgarian Red Cross and build a crisis reserve of clothes. This is a huge additional motivational factor for the people to participate and provide their textiles to the containers.

Improvement / Contribution:

- The amount of the collected textiles is larger than in other EU countries.
- The donation culture and culture for separate collecting of textile are high
- The stealing events from the containers and the damages are reduced to incidental cases
- The sustainability and efficiency of the textile collecting depend not only on the quality of the collected textile mix as well on the possibilities for realization of the collected textile for reuse or recycling.

Difficulties encountered:

1. The resources for expansion with 1000 containers are limited.
2. The realization opportunities of the collected textile not suitable for reuse are small in Bulgaria.
3. Unlike in other EU countries, there is no product tax fund in Bulgaria for supporting financially the separate textile collection.

Source:

https://www.interregeurope.eu/good-practices/humanita-textile-recycling

TEXAID Take back scheme

Online and offline take-back systems

#take-back #upcycling #online #recycle

Topic: Waste Collection | **Subtopic:** Collection models

Objective: Provide smart collection tools and sustainable solutions for the fashion industry.

Region: Switzerland | **Year:** 2020

Promoting entity: Texaid

https://www.texaid.ch/en/

Description:
TEXAID is an international textile recycling company *founded in 1978 as a charity-private partnership*. Besides the online take-back system, the company also offers to operate in-store take-back collection for used textiles and shoes at fashion retailers or brands point of sale. Their end-of-use services cover online and offline "take-back systems", sorting of pre-and post-consumer textile, online and offline resale channels, and scaled, high value recycling.

Where necessary, TEXAID provides administrative services for the proper registration of collections.

Improvement / Contribution:
- Save used garments and shoes from landfills and incineration.
- With its multi-channel take-back system approach, the collection can be integrated online as well as offline.
- For items not fitting to be put on the second-hand market, TEXAID provides different recycling solutions. From scaled downcycling processes to innovative textile to textile recycling projects.

Source:
https://retailsolutions.texaid.com/

Pop Up Recycle Stations

Recycling stations to increase the levels of collection

#pop-up #new spaces #service #citizens

Topic: Waste Collection | **Subtopic:** Collection models

Objective: To facilitate access for citizens to recycle stations and improve the rates of collection

Region: Antwerp (Belgium) | **Year:** 2017

Promoting entity: The city logistics deparment

Description:

The pop up recycle stations in the city of Antwerp were implemented in 2017, in cooperation with local clean-up actions, and 24 pop up recycle stations are organized per year.

The objective was to increase the accessibility for citizens to the recycle stations (since the city counts with 9 recycle stations) and therefore, improve the levels of collection. The fees the city logistics department charge in the recycle stations are only for bulky waste and rubble, there is no charge for the rest of the fractions. These pop ups have a maximum of 2m³ of waste and some fractions are not allowed (such as rubble, asbestos...), and only citizens on foot or by bike can access the stations.

With these pop ups they put a focus on the local neighbourhood and link it to an existing local project for local neighbourhood clean-ups.

Improvement / Contribution:

- The initiative is being a success: in 2019, 66 pop ups were organized, it had over 16.000 visitors and around 500.000 kilograms of waste were collected.

Source:

https://www.interregeurope.eu/good-practices/waste-management-pop-up-recycle-stations

SNAGA Logistics in waste collection

Route optimization for waste collection

#recycle #IoT #iBin #waste

Topic: Waste Collection | **Subtopic:** Logistics

Objective: Optimise the waste collection rounds in urban areas through a route optimization system

Region: Maribor (Slovenia) | **Year:** 2018

Promoting entity: Snaga

https://www.vokasnaga.si/en/separating%20waste

Description:

SNAGA is the waste management company of the city of Maribor, Slovenia. New regulations on waste separation for households have caused important changes in waste collection patterns and route planning which generated additional pickup routes with a different geographic pattern than for other types of waste collection rounds. In order to address this challenge and optimize waste collection routes in Maribor, an innovative route optimisation solution was applied and has led to savings of 20% in time spent and distance covered by the fleet. The route optimisation makes use of an operational research algorithm and it is based on high quality data, GIS use and detailed knowledge of day-to-day operations. The solution resulted in more optimal vehicle routes and savings that are beneficial for the public sector. The goal of optimizing the collection of waste is to reduce logistics costs and environmental impacts through efficient use of vehicles in eight hours of work and supply of different collection areas. The best results are achieved using an optimization tool that uses mathematical algorithms. If the collection and disposal of waste is carried out optimally, the costs are lower and the company that carries out this activity operates more economically.

The new routes have enabled the company to increase the efficiency of the pickup process. The improvement in the efficiency of waste collection resulted in lower costs for the company as well as less pollution and traffic in urban areas.

Improvement / Contribution:

- The optimisation of existing waste collection routes generated several benefits including time and cost savings.
- The improvement in efficiency of waste collection is estimated at 20% in time savings, and 10-15% in distance travelled.
- Better efficiency was achieved through a reduced number of operations, reduced mileage and fuel consumption, which in turn leads to benefits in traffic, noise and other externalities.

Source: https://www.interregeurope.eu/good-practices/route-optimization-for-waste-collection

The Smart Waste data management

Smart waste: technology for waste management

#digitalization #data management #IoT #routes

Topic: Waste Collection | **Subtopic:** Digitalization

Objective: Smart containers already existed, but the objective of SmartWaste is to optimize efficiency in the global process of waste management

Region: Spain | **Year:** 2020

Promoting entity: Minsait (Indra) / Ecoembes | Consorcio de Aguas y Residuos de la Rioja

Partners: Kindervriend and Mensenzorg Oxfam

https://www.thecircularlab.com/smart-waste/

Description:

The Smart Waste project developed by the circular economy laboratory The CircularLab and Minsait seeks to create an intelligent platform based on the Internet of Things (IoT) and with Big Data and Cloud capabilities. Smart waste is an intelligent waste management system that helps municipalities to provide a more transparent, efficient, and traceable selective collection service. It integrates a large volume of complex data from different sources of information (sensors in containers, RFID tags, GPS in collection trucks, etc.) to improve the municipal waste collection service that city councils provide to citizens. Municipalities can also obtain data and know if citizens deposit their waste in the corresponding container, as well as the origin of the waste. This project has materialized with two pilot projects that were launched in 2020 together with the Government of La Rioja and the Principality of Asturias.

Improvement / Contribution:

- Smart Waste allows municipalities to organize collection routes according to areas so that collection is more efficient and sustainable.
- In the Autonomous Community of La Rioja, trucks are being geolocated with sensors and routes are being optimized using algorithms.
- These data will help public administrations to define the best strategies for waste management, focusing on issues such as the place where the containers must be located, as well as the most efficient routes to be followed by collection trucks.

Source:

https://www.thecircularlab.com/el-reciclaje-inteligente-sigue-avanzando-en-la-rioja-gracias-al-proyecto-smartwaste/

Smart iBins

iBins that allow the public to recycle waste anytime, anywhere

#recycle #IoT #iBin #waste

Topic: Waste Collection | **Subtopic:** Digitalization

Objective: Avoid overflowing and improve waste collection through technology

Region: Malta | **Year:** 2018

Promoting entity: GreenPak

Description:

In 2018, a network of 800 smart iBiNs equipped with smart technology that enables citizens to recycle 24/7 and spells an end to overflowing bring-in sites was installed in Malta. Using next-generation Internet of Things (IoT) technology introduced for the first time to the island by Vodafone Malta, the iBiNs can monitor waste levels and feed information back to a central system which enables GreenPak's recycling service to prioritise and customise collection routes. GreenPak has also developed a web app for the public, who is informed of the bins closest to them and whether the iBiN has free space to take their recyclables.

Improvement / Contribution:

- By providing the community with a reliable 24/7 service, households no longer need to wait until the designated day to take out their rubbish.
- The iBins are generating 36% more recyclable waste.
- There's been a notable increase of 51% in the collection of recyclable materials through recycling points.
- The number of trips undertaken by GreenPak's vehicles has reduced by a 20%.
- Over and above cost savings, this solution also has a positive impact on the environment, saving approximately 20,000 litres of fuel, which is equivalent to reducing carbon dioxide (CO2) emissions by 4,000 tonnes.
- Optimizing routes.

