



CircE Joint Report 2022

Project extension – 5th call

May, 2022

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This document collects and sums up the main results got by the partners in the CircE extension (5° call).

On this basis each partner sets the policy changes to be implemented as an effective pandemic recovery circular opportunity.

The project focused on 2 sectors: textile and food waste.

Partners' engagement

Textile

Lombardy Region
Catalonia Government
Gelederland Province
Sofia Municipality

Food waste

Lombardy Region
Lower Silies Region

Contents 2/2

This document proposes for both the sectors (starting from the textile sector) and for all the partners engaged in each sector) the following sections:

1. Key issues created by the pandemic
 2. News in the legislation
 3. Good practices
4. Policy options and actions



Textile sector



1. Key issues created by the pandemic



Lombardy Region

Some of the main economic impacts on the textile sector:

- - 21.2% of the **fashion revenues** recorded in 2020 with a loss of turnover from March 2020 to March 2021 equal to 20.6 billion euros;
- in 2020, **household consumption** for clothing & footwear fell by 12.6 billion euros, with a decrease of 19.7%;
- fashion **exports** in 2020 decreased of 11.2 billion euros (-19.5%);
- more critical situation for the **luxury industry**, for which a greater decline was expected in 2020 (35%), with an estimate of the time to return to pre-crisis levels not less than 2/3 years.

According to a Confartigianato study (2021), the fashion sector is the manufacturing's sector that has suffered the most from the effects of the pandemic.

The pandemic has accelerated the use of e-commerce

On the one hand, the pandemic has penalized companies particularly linked to physical networks but, on the other hand, it has strongly encouraged those present online, and the various marketplaces.



Zalando gained more than ten million new customers in 2021, with the demand for online shopping remaining high even in the second year of the pandemic.

Sales increased nearly 30 percent year-on-year

(R. Krcmar, 2022).

The pandemic has forced a rethinking of the retail logic, prompting companies to implement "omnichannel" strategies.

Overall, some of the main impacts generated by the pandemic concerned:

Problems related to **staff shortages** due to infections.

Problems related to **logistics**, and therefore to the procurement of **raw materials**.

Overproduction of packaging waste related to e-commerce shipments.

Costs related to the adoption of anti-covid measures and the **closure of production activities**.

Increased consumer attention to the **origin of raw materials**.

What happened from the point of view of sustainability and the Circular Economy?

The new consumption paradigms resulting from the Covid-19 crisis have **accelerated the process of changing demand preferences**. Even before the pandemic, consumers showed a **greater propensity towards purchasing environmentally sustainable products**.

Italian consumers and sustainability:

50% believes it is important to buy sustainable clothing, footwear and accessories.

70% would like to know the ecological impact of production and purchased products.

80% would like to know the origin of the products' raw materials.

Overall, sector surveys suggest companies to focus on the following aspects:

- To encourage responsible use of products, promoting their reuse or recycling with **circular economy business models** aimed at reducing waste and reusing fabrics for the creation of new products (important role of AI);
- To use eco-friendly materials for which incentives for **investment in research and development** are necessary;
- To develop flexible and **demand-driven business models** (from the "push, product-driven" model to the "pull, demand / market-driven" model) for the reduction of unsold items;
- To promote **slow fashion models**, which favor the diffusion of quality products, consequently enhancing local productions and Made in Italy;
- To promote the development of a **certification for Italian products** that comply with safety and sustainability criteria.



Catalonia Region



**Generalitat
de Catalunya**

Impacts of COVID-19 on the textile sector
How are we now?

1. WORLD
2. EUROPE
3. CATALONIA

1. World scale

Overview of main COVID-19 impacts

Principal impacts on textiles since the beginning of COVID-19:

- Sales drop
- Consumer behavior change
- Disruption of supply chains (raw materials, transport, workforce, geopolitical risks, energy, ...)
- Highlight on socio-economic and territorial inequalities and the interdependence of global value chains.