Source:

https://www.greenpak.com.mt/about-ibins

EKOCHARITA smart textile containers

Monitoring textile bins with smart sensors

#smart #containers #sensors #textile

Topic: Waste Collection | **Subtopic:** Digitalization

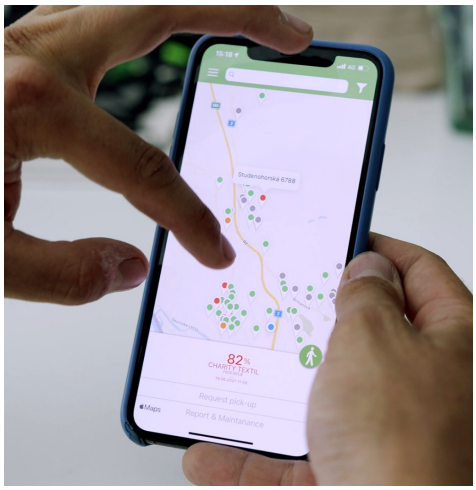
Objective: The speed by which the containers become full is unpredictable, which makes collecting difficult for operations and logistics. Real-time online monitoring via sensors could help streamline the process while reducing costs

Region: Slovakia | **Year:** 2021

Promoting entity: Sensoneo

https://sensoneo.com/

Description:
Ekocharita operates within an area of 16.000 km^2 and manages 1.300 containers for clothes, shoes, toys, and home textiles. The containers are usually distributed in busy urban areas. The availability of textile waste containers nearby encourages citizens to sort their clothes properly. As of January 2021, Ekocharita began installing Sensoneo smart sensors to monitor the fill levels of their containers in real-time. The private company has 600 hundred textile bins with smart sensors to monitor the fill levels of their containers in real-time, which are situated in busy urban areas. Remote bin monitoring provides valuable data on bin fullness. The sensors use ultrasonic technology to monitor fill levels in containers 24 times a day. Along with this data, they also monitor temperature and provide fire and tilt alarms.



Improvement / Contribution:
- Before digitalizing the containers, they lost around 15 tonnes of material each month because they couldn't monitor when the containers were full.
- Currently, 3,000 tonnes of textile waste are collected annually. This digitalization allows them to collect more material in less time.
- Decreasing the time required for the collection of 1 tonne of textile waste by 30%.
- Reducing the waste collection cost by 20%.

Source:
https://sensoneo.com/reference/textile-waste-monitoring-bins-sensor/

LIPOR Datacentre

A digital platform for waste management

#data #waste #participation #recycle

Topic: Waste Collection | **Subtopic:** Digitalization

Objective: Monitor waste flows, citizens' participation, and contribute to landfill diversion

Region: Portugal

Promoting entity: Lipor

https://www.lipor.pt/pt/sobre-nos/a-lipor/

Description:
LIPOR is the intermunicipal waste management service of Porto (Portugal) and it treats and recovers the municipal waste produced in eight municipalities of the area. LIPOR's Strategic Plan focuses on the recovery of materials by selective collection, the reduction of biodegradable urban waste landfill disposal and the preparation of materials for reuse and recycling. In order to achieve these objectives, they created a digital platform: the Waste management Datacentre, which optimizes the monitoring of waste flows and the recovery of materials. The platform is used to monitor waste selective collection projects, giving accurate data on the levels of participation and the quantities delivered per customer instead of only showing the results globally by zone. The project has been developed in partnership with the municipalities that are part of the organization and the Portuguese University TecMinho.

Improvement / Contribution:
- In less than a year, it was possible to reduce the production of mixed waste by 5.5%.
- LIPOR treats 500.000 tons of waste from 1 million inhabitants from the partner municipalities in the Greater Porto area, amounting to 1,38 kg a day per inhabitant.
- The high reduction of 1,068 hours per month of manually written information, contributing to a monthly saving of approximately € 6,000.
- The installation of an Automatic Weighing system at the LIPOR's facilities contributes to the reduction of the average weighing time by 75% and reduces mistakes by 80%.

Source:
https://circulareconomy.europa.eu/platform/en/measuring-circular-economy/waste-management-datacenter-lipor-monitors-waste-flows-citizens-participation-and-contributes

Pay as you throw (PAYT)

Charging citizens based on their waste generation

#waste #fee #collection #household

Topic: Waste Collection | **Subtopic:** Environmental taxation

Objective: Boost household recycling rates and encourage waste prevention

Region: Italy (Treviso) | **Year:** 2014

Promoting entity: Municipality / Contarina

https://contarina.it/en | https://greenbestpractice.jrc.ec.europa.eu/node/158

Description:
The aim of pay-as-you-throw (PAYT) is to enact the polluter pays principle in a fair way by charging users of the waste management system according to the amount of waste they generate. The city of Treviso fully introduced the PAYT system in its territory in 2014 and since then, waste fees of the 85,000 residents are calculated at 60 % based on the number of people living in the same household and 40 % varies according to the amount of mixed waste collected. Contarina, the waste management company, delivered to households bins of different sizes (i.e. 120L or smaller) and developed the waste collection system (i.e. calendar of collection and type of collection).

Each bin is identified during waste collection thanks to an electronic device that allows charging the household based on the amount of mixed waste produced. Moreover, in Treviso discounts are applied to the waste fee if home composting is implemented, while an increase in the tariff is applied if the household also delivers green cuttings to the waste management system. A well-developed and targeted communication campaign was also developed.

Link to the study case:
https://zerowastecities.eu/wp-content/uploads/2019/07/zero_waste_europe_cs4_contarina_en.pdf

Improvement / Contribution:
- The introduction of the PAYT system, from a system with flat-rate waste fees, increased the separate collection rate in Treviso by about 25%, from 55% to 80% (between September 2013 and December 2014).
- Over the same period, the production of mixed waste decreased from 20 kg/resident/month to 6 kg/resident/month.
- It has reached levels of source separation of up to 85% and generates only 53kg of residual waste per inhabitant and year. In contrast, the EU average level is a 42% source separation and a 285 kg per inhabitant and year of residual waste generation.

Source:
https://greenbestpractice.jrc.ec.europa.eu/node/158

RE:FASHION

Extended Producer Responsibility Organization

#epr #producers #management #financing

Topic: Waste Collection | **Subtopic:** EPR System

Objective: Refashion/Eco TLC is the Textile, Household linen and Footwear Industry's eco-organisation. It manages the prevention of waste and management of the end-of-service life of products on behalf of the 5000 companies placing goods onto the market

Region: France | **Year:** 2008

Promoting entity: Re:Fashion

https://refashion.fr/en

Description:
The eco-organisation is a private, non-profit making company. Its role is to ensure the prevention and end-of-life management of textile and footwear items for companies placing these products on the market. With a central role in the industry's eco-system, Refashion is accompanying the transformation towards the circular economy whilst providing services to the various stakeholders: marketers, sorting and collection operators, local and public authorities, project developers, the general public.

They have a webplatform with acces to diferent pages specifically for each of the participants of the waste management. For producers to encourage Ecodesign practices, but also to report the amount of clothes introduced to the market. Thay also have a space for the operators that manage the waste, and another space for citizens, to rise awareness.

Improvement / Contribution:
- Refashion is the producer association that have to finance the waste management of clothes and textiles around France. They contribute to increase the collection rate, and increase the recycling process.
- Their challenge is to increase the circular economy inside France.

Source:
https://refashion.fr/pro/fr/documentation

Good practices
identification datasheets
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SORTING

RESHARE sorting plant

Classification plant for textile waste recovery

#classification #reusing #sorting #job creation

Topic: Sorting | **Subtopic:** Sorting for reuse

Objective: To have better information on the final use of the textiles, high-quality re-use of textiles and generate local employment opportunities

Region: Deventer | **Year:** 2018

Promoting entity: Reshare - Salvation Army

https://www.reshare.nl/

Description:

A new textile sorting centre in the Deventer area was set up with the aim of creating transparency in the chain and providing employment for people who are at a disadvantage in the labour market. The textile sorting centre also had to fit within the existing policies and financial frameworks of the eight municipalities involved. The Dutch municipalities of Apeldoorn, Bronckhorst, Brummen, Deventer, Doesburg, Epe, Lochem and Zutphen came to an agreement with the Salvation Army (a non-profit organisation that works around the world to collect and distribute second-hand clothing) and employment agency Deventer Werktalent to set up a sorting centre for textile processing in Deventer. Waste management company Circulus-Berkel oversees the project. The aim of the initiative is to have better control of the textile processing chain and create more employment opportunities in the region at the same time.

Residents of the region that launched the project hand-in about 2.1 million kilos of textiles per year via textile containers. However, the majority of collected textiles in the region as well as other cities and towns in the Netherlands are then traded over the world. The Dutch municipalities and Circulus-Berkel now want the textile to become trace-able, in order to follow its reuse, in the pursuit of a circular economy.

Improvement / Contribution:

- The centre provides approximately 25 workplaces and process non-wearable and wearable textiles, generating benefits for the environment and the people of the region.
- The municipalities in the working area of Circulus-Berkel have one of the highest separation percentages of the Netherlands. On average almost 69% of residual waste is delivered separately by the municipalities; nationwide it's 55%.

Source:

https://www.acrplus.org/en/news/news-from-our-members/1458-cleantech2-region-municipalities-choose-a-new-strategy-for-the-processing-of-textile

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https://www.rebelgroup.com/en/projects/tender-for-textile-sorting-center-deventer/

Textile 2 textile sorting plant

Classification plant for textile waste recovery

#classification #recycling #sorting #job creation

Topic: Sorting | **Subtopic:** Sorting for recycling

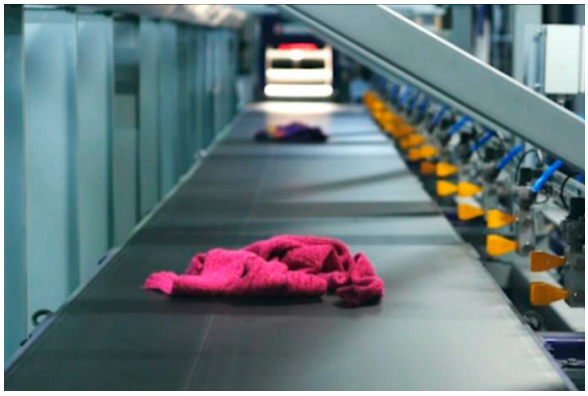
Objective: Wieland Textiles has three core activities: **1.** Purchase of collected textile. **2.** Sorting of collected textile in two main streams - reusable clothing and textile materials 3. Marketing and sale of sorted textile.

Region: Wormerveer | **Year:** 2021

Promoting entity: Wieland Textiles

https://www.wieland.nl/en/innovation-fibersort/

Description:
Textiles2Textiles / Wieland Textiles is an organization based in Wormerveer, the Netherlands. They focus on textile recycling process. They use technological innovations in order to literally reuse every garment and fiber. Their main product is PCC (Post Consumer Clippings). With the Fibersort machine they sort through diferent kind of fibers and colors. They use the the concept of Fiber Farm, to refer to thier innovative textile recycling center.



Improvement / Contribution:
- The classification of fibres based on the technology they have developed makes possible to increase both, the volumes, and the quality of the final result of recycled fibres, since it groups them by composition and colour.
- They are also developing an automatic disassembling machine.

Source:
https://www.nweurope.eu/projects/project-search/bringing-the-fibersort-technology-to-the-market/#tab-1

Good practices
identification datasheets
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CITIZEN AWARE-NESS

The Edinburgh Remakery

Repair and reuse social enterprise

#repair #empower #community #reuse

Topic: Citizen Awareness | **Subtopic:** Repair & reuse spaces

Objective: Eliminate waste and promote sustainable use of materials while educating the community

Region: Edinburgh | **Year:** 2018

Promoting entity: Edinburgh Remakery

https://www.edinburghremakery.org.uk/about-us/

Description:

The Edinburgh Remakery is an award-winning environmental social enterprise committed to diverting waste from landfill, building a stronger community, and promoting a culture of repair and reuse. They repair, refurbish, and recycle what others send to landfill, and pass these repair skills onto others within the Edinburgh community through education. The social enterprise teaches people how to repair and reuse their belongings rather than throwing them away and buying new, thus diverting useable goods from landfills and reducing carbon emissions. By empowering communities to repair and reuse, they also help to improve financial literacy and capabilities, and help people living in adverse circumstances to access free and affordable IT equipment.

Improvement / Contribution:

- They are small but have a wide impact; in 2020, 123 tonnes were diverted from landfill.
- 80 tonnes in Co2 emissions were saved.
- Over 500 people were taught valuable repair and reuse skills, and 278 free laptops, tablets and smart phones were donated to people in need living in digital poverty and social isolation.
- They provide local businesses with a free and easy way to dispose of their old electronics. In 2020, 8.9 tonnes of IT from 37 businesses were collected.

Source:

https://www.interregeurope.eu/good-practices/the-edinburgh-remakery

Smart Re-Use Park - NOAMOL.AT

Digital platform for product life extension

#virtual #repair #reuse #alternatives

Topic: Citizen Awareness | **Subtopic:** Repair & reuse-workshops

Objective: Digital platform to promote reuse activities to extend the useful life of a product

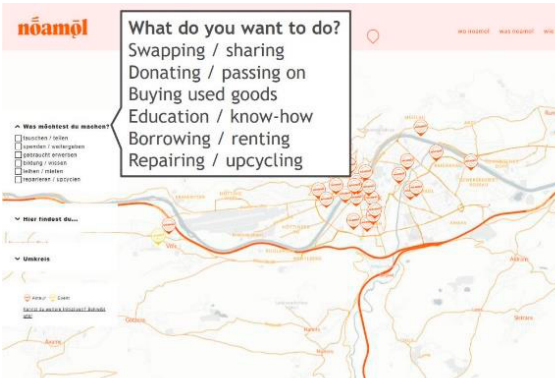
Region: Austria (Tyrol)

Promoting entity: Tyrol waste management centre (ATM), IKB and the city of Innsbruck

https://www.noamol.at/

Description:

A Smart Re-Use Park is a physical and/or virtual space, where different actors (private and social entities) carry out activities in the field of product life extension (collection of re-useable items, preparation for re-use, sales of used goods, repair, rental, upcycling etc.). The initiative is a public-private partnership, and the concept was implemented in Tyrol as the online platform www.noamol.at. It was created from a cooperation between the Tyrol waste management centre (ATM), IKB and the city of Innsbruck and is supported by EU funds. The platform shows the citizens environmentally friendly and resource-saving alternatives for throwing away used items. Conversely, there is also information about how to get used goods through renting, lending, or swapping.



Improvement / Contribution:

- The platform operators (ATM GmbH, IKB) are a service organization for the respective communities and their citizens. By making all actors in re-use, visible on this information platform, awareness of a sustainable lifestyle is increased, which subsequently also benefits the added value of the actors.
- Visibility for topic of re-use and re-use actors

Source:

https://www.interreg-central.eu/Content.Node/Austria1.html
–
https://www.interreg-central.eu/Content.Node/SURFACE/CE970-SURFACE-final-conference-day1-SRP-ATM.pdf

Repair Café “Stajnia”

A reuse space to raise environmental education

#reuse #space #repair #alternatives

Topic: Citizen Awareness | **Subtopic:** Repair & reuse-workshops

Objective: To raise environmental awareness through education

Region: Toruń (Poland) | **Year:** 2019

Promoting entity: Tilia Association

http://www.tilia.org.pl/

Description:

The Repair Café “Stajnia”, the first reuse point in Kujawsko-Pomorskie Region (Poland) has been operating since November 2019. “Stajnia” is run by the Tilia Association, a non-governmental organization that has been involved in multi-task environmental and social activities. The main goal of the association is to raise ecological awareness through ecological education.