1. World scale

How it has evolved since beginning of 2020

The State of Fashion (McKinsey)	Global Economy	Consumer Shifts	Fashion System
2020. Coronavirus Update	1. Survival Instincts	2. Discount Mindset 3. Digital Escalation	4. Darwinian Shakeout 5. Innovation Imperative
2021	1. Living with the Virus 2. Diminished Demand	3. Digital Sprint 4. Seeking Justice 5. Travel Interrupted	6. Less is More. Looking for profitability 7. Opportunistic Investment 8. Deeper Partnerships 9. Work Revolution
2022	1. Uneven Recovery 2. Logistics Gridlock (vulnerabilities in Supply Chain)	3. Domestic Luxuries 4. Wardrobe Reboot 5. Metaverse Mindset (Virtual/gaming)	6. Social shopping 7. Circular Textiles 8. Product Passports 9. Cyber Resilience 10. Talent Crunch



Sustainability credentials will be employed as one method to regain consumers' trust and wallets as they emerge from the discounting slump.



A More Circular Fashion Industry Will Require a Collective Effort

As consumers become more engaged with sustainability issues, circularity will be the key that unlocks the door to a more sustainable future.



Time for Fashion to Raise Its Sustainability Ambitions to Deliver on COP26

Countries, companies and communities are mobilising around climate change. Amid mounting evidence of fashion's climate impact, and the gathering of nations at the COP26 Climate Change Conference, there is a renewed impetus behind the need for decarbonisation and a much sharper focus on the imperative to adapt and mobilise private-sector capital to fund the required changes. A new era of climate action will therefore be required, meaning fashion leaders must focus not only on decarbonisation but also on building resilience and reversing nature loss as the effects of climate change take hold.

Pressure to establish supply chain transparency and adopt circular business models will fuel demand and help justify scaling pilot projects to mainstream applications.

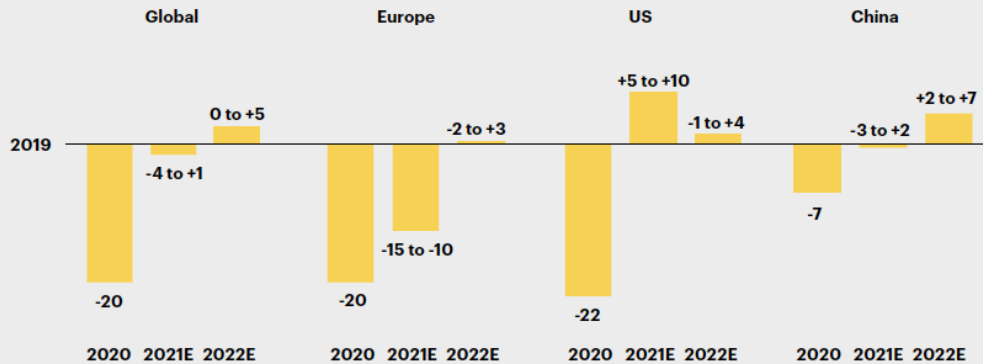
1. World scale

How it has evolved since beginning of 2020

Global recuperation expected in 2022 but at lower speed in Europe.

Non-luxury fashion sales in the US and China will broadly recover by 2021, while Europe will not recover until 2022

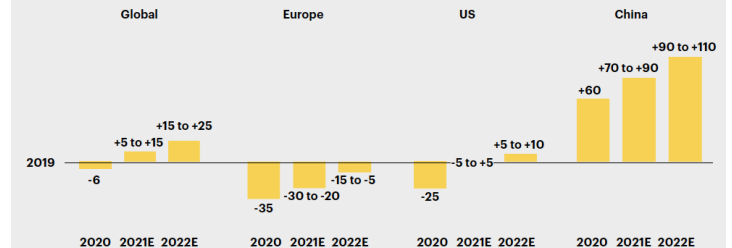
NON-LUXURY FASHION SALES IN MCKINSEY FASHION SCENARIOS, COMPARED TO 2019, %



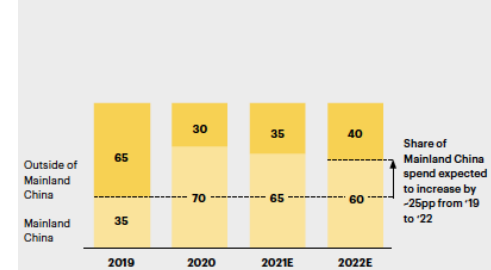
<https://www.mckinsey.com/~media/mckinsey/industries/retail/our%20insights/state%20of%20fashion/2022/the-state-of-fashion-2022.pdf>

Luxury fashion sales in the US and China will broadly recover by 2021, while Europe will not recover until beyond 2022

LUXURY FASHION SALES IN MCKINSEY FASHION SCENARIOS, COMPARED TO 2019, %



LOCATION OF CHINESE CONSUMER LUXURY FASHION SPEND, % SHARE OF TOTAL

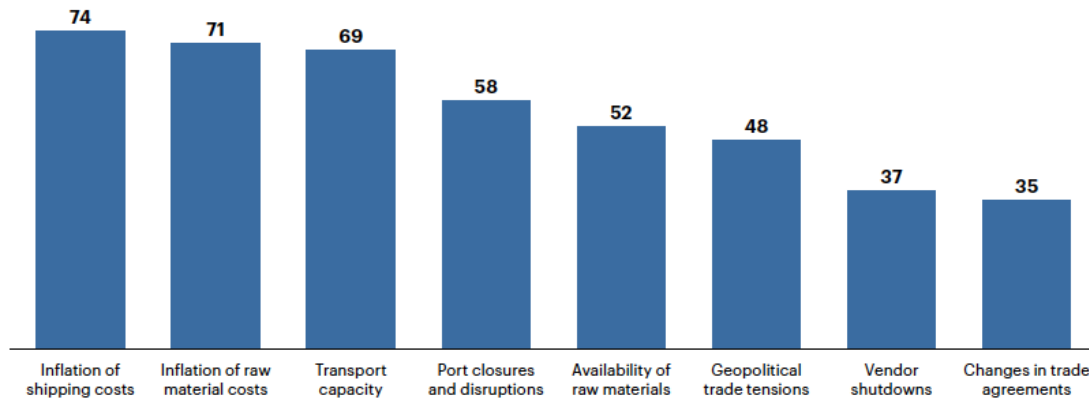


1. World scale

Main current threat: the supply chain

Multiple factors will negatively impact supply chains in 2022, with higher shipping and materials costs as the main concerns

OPERATIONAL TRENDS EXPECTED TO IMPACT¹ SUPPLY CHAINS IN 2022, % OF RESPONDENTS



¹ Responded "very high impact" or "high impact"

SOURCE: BOF-MCKINSEY STATE OF FASHION 2022 SURVEY

<https://www.mckinsey.com/~media/mckinsey/industries/retail/our%20insights/state%20of%20fashion/2022/the-state-of-fashion-2022.pdf>

TEXTIL **CincoDías** 14 OCT 2021

La crisis de suministro ya amenaza ventas y beneficios de gigantes del textil

- H&M, Nike o Asos reconocen el impacto por los retrasos y los mayores costes

1. World scale Consumer behavior change

- Preoccupation for sustainability, durability and waste generation.
- Looking for money saving.
- Opening up to new business models: reuse, resale, rental or subscription, ...