Twice a week, residents of the region can visit the Reuse Point to repair damaged items with the help of specialists and leave their unnecessary things which will be repaired if necessary and sold. Profit from the sale of items goes to maintaining the Reuse Point.

One of the activities carried out in the Reuse Point are thematic workshops, during which the participants learn how to fix various items including pieces of furniture and clothing or remake them into different articles of everyday usage. The workshops are addressed to children, adults as well as seniors.

Improvement / Contribution:

- Thanks to such activities carried out by Reuse Point, the unwanted items gain a second life. When implementing this task, we have a common goal - we want to contribute to build a better world by reducing the use of natural resources, reducing waste and supporting pro-social initiatives.
- It is worth mentioning that the crucial success factor of the project is the fact that the Repair Café “Stajnia”- Reuse Point is often visited by residents which in turn proves a real impact on raising public awareness and disseminating the idea of reuse in the region.

Source:

https://www.interreg-central.eu/Content.Node/Poland2.html

DidalTruck, textile mobile service

Free repairing services around municipalities

#service #repair #awareness #upcycling

Topic: Citizen Awareness | **Subtopic:** Repair & reuse-workshops

Objective: Give a free service to promote the prevention of textile waste through sewing, arranging and upcycling

Region: Catalunya (Spain) | **Year:** 2020

Promoting entity: Solidança Treball

https://solidanca.cat/

Description:

Solidança, a non-profit organisation, promoted the Didal Truck, a mobile unit that offers a free self-repair service to promote the prevention of textile waste through upcycling and raising public awareness. The project teaches citizens how to extend the useful life of their clothes through repairs, transformation techniques and sewing. The service is provided with materials and the advice of a specialist person, and it is carried out in different municipalities in the province of Barcelona. You can access the calendar on the website to find out which days the service is available and in which places and pre-register to attend.

Improvement / Contribution:

- The fact that it is carried out in the street gives the necessary visibility to this type of initiative, and it becomes a much more accessible type of service.
- It helps reduce textile waste generation and teaches citizens the skills to reuse their own clothes.

Source:

https://solidanca.cat/didaltruck/

“Erre que erre”, environmental education

An environmental awareness and education school project

#education #awareness #school #circular economy

Topic: Citizen Awareness | **Subtopic:** Environmental education

Objective: To provide a new pedagogical tool to improve environmental knowledge and awareness by generating individual and teamwork habits

Region: Aragón (Spain) | **Year:** 2019

Promoting entity: Gobierno de Aragón (Regional government)

https://www.aragon.es/-/proyecto-erre-que-erre

Description:

The "Erre que erre" project is an information and environmental education tool promoted by the General Directorate of Innovation and Vocational Training and the General Directorate of Climate Change and Environmental Education of the Government of Aragon. The tool is adapted to the curricular subjects for Aragonese students in 3rd and 4th grade. The project materializes a lot of resources, related to the "the three Rs" hierarchy of waste, to facilitate the learning about how we can: *Reduce* the amount of waste we generate, secondly, how it can be *Reused* or extend its life, and finally, how to improve and carry out a correct *recycling* of household waste. The innovation is based on the fact that the materials cover different subjects of the curriculum (mathematics, natural sciences, social sciences, artistic education, physical education, etc.) and contain explanations for teachers and individual files for students that can be worked on in different subjects, as well as final project work proposals.

Materials have also been prepared and are made available to be used by center workers (administration, teachers, canteen workers, etc.). Transversality is the main point of this prject. With these materials, pedagogical resources are provided to educational centers that can use to improve information and environmental awareness, through individual and team work habits, allowing students to acquire prevention skills that allow them to function independently in the classroom, family and home environment.

Improvement / Contribution:

- More than 10 Aragon schools tested the materials before the kick-off. A survey was answered by nine schools, and the results showed a high degree of satisfaction.
- More schools joined the project during the 2020/2021 course.
- These kinds of materials could be used at any school in Spain and abroad by adapting the individual sheets to the 9- and 10-year-old student content of the regional/country curriculum. For the future, it is foreseen to give a recognition (diploma) to the schools joining the project.

Source:

https://www.interregeurope.eu/good-practices/erre-que-erre-an-environmental-awareness-and-educational-school-project

Race Against Waste

Education through races collecting textile waste with schoolars

#education #schools #games #collection

Topic: Citizen Awareness | **Subtopic:** Environmental education

Objective: Through the Textile Races they want to raise awareness about consuming, reusing, repairing and recycling among the young generations

Region: Netherlands | **Year:** 2020

Promoting entity: Race Against Waste

https://raceagainstwaste.org/en

Description:

Race Against Waste is a social enterprise that was created with the aim to accelerate the transition to a circular economy by involving as many people as possible in their circular projects. In their projects they work together with schools, citizens, partners, and municipalities. One of the projects they have launched is the Textile Race, an educational project for primary schools that makes collecting old and damaged textiles fun and easy, combining education with action. They teach children about the impact of textiles on the environment and how to be responsible and sustainable. After that, they conduct the action, and the children collect and repair old or damaged textiles. In each race, 10 primary schools per municipality compete to collect and repair as much textile as possible.

They work together with local textile collectors, who help them collect textiles and sort them for reuse and recycling. More than half of the collected textiles are selected for reuse and put back on the market. The ones that cannot be reused, are recycled.

Improvement / Contribution:

- 100,000 kg of textiles were collected in one year, which saved 432 tons of CO2 emissions.
- In addition, more than 1,500 items of clothing were repaired.
- In one year, they organized 9 races with 94 teams from different primary schools.

Know as you throw (KAYT)

Innovative system to provide information and awareness

#communication #awareness #performance #knowing

Topic: Citizen Awareness | **Subtopic:** Environmental education

Objective: The Bergamo municipality wanted to improve the awareness of its residents before introducing economic instruments to nudge behaviour

Region: Italy | **Year:** 2021

Promoting entity: Municipality of Bergamo and ARS Ambiente

https://www.arsambiente.it/avvio-del-modello-kayt-a-bergamo/

Description:

Bergamo's residents were used to disposing of their residual waste in transparent standard bags. The new system obligates the citizens of Bergamo to purchase the bags for their residual waste at designated vending machines located in each district. The machines, which users can access with their health insurance card, display information about their performance in terms of waste generation before the roll of bags is dispensed. Each user receives personalised messages based on the behaviour of their neighbours from the same district. To ensure that each user will access information regularly at the vending machines, the bag rolls were designed to contain only 10 bags of 40L each. In this manner, it is estimated that residents will use the vending machine two or three times a year.

Improvement / Contribution:

- After the implementation of the KAYT system, the recycling rate is expected to increase by 5-10%.
- The municipality of Bergamo decided to follow the example of other cities that have implemented KAYT and improved their recycling rates by 2-3 percentage points.
- For instance, after implementing a basic KAYT control system, the Municipality of Cremona saw its separate collection rate increase from 72% to 88% in only three months.

Difficulties/challenges encountered:

1. The kind of machines needed does not exist on the market yet, so they need to be designed and built.
2. The citizens could see the obligation to purchase standard bags (40L) as a barrier. In the case of Bergamo, residents are used to receiving individual rolls of bags for free every November, so the new system will require a change in habits.

Source:

http://residusmunicipals.cat/uploads/activitats/docs/20210304114507.pdf

Tropa Verde, rewarding recycling

Boosting environmental responsibility through gaming and rewarding

#multimedia #awareness #recycle #reward

Topic: Citizen Awareness | **Subtopic:** Environmental education

Objective: A multimedia platform to encourage environmentally responsible behaviour

Region: Santiago de Compostela (Spain) | **Year:** 2015

Promoting entity: City council | Urbaser, Teimas

https://spain.tropaverde.org/

Description:

Tropa Verde is a multimedia platform that aims at promoting recycling and environmental responsibility among the citizens by rewarding good environmental practices; increasing recycling rates; promoting the environmental awareness of the citizenship applying gaming and rewarding techniques. It uses a game-based web platform at where citizens can exchange recycling points for rewards from the City Council and local retailers. The website connects the elements necessary to achieve the objective: the places where citizens can dispose of waste and where they will be rewarded if they do so (green points, civic and social centres, recovery points, etc.), and local businesses that collaborate by providing gifts or discounts, such as retailers, restaurants, outdoor activities and shops. For successful implementation, all players are required.