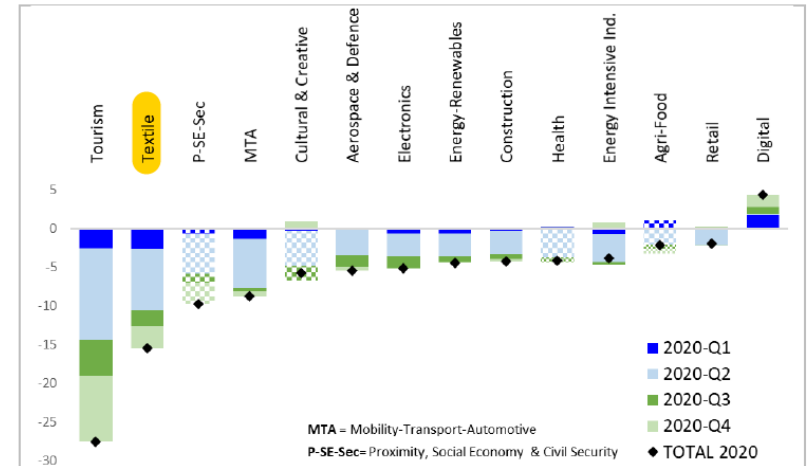
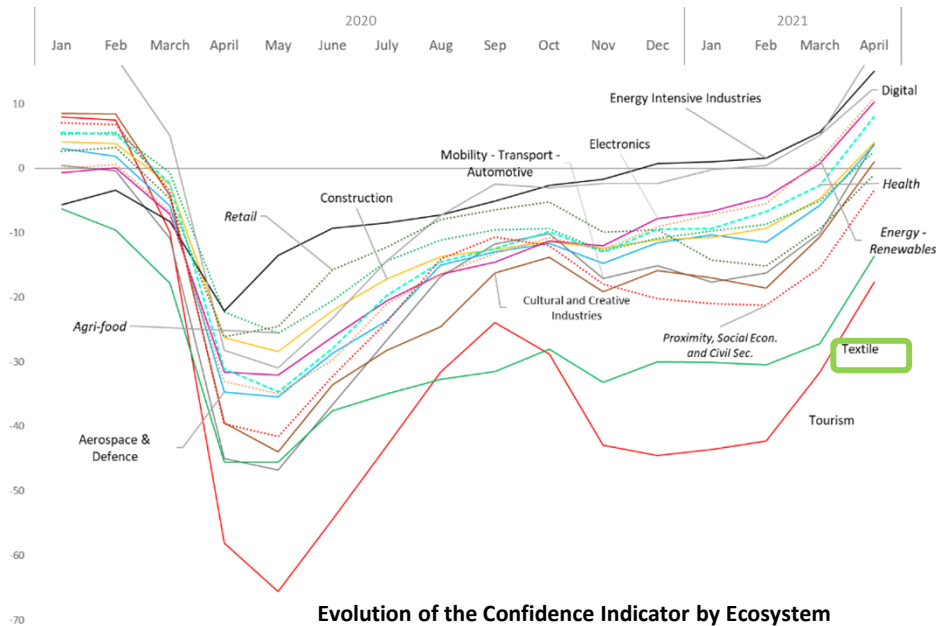
<https://www.thredup.com/resale/static/thredUP-Resale-and-Impact-Report-2021-980436a36adc4f84a26675c1fcf2c554.pdf>

2. European scale

COVID-19 impacts on textiles waste

- Difficulties in collection during confinement
- Closure or reduced opening time of second-hand shops
- International reuse and recycling markets closed for months
- Large accumulation of stock in authorized waste managers
- Part of the stored clothes in bad state
- In some cases, clothes sent directly to landfill or energy recovery

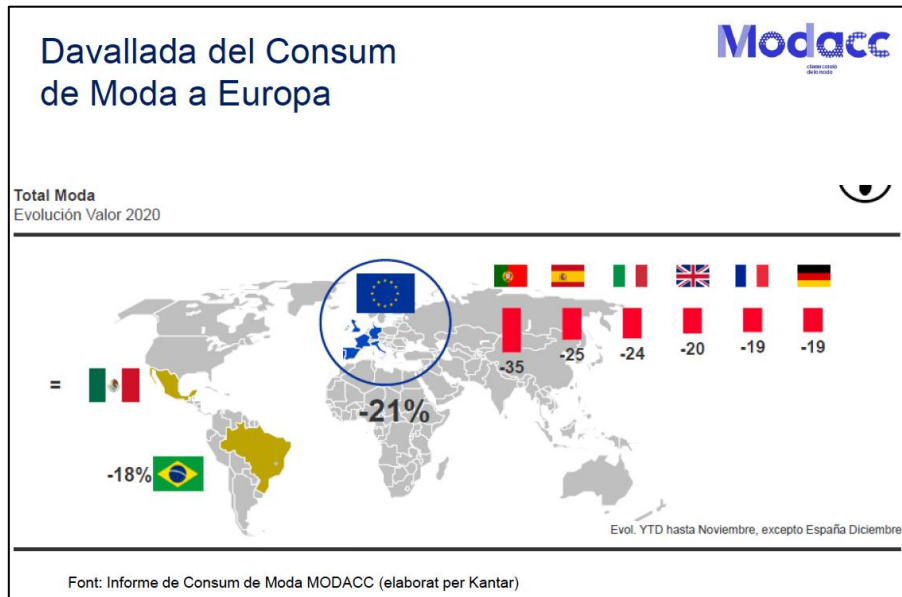
2. European scale Economic and confidence crisis



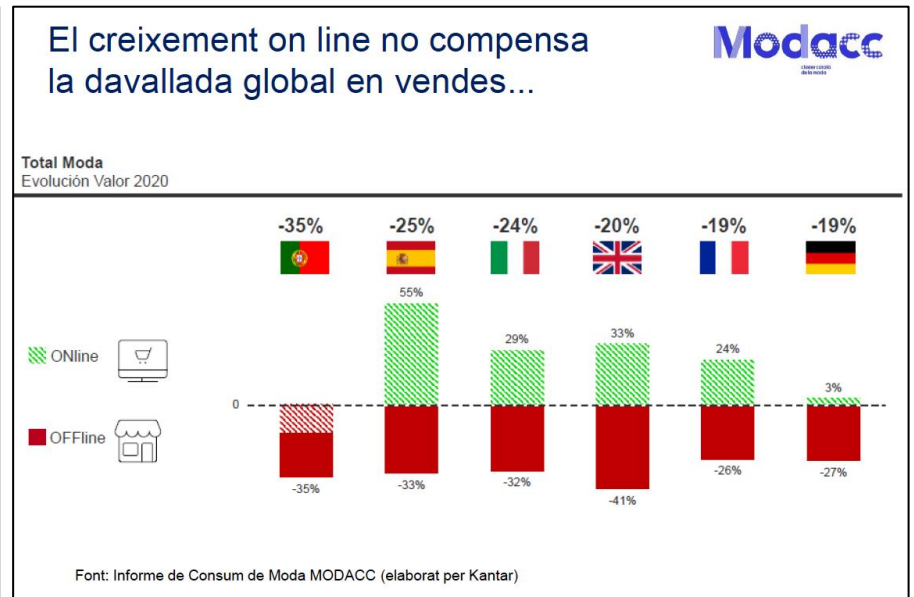
Font: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. **Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's recovery**
<https://eur-lex.europa.eu/legal-content/ES/TXT/PDF/?uri=CELEX:52021DC0350&from=ES> i <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021SC0351>

2. European scale Economic and confidence crisis

Sales drop



Online sales increase does not compensate...



3. Catalan scale

High concern for this representative sector

Monitoratge de la RIS3CAT

**Afectació de la crisi de la COVID-19
sobre la indústria catalana
i estratègies de futur**



Desembre 2020

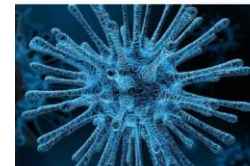
Taula 1. Resum d'afectació sectorial de la crisi

Sector	Producció	Afiliació	Erto	Exportacions
Indústries químiques				
Productes alimentaris i begudes				
Automòbil				
Productes metàl·lics				
Productes farmacèutics				
Energia elèctrica i gas				
Tèxtil, confecció, cuir i calçat				
Indústries extractives				

Font: elaboració pròpia.

http://catalunya2020.gencat.cat/web/.content/00_catalunya2020/Documents/estrategies/fitxers/afectacio-crisi-covid-19.pdf

Conseqüències de la COVID19
a la Indústria de la Moda (31/12/2020)



- 25%

Facturació de la indústria
de la Moda a Catalunya

- 20%

Exportacions del sector
(en valor)

- 10%

Llocs de treball vinculats a
la indústria de la Moda

*“Empreses viables a 1 de març de 2020 es qüestionen el seu futur
després d'un any de greus pèrdues i davant d'una gran incertesa”*