Tropa Verde is led by Santiago de Compostela, promoted by Urbaser, the municipal solid waste (MSW) management company, developed by local technology company Teimas, and now adopted by more than six cities.

Improvement / Contribution:

- Tropa Verde has been implemented since 2015 with great success: 4065 users in 5 years, with 29 recycling points located throughout the city and issuing vouchers; over; 150 sponsors; 2,302 rewards offered; more than €15,000 in prizes and rewards; over 15,168 vouchers given; and over 1500 rewards delivered.
- There have been several workshops for children: Recycle, Reutilise and Play with Tropa Verde and two school campaigns "Recycling at school is rewarded". The campaign consists of the collection of used cooking oil and electrical and electronic appliances involving 20 different educational centres, with a total of 2,416 students. In the school campaigns, a total of 2,356 litres of used cooking oil and 3,299 electrical and electronic appliances were collected.
- From the beginning of the initiative, the involvement of citizens towards recycling has been highly increased, with a higher volume of visitors at the waste collection points.Tropa Verde's initiative has improved environmental quality and, consequently, the citizens' quality of life, while at the same time promoting the local economy.
- Santiago de Compostela led the Tropa Verde Network over 2.5 years, transferring its practices to 5 other cities: Guimarães (Portugal), Dimos Pavlou Mela (Greece), Urban Community Nice Côte d'Azur (France), Opole Agglomeration (Poland) and Zugló (Hungary).

Source:

https://urbact.eu/good-practices/tropa-verde-rewarding-recycling

HUMANA ITALY: Communication campaign

Rebuilding trust among citizens

#communication #waste collection #transparency #cooperation

Topic: Citizen Awareness | **Subtopic:** Communication campaigns

Objective: To increase textile collection rates through communication and transparency activities

Region: Albano Laziale, Rome (Italy) | **Year:** 2013

Promoting entity: City council | Humana

https://www.humanaitalia.org/

Description:

In 2013, the charity organization Humana Italy won a tender to run the service of textile collection in the municipality of Albano Laziale in the province of Rome because of their willingness to document all their economic transactions and document their use of revenue raised from textile collection and processing. Furthermore, they proposed donating some of the revenue to support local school children. In addition to the collection service, the tender included specific communication activities with schools on textile collection and the social purpose behind it. Communication materials were developed in cooperation between Humana and the municipality with the purpose to build trust in the textile collection among citizens. Humana collects textiles via 42 containers placed strategically near schools, supermarkets and other public places in the city. From the textiles they collect only 4% cannot be reused or recycled.

Improvement / Contribution:

- Collection rates of used textiles have increased from 3.5kg/capita to more than 5.8kg/capita in the four years they have been collecting textiles in the municipality. This is far above the national average of 2.2kg/capita. This has mostly been achieved through raised awareness and transparency about the textile handling and resulting social projects.
- Of the collected textiles 70% can be reused, 26% can be recycled and 4% are disposed of as waste. The average value of textiles collected in containers close to supermarkets in Albano Laziale is up to 50% higher than those collected in Humana's containers in recycling centres.
- Cooperation between municipality and collector has increased the yearly collection rate by 65% in 4 years. This has been achieved by focusing on communication and transparency to establish renewed trust regarding the collection and handling of donated textiles.

Source:

http://www.ecap.eu.com/wp-content/uploads/2018/07/ECAP-Textile-collection-in-European-cities_full-report_with-summary.pdf

Love Your Clothes

Influencing citizens though campaigns to be environmentally responsible

#campaign #clothes #awareness #upcycling

Topic: Citizen Awareness | **Subtopic:** Communication campaigns

Objective: To reduce the environmental impact of clothing across the UK and influence a more circular approach to clothing globally

Region: UK | **Year:** 2014

Promoting entity: The Waste and Resources Action Programme - WRAP (NGO)

https://wrap.org.uk/about-us | https://www.loveyourclothes.org.uk/

Description:

Love Your Clothes was launched in 2014 to help and influence consumers to make small conscious changes to reduce the impact of clothes on the environment. Developed as part of the **Sustainable Clothing Action Plan (SCAP)**, Love Your Clothes works with organizations, businesses, retailers and local authorities through diverse campaigns and initiatives to help improve the sustainability of clothing across its lifecycle by inspiring and influencing citizens to make small conscious changes. The campaign aims to raise awareness of the value of clothes and encourage people to make the most of the clothes they already have by encouraging them to care, reuse, upcycle, donate and recycle their garments.

The Love Your Clothes website provides information and tips to help people think about the way they purchase, use, and dispose of clothes. Advice begins at the purchasing stage and goes through to the disposal stage including options for re-using and recycling items.

Improvement / Contribution:

- SCAP brings together clothing retailers, brands, suppliers, local authorities, recyclers, charities, trade bodies, academics, and public sector bodies, to help reduce carbon, water and waste impacts linked to clothing.
- Local authorities can direct their residents to the website and use it as a source of content for any communications campaigns.

Source:

https://www.loveyourclothes.org.uk/

Good practices
identification datasheets
–

RECO-
VERY

RETUNA, the world's first recycling mall

A marketplace for discarded materials

#recycling #center #repair #education

Topic: Recovery | **Subtopic:** Reselling

Objective: To give old items a new life through repair and upcycling and acting as a public educator in terms of sustainability

Region: Sweden | **Year:** 2015

Promoting entity: Municipality-owned company Eskilstuna Energi och Miljö (EEM)

https://www.retuna.se/english/about-us/

Description:

The mall opened its doors in August 2015 and is located next to the Retuna Återvinningscentral recycling centre. Visitors can sort materials they are discarding into the containers and then drop off reusable toys, furniture, clothes, decorative items, and electronic devices in the mall's depot, called "Returen". In the depot, staff from AMA (Eskilstuna Municipality's resource unit for activity, motivation and work) perform an initial culling of what is usable and what is not. The items are then distributed to the recycling shops in the mall. The shop staff then perform a second culling, where they choose what they want to repair, fix up, convert, refine - and ultimately sell. Everything sold is recycled or reused or has been organically or sustainably produced. But, ReTuna is more than just a marketplace. It also aims to be a public educator. ReTuna organizes events, workshops, lectures, theme days, and more - all with a focus on sustainability. The folk high school Eskilstuna Folkhögskola conducts its one-year education program "Recycle Design - Återbruk" in the premises. There are also conference rooms, where guests can hold climate-smart meetings.

Improvement / Contribution:

- In addition to offering sustainable shopping and serving as a public educator in relation to environmental issues, ReTuna Återbruksgalleria has generated over 50 new jobs.
- In 2018, ReTuna Återbruksgalleria had SEK 11.7 million in sales for recycled products.

Spearheaded by Halle 2

Flagship reuse hub

#second-hand #circularity #textile #recycling

Topic: Recovery | **Subtopic:** Financing

Objective: Reduce waste by increasing the volume of materials collected from the citizens and have second-hand stores to sell these goods once repaired

Region: Munich (Germany) | **Year:** 2016

Promoting entity: Municipality

https://www.awm-muenchen.de/vermeiden/halle-2

Description:

Halle 2 is a municipal-led second hand store combining circular economy principles with the aim of actively supporting sustainable lifestyles by Munich's residents. By selling goods which are collected across the 12 Munich Recycling Centers and then repaired, Halle 2 extends the life of items that would otherwise have become waste. It has become a flagship initiative in the waste prevention strategy implemented by the Waste Management Corporation Munich (AWM). Its business model is based upon receiving donations from the local community whilst also offering a service to collect repairable items from within the city. Only dangerous and hazardous goods are not allowed at the shop.

The AWM, which is owned by the municipality of Munich, has played a key role behind the city's progressive approach to waste reduction.