Fons: Dades INE, ICEX, KANTAR

9

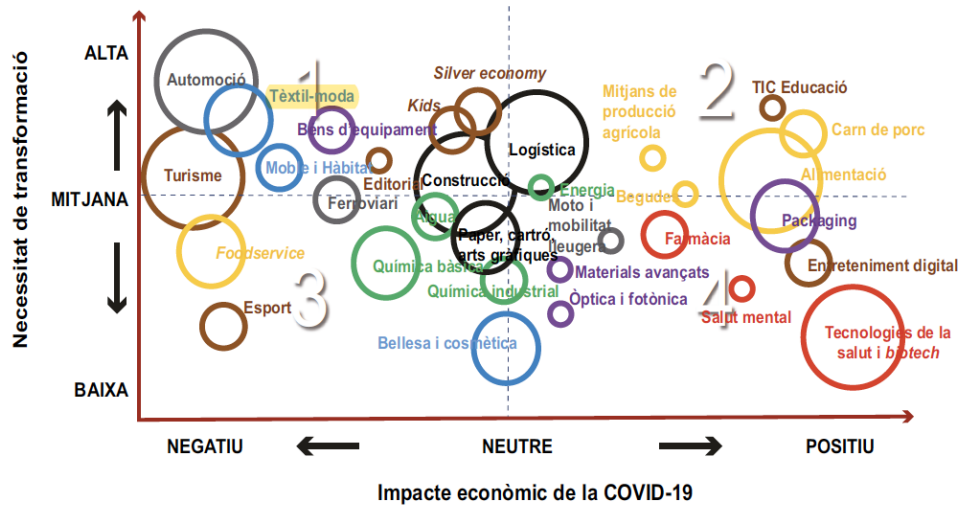
MODACC = Catalan Fashion Cluster
(mainly SME)



3. Catalan scale

Textiles sector transformation is required

Matriu de posicionament competitiu d'una selecció de sectors i negocis de l'economia catalana.

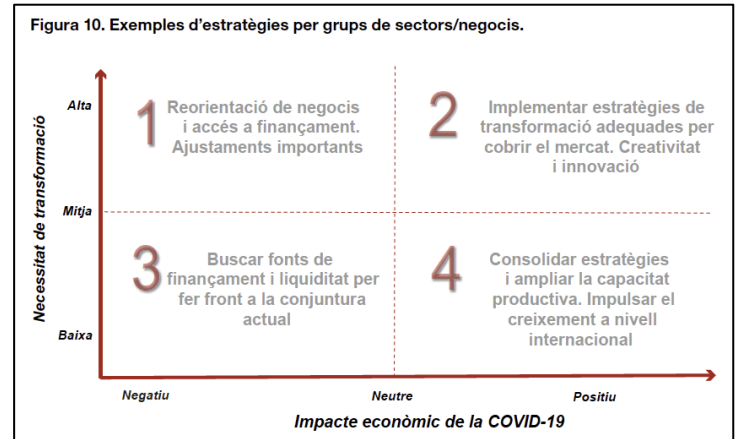


Àmbits RIS3CAT

- SALUT
- MANUFACTURES D'ISSIENY
- SISTEMES INDUSTRIALS
- MOBILITAT
- INDÚSTRIES DE L'EXPERIÈNCIA
- ALIMENTACIÓ
- QUÍMICA, ENERGIA I RECURSOS
- ALTRES

VOLUM DE NEGOCI

- > 15.000 MEUR
- 9.000 - 15.000 MEUR
- 3.000 - 9.000 MEUR
- < 3.000 MEUR





Gelderland province

- Reshoring production: from Asia to Europe
- Reshoring design: pilots and demo's in the Netherlands
 - Growth of labour in textiles industries: +10%
- Regionale artisanal clusters – based on local bio resources and waste
 - Push for regional circularity – improve collection and processing



Sofia Municipality

Sofia Municipality (SM), Bulgaria settled and successfully operating systems for collection of 13 (thirteen) different streams of household waste.

In view of the above, Sofia Municipality has concluded contracts with 11 separate organizations for collection of packaging waste, WEEE, hazardous waste, waste from unnecessary clothes, shoes and other textile materials, waste oils.

Overall the textile waste fraction represents around 3,0 % of the total waste generated per year (2021) in Sofia.

Since 2019, SM signed a contract with EUROTEx Ltd and TEXAID Bulgaria Ltd, which gradually placed total of 113 specialized textile waste containers in 71 collection points in Sofia to date.

At the end of 2021, the total amount of separately collected textile waste from specialized containers by the two organizations was 1,120.19 tons for Sofia territory . The recycled garments were 346.9 tons (plus 17,325 tons available from the previous year) and 790.6 tons recycled and otherwise recovered, making a total of 1,137.5 tons of recovered textile materials for year 2021.

At Sofia municipality (SM) a "Waste Management Information System" has been established since 2014. The system collects and processes information on waste management of SM. The information system allows complete standardization and automation of activities, sites and registers related to waste management by collecting and processing information about packaging waste and waste materials from paper and cardboard, metal, plastic glass, and widespread waste, for sites under regulatory requirements of the Waste management act in Bulgaria, as well as the data on the quantities of household bio-waste and construction waste.

Initiation and engagement of stakeholders has been a key part of Sofia linear to a circular early stage economy transition in line with international experience to date.

The activities encompass communication, consultation, representation, partnerships and co-production depending on available resources, sub-sectors and level of participation in the process.

Key issues created by the pandemic

-Safety of solid waste management (SWM) workers at SOFIA WASTE MBT PLANT:

The livelihood of the workers (manual staff and administration) have been affected lightly by the lockdown due to COVID-19 –The issue highlighted the need to create safer and healthier conditions inside the premises during pandemic times;

-Redistribution of waste collection:

Waste generation at residential areas increased, shifted from commercial and administrative zones to living areas;

-Challenges in collection and disposals of municipal waste :

Increased generation of municipal waste has made financially and physically challenging for municipality and the waste collection companies to cope;

-Increased healthcare and social protection costs related to COVID-19 as well the municipal revenues were impacted;

*** Recycling activities have been affected lightly by the lockdown due to COVID-19.**

- Highlights the critical need to sustainably manage the environmental impact of human activities and to adopt more sustainable SWM practices, thus mean to increase food and textile sectoral waste sector funding schemes and adapt comprehensive solutions to downsize risks and control inadequate disposal of municipal waste;*
- Reinstate the need to increase partnering with private sector through public private partnership to find sustainable solutions (eg. established cooperation with for textile waste collection companies in Sofia municipality);*
- Supply chain distribution and reduction of manufacturing and commercial activities with direct implication on waste collection companies;*
- Municipal waste has increased in volume, overwhelming existing waste collection and disposal systems, especially leading to stockpiling at medical and single use plastic –based and packaging materials.*



2. News in the legislation



Lombardy Region

Evolution of the regulatory scenario with a focus on the European context

With the COM (2020) 98 final, the European Commission has drawn up the New Action Plan for the Circular Economy - For a cleaner and more competitive Europe.



Definition of a strategic framework for sustainable products, providing for the implementation of a **legislative initiative relating to sustainable products (based on eco-friendly design)**.



As part of this legislative initiative, the Commission will evaluate the possibility of establishing principles of sustainability and other appropriate ways to regulate a number of aspects; among these, the one relating to the **introduction of the ban on destroying unsold durable goods is expressly mentioned**.

Within the Plan, the complexity of the value chain of the textile sector was highlighted and, by virtue of this, the Commission stated that it will propose a comprehensive EU strategy for textiles, based on contributions industry and other stakeholders.

- Encourage the development of eco-design measures to ensure that textile products are suitable for circularity, ensuring the use of secondary raw materials and limiting the presence of dangerous chemicals;
- Improve the regulatory environment for sustainable and circular textile products in the EU, with the development of incentives and support for "product as a service" models, as well as circular materials and production processes, increasing transparency through international cooperation;
- Develop guidelines to help Member States achieve the high levels of separate collection of textile waste that they need to achieve by 2025;
- Encourage the selection, reuse and recycling of textiles, including through innovation, by encouraging industrial applications and regulatory measures such as extended producer responsibility.