Improvement / Contribution:

- In 2017, Halle 2 won the Eurocities Cooperation Award and today forms a central part of the City of Munich's sustainability agenda, preventing around 1,000 tonnes of waste each year.
- Halle 2 provides a good example on how to engage with the local community and promote social responsibility through its partnerships with several local non-profit organisations.
- Local companies together with AWM are helping to offer unemployed people capabilities and durable jobs.
- Furthermore, Halle 2 was designed to be a "reuse-lab" to help develop new ways of increasing the number of reused items within the city, together with local businesses and other stakeholders.

Source:

https://zerowastecities.eu/wp-content/uploads/2020/12/zwe_case-study_the-story-of-munich_en.pdf

MODA-RE

Network of second-hand shops

#social #employment #reuse #textile

Topic: Recovery | **Subtopic:** Reselling

Objective: Generate social employment through the treatment of textile waste and the opening of second-hand shops

Region: Spain | **Year:** 2020

Promoting entity: Cáritas (social NGO)

https://modare.org/

Description:

Moda-re is the Caritas social project that manages the collection, reuse, preparation for recycling, donation and sale of textiles. Moda-re has a large network of used clothing collection containers throughout Spain (around 7,000 containers on public roads and other private locations), managed by the project's member partners and Caritas' entities in each territory, where they collect clothes, footwear and accessories, preventing them from ending up in landfill. Through the management of this textile, the project has the opportunity to combat social exclusion, creating quality jobs for people who find it more difficult to access employment opportunities. Every year they collect more than 40 million kilos of second-hand clothing, footwear and accessories, which they treat in their integrated waste management plants. The content is collected and taken to the management plants in each territory, the textiles are sent to the integral treatment plants (Valencia, Barcelona and Bilbao) where the product is classified and selected following strict quality filters. The garments in perfect condition are sent to

Moda-re's chain of second-hand shops and the products that cannot be reused are recycled and given a second life. The organisation also carries out important awareness-raising campaigns aimed at all audiences, with special emphasis on the educational sector.

Improvement / Contribution:

- In the field of collection and treatment of used clothing, its activity represents nearly 1,200 jobs, half of which are reserved for people in situation or at risk of social exclusion who carry out their insertion itineraries with Moda-re.
- Thanks to the donations received, in 2021, Moda-re collected 41 million of used textiles, a figure that represents more than 40% of the total collected in Spain.
- 100% of the textile waste collected is used, achieving the goal of zero landfill - nothing is deposited in landfills. In 2021, 63.33% of the garments sorted at the integral plants located in Barcelona, Bilbao and Valencia were reused.

Alargascencia - Achieving a sustainable society

An initiative to end the obsolescence of things and reduce waste

#website #organizations #circular services #obsolescence

Topic: Recovery | **Subtopic:** Reselling

Objective: Offering a platform for circular services to extend the life of products and end planned obsolescence

Region: Aragón (Spain) | **Year:** 2016

Promoting entity: Friends of the Earth (NGO)

https://alargascencia.org/es

Description:

Alargascencia is an initiative of the "Friends of the Earth" NGO, which works to promote local and global change to achieve a more sustainable society. It is a website with a directory of organizations and businesses that offer circular services, such as repairing, renting, bartering objects, or buying and selling second-hand products. Furthermore, the initiative facilitates the search for small local businesses, cooperatives and other initiatives located near the user, allowing searches to be filtered according to location, services offered and type of product (sports, leisure, textiles, electronic equipment, furniture, or tools).

This collaborative tool was created to help reverse the "planned obsolescence" which is a strategy of deliberately ensuring that the product will become out of date or useless within a known time period. Thus, seeking a solution to produce less and minimize waste. As well as promoting reuse, repair and sharing of goods within the community.

Organizations and businesses apply for admission to the directory through an online form, the NGO validates the accuracy of the data (through the website and a telephone call). Once accepted, the organization appears in the directory. The number of participating organizations grows thanks to suggestions from users and NGO workers.

Improvement / Contribution:

- Alargascencia involves citizens in repair and reuse with more than 1,500 organizational members throughout Spain. In Aragón, there are more than 100 associated organizations.
- The initiative reduces environmental and social impacts on a global scale. Furthermore, the practice encourages local and responsible consumption by citizens, with a strong presence in the media (radio interviews and articles in the press).
- The good practice contributes to solve the problem of overconsumption by providing citizens with access to sustainable consumption initiatives based on reduction, repair, and reuse. The online tool can be easily created and adapted to the different contexts and consumption patterns of each country/region, helping to connect consumers with initiatives that might otherwise be unknown.

Source:

https://www.interregeurope.eu/good-practices/alargascencia-achieving-a-sustainable-society

Utebo's social wardrobe

A citizen's initiative with a positive social impact

#citizens #clothing #donation #volunteers

Topic: Recovery | **Subtopic:** Reuse

Objective: To recycle clothes donated by the town's citizens and businesses and offer them to families in need

Region: Aragón (Spain) | **Year:** 2019

Promoting entity: Citizen organization & city council

Description:

The Utebo's social wardrobe is a citizen's initiative and receives the support of the city council. The social wardrobe is managed by volunteers supervised by the municipal social service's workers, who evaluate the families' need for clothing and provide a voucher with a date and time for collecting the wardrobe. People that want to receive help are inscribed to an electronic registration system, used to organize clothing donations. Clothes, shoes, blankets, bedding, underwear, bags, and suitcases are received at the Utebo's collection centre and quarantined for 7 days. The volunteers separate the clothes into wearable adult and child sizes, and if necessary, they are cleaned and repaired. The non-repairable textiles are donated to an NGO that works in textile recycling and social inclusion programmes, which transforms unusable textiles into raw fabrics. The city council informs about the initiative through social media, posters and their website, to attract both donors and users.

Improvement / Contribution:

- In 2019, this project helped almost 600 families find the clothes they needed. The number increased in 2020, due to the crisis caused by the COVID-19. Yearly, around 500 kgs of clothing are donated by Utebo citizens, only 7% is wasted and goes to the landfill.
- Another success is the involvement of volunteers that carry out all the tasks, being a good example of citizen's involvement in a circular economy.

Source:

https://www.interregeurope.eu/good-practices/social-wardrobe-promotes-circular-economy

Biblioteca de les coses - The Library of things

Objects' loan services

#loan service #objects #waste #community

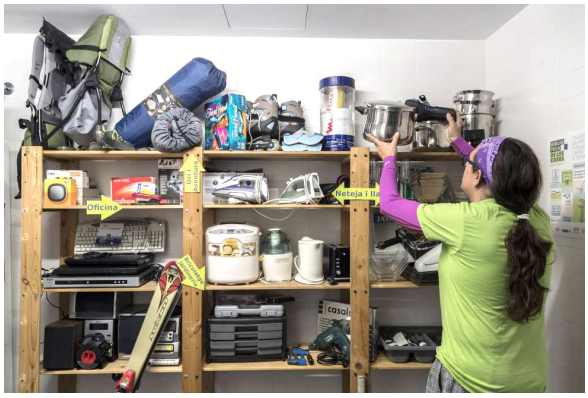
Topic: Recovery | **Subtopic:** Reuse

Objective: To avoid the generation of waste and extend the useful life of the objects through a loan service

Region: Barcelona (Spain) | **Year:** 2020

Promoting entity: Nusos (social cooperative) | Rezero / Ajuntament de Barcelona

Description:
The Library of Things is a space for lending objects and organising workshops and activities. Making the most of objects is the main objective of this library, an idea of the entities Rezero and Nusos cooperative, inspired by the libraries of things (mainly the one in London), with the participation of voluntary neighbours. With this loan service, objects reach the end of their useful life, avoiding the generation of unnecessary waste, thus reducing our consumption and our waste. Through QR tags and free software, which allows the individualisation and identification of the objects on loan, valuable data is obtained, such as the number of uses of each item and the environmental benefits derived, the type of users who borrow them, the type of donors of the objects, incidents or maintenance activities that have been carried out, among others.



To make use of the service you need to be a Library user, and once registered, you can consult the catalogue of objects available on the website, from where you can choose any object you need and give it a second life. It is important to return the product in good conditions before the loan deadline.

Improvement / Contribution:
- By sharing objects among the citizens, new social links are created, and the neighbourhood becomes a collaborative space that is more conscious and sustainable.

Source:
http://www.bibliodecoses.cat/

United Repair Centre

Textile repair services

#repair #services #social impact #textile

Topic: Recovery | **Subtopic:** Reuse

Objective: To provide a solution for disposable clothes by performing repairs for customers across Europe

Region: Ámsterdam (Netherlands) | **Year:** 2022

Promoting entity: Maker's Unite (social impact company)

https://unitedrepaircentre.com/about/

Description:

The United Repair Centre (URC) was opened in Amsterdam aiming to provide a solution for disposable clothes by performing repairs for customers across Europe. While providing clothing repair services to reduce textile waste, they also generate a positive social impact since all of their repair tailors are newcomers with refugee backgrounds and people that face difficulties accessing the labour market. The URC works for its partners apparel brand as it follows:

1. The consumer purchases a product from a URC-member brand.

2. Over time, when the product needs repair due to use, the consumer then contacts the brand, which facilitates that the product reaches the URC.

3. The product is repaired by the URC.

4. The product is returned to the consumer by the URC and can be worn again for a long time.

Improvement / Contribution:

- The URC will carry out 300,000 high quality garment repairs annually for its member brands and customers, saving 1 million kilos of textile waste. In doing so, the URC encourages brands to make repair and reuse part of their business and revenue model.

Source:

https://unitedrepaircentre.com/about/

Store for reused textiles

Reuse of post-consumer textiles

#textile #sorting #recycling #waste

Topic: Recovery | **Subtopic:** Reuse

Objective: Reuse post-consumer textiles by establishing second-hand stores promoted by governmental organization

Region: Finland | **Year:** 2020

Promoting entity: LSJH (municipal waste management company)

https://www.lsjh.fi/fi/jatteen-vastaanotto/poistotekstiilit-keraykseen/poistotekstiilimyymala/

Description:

LSJH, a waste management company owned by 17 municipalities in the Southwest Finland region, organising the resident's waste management and waste disposal advice, established a store for used textiles in 2020 of its own. The store is in close proximity to the post-consumer textile sorting premises in order to avoid unnecessary transport, and unsold textiles can be taken directly to material recycling. In practice, the load of post-consumer textiles is sorted so that everything unusable in the collection is removed. Recyclable material and reusable textiles are separated. In the store, the reusable textiles are re-sorted: which ones are fit to be sold in store right away and which ones will stay and wait for later. This solution allows to lengthen the life cycle of textiles and get more value out of them.

Improvement / Contribution:

- The model is duplicable, which also is the national objective: the goal is to have all post-consumer textiles to remain in reuse in the region where it has been collected, while only the recycled material will travel on to the refinery plants.
- This model can reach and find people who are willing and/or need to find different kinds and amounts of used textiles. This also increases the recovery of textiles.
- This practice is not financially viable, nor does it generate losses. What makes it valuable is that this model can reach and find people who are willing and/or need to find different kinds and amounts of used textiles. This also increases the appreciation of textile as a material.

Source:

https://www.interregeurope.eu/good-practices/store-for-reused-textiles

FRIVEP

Livret d'éco-conception des vêtements professionnels

#guide #public procurement #recycling #waste

Topic: Recovery | **Subtopic:** Recycling

Objective: The objective of the FRIVEP project was to study the opportunity and the technical and financial feasibility of the implementation of a national sector of re-use and recycling of professional clothing, creating jobs on French territory

Region: France | **Year:** 2016

Promoting entity: Orée, Enterprises, territoires et environnement.

http://www.oree.org/es/

Description:

The guide was created through a project during 18 -month, with diferent participants (SNCF, La Poste, the City of Paris, ONF, ESF, GRDF, the Ministries of the Interior and the Armed Forces) sent a selection of their deposits on an experimental site where they have been sorted, dismantled and then sent to manufacturers for recycling tests, with the financial support of ADEME. The experimentation of the FRIVEP project was based on a multi-actor governance, original and unique, animated by the association ORÉE, which brought a dynamic of cooperation.

The purpose of the booklet was to explain to public authorities and procurers what eco-design of professional clothing is, its interests and how to implement it. The guide includes reflections on the professional clothing markets, eco-design ideas to anticipate the best possible end of life for professional clothing: design, choice of fibers, extension of the useful life, and stepts to implement this approach.

Improvement / Contribution:

- As the public administration is one of the most consuming in technical textiles around Europe, key decisions in eco-design and recycled material will improve the circular economy inside Europe.
- This practical guide can be used in all municipalities around Europe.

Source:

https://www.acrplus.org/en/epr/instruments/public-procurement

CiLAB, boosting circular textiles

Boosting circular textiles

#collective #lab #circularity #awareness

Topic: Recovery | **Subtopic:** Textile lab

Objective: Generate and spread knowledge about circular textiles to create awareness

Region: City of Mechelen (Antwerp) | **Year:** 2020

Promoting entity: CiLAB Collective | City of Mechelen

https://sites.google.com/view/cilab-collective?pli=1

Description:

In May 2020, the CiLAB collective was set up, to experiment with circular techniques in order to allow fashion to access circularity and involve citizens in circular economy. The city of Mechelen shares the CiLAB goals: circular textile chains, local and circular production and a focus on vulnerable citizens without access to the job market. Therefore, the city has supported CiLAB with advice, matchmaking towards potential partners, communication support in a local magazine and on social media.

CiLAB grasped the opportunity to set up a small textile lab in the city of Mechelen, with seven second-hand industrial sewing machines and a few cutting tables. Their mission is to create awareness through the coaching of students, find innovative ways to collaborate with social sorting centres, refugees, fashion brands and local authorities. In this circular ecosystem, they test upcycling processes, create prototypes, and set up small-scale production.

The CiLAB has been working with young designers, supporting students in furniture and fashion design,

collaborating with the city of Mechelen, and with the local Kringwinkel organisation on developing new practices for processing textile waste.

The Collective understands circularity not "just" as a second lifecycle, but as a real material loop: that's how they develop digital trails that provide transparency and make sure that what leaves the lab will be treated in a circular way repeatedly.

Improvement / Contribution:

- The CiLAB has set up collaborations with important clothing brands as well as with small-scale start-up companies and several collaborations with fashion schools and the local community.
- The CiLAB Collective promotes collaboration with the local community through spin-off projects with broad local engagement. The practice increases the level of flexible production of small-scale collections as well as rapid prototyping through the local availability of skilled individuals.

Source:

https://projects2014-2020.interregeurope.eu/policylearning/good-practices/item/5923/cilab-boosting-circular-textiles/
–
https://circulareconomy.europa.eu/platform/en/good-practices/cilab-collective-creates-new-circular-concepts-textile-and-furniture-waste

"Telaketju" Network development programme

Developing circular business models

#network #circularity #textile #knowledge

Topic: Recovery | **Subtopic:** Research

Objective: To improve the utilization of used textiles by further developing the collection, sorting and processing of end-of-life textiles

Region: Finland | **Year:** 2017

Promoting entity: Telaketju is a cooperation network

https://telaketju.turkuamk.fi/en/about-telaketju/

Description:

Telaketju is a network development programme that creates circular business opportunities in the textile industry.

The network develops the collection, sorting out and refining processes of end-of-life textiles. Telaketju is also developing a national ecosystem of knowledge by building a platform that can be a starting point for developing circular business models in the textile industry.

Telaketju projects are a continuation of Textile 2.0 pilot project in 2016 which started the end-of-life textile collection and sorting out in the Southwest Finland. The project was held by Turku University of Applied Sciences and Lounais-Suomen Jätehuolto, regional waste management company. The first phase of Telaketju project of textile collection and sorting received support from the Ministry of Environment and Tekes.

The second phase of Telaketju (2019) aimed for better material efficiency and increase material and product life, as well as business related to textile recycling. Telaketju 2 project composed of 5 company projects and parallel public research projects and funded by Business Finland and 26 companies and other organizations.

Improvement / Contribution:

- Telaketju is a complex project that requires many operators. These are for example, end-of-life textile collectors, sorters, operators developing primary processing and automized sorting, companies utilizing final products, work centres arranging social work, waste centres, charity organizations and municipalities which generates a great variety of multidisciplinary collaboration.
- The project has generated employment and created new businesses in Finland.

SUGAR management software

Software for the management and monitoring of reuse centers

#coordination #logistics #reuse #management

Topic: Recovery | **Subtopic:** Digitalización

Objective: The aim of this initiative is to promote the performance of reusing among the reuse centres in the region

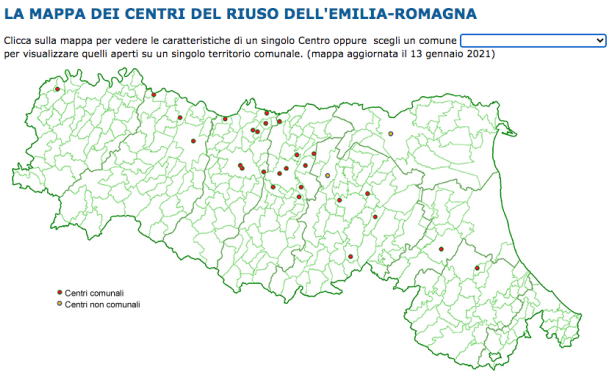
Region: Emilia Romagna (Italy) | **Year:** 2017

Promoting entity: Regional government

https://www.ermesservizi.it/centririuso/

Description:

The region of Emilia Romagna has among its objectives the promotion of the circular economy and aims to implement a more sustainable waste management to reduce waste generation. The Regional Network of Reuse Centres is one of these objectives, promoting projects for the reuse of end-of-life goods and strengthening municipal reuse centres, also in synergy with waste collection centres. Sugar is part of the actions prepared by the Region to promote the creation and development of the Regional Network of Reuse Centres.



SUGAR is an information system for the management of municipal reuse centres registered in the regional list. The reuse centres registered in the Regional Directory can access this information system free of charge by applying for membership of the ReUSER network and allows the centres to manage their warehouse (goods receipt, goods issue, goods disposal, users).

Improvement / Contribution:

- The region has decided to adopt the computer system for the management of all the municipal reuse centres and to start using the computer system on an experimental basis, which will be able to be subject to modifications and improvements, if you necessary as a result of its use.
- The municipal reuse centres will be able to join the network ReUSER (Sugar Emilia-Romagna Users Network) and use the SUGAR information system.
- This is a centralised monitoring and management service, useful and at the service of all municipalities.

Source:

https://www.interregeurope.eu/good-practices/sugar-software-for-the-management-and-monitoring-of-reuse-centers-in-emilia-romagna

PART 03 – SUMMARY

The management of textile waste presents several challenges and opportunities for European municipalities. From the analysed perspective, the classification of good practices has been divided into three fundamental areas, although it has been observed that these good practices contribute to more than one driver at a time. The conclusions and recommendations from this document have been ordered according to the four categories identified: collection, classification, public awareness, and valorisation.

As a main observation regarding the **collection**, is that since textile is not yet a mandatory fraction to collect selectively, there are few initiatives exposed. Is because of this lack of initiatives linked to textile waste, that inspiring practices from other waste fractions were considered, so they could be easily applied in the textile fraction from 2025. For example, containers with sensors to optimize collections or other innovative collection points that bring the public closer and facilitate the final disposal of textiles. At this point we highlight some observations:

Collection logistics is a fundamental element for optimization and efficiency.

–

Digitization and the technologies associated with logistics, but also with artificial intelligence, will add value to this optimization in this near future.

–

It was observed that collection is one of the pending issues and that there is still much room for improvement and innovation in terms of providing collection points distributed throughout the territory.

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The second relevant topic analysed in this document are, following the chain of the final management, **classification** plants. The current classification plants where a manual or semi-manual classification is carried out, where the vast majority are managed by social entities creating employment, will be combined, as they are working in the Netherlands, with second detailed classification plants to be able to identify better types of fibre and focus on the preparation for textile-to-textile recycling. From this point several observations and recommendations emerged:

The first classification designed for reuse is fundamental to participate and create value chains that promote second hand and resale channels in the territories.

–

There is an opportunity for the generation of new jobs linked to reuse, resale, remanufacturing, etc...

–

The most automated sorting plants for recycling, with technologies for the fibres and colours classification will have to be coordinated with the first classification plants, to be able to recover and supply material locally, generating local circular economy.

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Experiences in automated disassembly are still not very scalable and not very precise so that they can be introduced into the recycling chain.

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This is an opportunity to generate employment in finer classification plants that prepare for recycling.

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The third relevant point of this document is citizen **awareness and environmental education**. Regarding this topic, it is observed that all good practices must be accompanied by awareness campaigns so that they are highly impactful. Sensibilization and environmental education in relation to textile waste is fundamental to reduce waste generation and recover to the maximum, and in a better way, so that the resource can be recirculated.

It can be highlighted:

Increase the education and awareness campaigns carried out in schools to educate future consumers.
–
It is essential to create prevention campaigns focused on the behaviour of the citizen, as shown by the campaigns carried out in UK.
–
Creating municipal spaces in neighbourhoods so that citizens can learn to repair, customize, etc. experience through repairing is an opportunity to generate a circular culture.
–
Showing the citizen their participation in the waste generation, so they know with real data how does affect their behaviour, is also relevant to subvert everyday practices (KAYT).
–

The fourth point, the **recovery** of what is collected to generate a circular economy also becomes crucial in this gear. If we collect more and classify better, we will have to find ways to use all these resources that will be recovered. Therefore, reuse and new business models linked to resale, remanufacturing, and the introduction of recycled fibres in textile products, will must be a near future reality if we want to close circles.

Several challenges and key points are highlighted in this area:

There is a challenge in national reuse, this is the product reuse and resale within the European territory, to prevent tons and tons of textile material from being exported to other countries where it is not clear where the waste will end up.
–
There is an essential challenge to introduce recycled fibres to textile products in general, this starts from the concepts of durability and quality. At this point, the fashion industry must try to innovate in these materials.
–
It is important not to forget the waste hierarchy; prevent, reduce, reuse, and finally recycle fibre-to-fibre.
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In general terms, the future, but very immediate challenges for the European territories represent a gear that must be addressed collectively. The concept of *Textile Circular Economy* challenges all the agents in the chain to work together, in cooperation and coordination.

This document was originally designed to give tools to the municipalities and be able to take ideas and be inspired to reproduce them in their local areas. As a final reflection, it should be noted that each of the practices that have been exposed contribute to one of the proposed drivers, that is, they have their specific function, but only by adding up practices, the objectives that are pursued will be achieved; decrease the waste generation, raising citizen awareness, increasing collection, and its recovery and valorisation, either through reuse or recycling, working from prevention to be able to build a local circular economy.

We hope that this document will serve as an inspirational and helpful tool in this transformation process inside the European textile industry, specifically at the end of the production chain. The circular approach, introduced in this document, also makes us think beyond the end of life of textile products. This implies a greater commitment from companies that design and sell products, so that those can be created under this circular scheme. As mentioned, the entire chain must work together for circularity so we can make it real. Our commitment in this document, is to contribute to the textile ecosystem improvement by providing environmental and social value to this future sector that has already begun its transformation.

Jobs to be done

01.
Transform the current cost of textile waste management into income and dedicate the new resources to promoting circularity in the textile sector and other environmental policies.

02.
Build social value, creating employment in vulnerable groups within the new processes of collection and recovery of textile waste.

03.
Facilitate the development of new economic activity in your municipality by transforming textile waste into a resource for various sectors of activity.

04.
Encourage creativity and design based on the use of recycled materials as a strategy to build new environmental and economic value in your municipality.

05.
Recover the culture of the textile product in citizens and companies, stimulating textile repair, reuse and recycling and promoting a culture of circularity in the textile and fashion industry.

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