Furthermore ... **Directive 2018/851/EU** has provided for changes to the regulations on waste, already contained in Directive 2008/98 / EC, establishing that by 31 December 2024 the European Commission will consider the introduction of **objectives regarding the preparation for the reuse** of a series of waste categories, including textile waste, also providing for the **introduction of separate collection** by the same date.



The same Directive underlines the advisability of attributing implementing powers to the Commission in order to establish detailed criteria for the **termination of the qualification of waste** (not only for textiles, but also for tires and paper waste).

In Italy, **Legislative Decree 116/2020** intervened by modifying the Consolidated Environmental Law (Legislative Decree 152/2006), introducing new provisions on waste management. In particular, **the introduction of the separate collection obligation for textiles was introduced starting from January 1, 2022.**

How are the various European countries doing?

With regard to the obligation of separate collection, Italy was the first to intervene ...

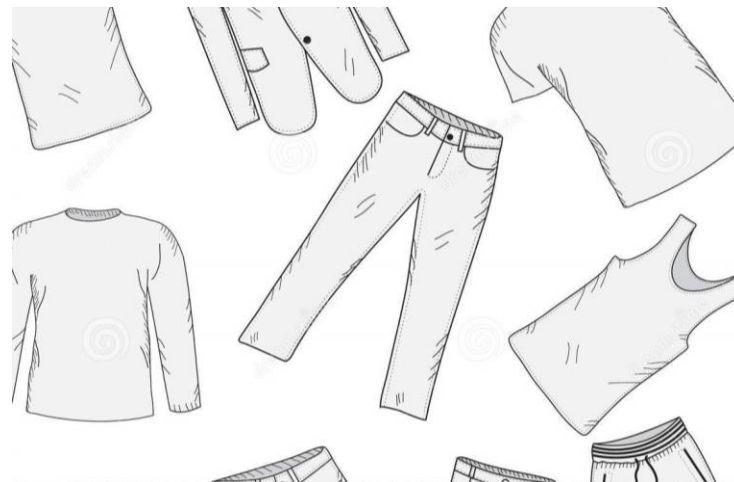
... interesting actions by some other EU countries concern **the issue of managing unsold goods.**

- **Belgium:** VAT exemption for donations of non-food items to the indigent;
- **France:** Ban on the disposal of unsold textile products and obligation for producers, importers and distributors of new non-food products intended for sale for reuse, through donations to associations to combat precariousness and solidarity economy structures;
- **Germany:** Introduction of a "duty of care" and evaluation of the introduction of a Transparency Report (eg number of goods that have been resold to residual recyclers, number of goods donated, and number of goods disposed of);
- **United Kingdom:** Report presented by the Environmental Audit Committee to the government with measures aimed at combating the phenomenon of fast fashion.

Every year in France, products worth a total of 630 million euros are destroyed and, specifically, between 10,000 and 20,000 tons of new textile products are destroyed. This is equivalent to the weight of one or two Eiffel Towers.

In Italy, the issue of managing any unsold products was dealt with under the so-called **Gadda Law, Law 166/2016** containing specific Provisions concerning the donation and **distribution of food and pharmaceutical products for the purposes of social solidarity** and for the limitation of waste.

This law, created for the limitation of waste and **initially referred exclusively to food and pharmaceutical products, was subsequently amended** with the provision that the rules contained therein may also be applied to different products (in the event that these are no longer marketed or not suitable for marketing due to imperfections, alterations, damages or defects that do not modify their suitability for use or for other similar reasons); **these also include textiles and clothing.**





Catalonia Region



**Generalitat
de Catalunya**

Sustainable transformation opportunities

All the consulted analyses demonstrate the **need for greater speed in the transition** to a cleaner, more digital and more resilient economic and industrial model, in order to maintain and improve Europe's momentum towards sustainable competitiveness.



**Generalitat
de Catalunya**

New regulations in favour of change

There is a regulatory trend in Europe, Spain and Catalonia, promoting the transition of the textile sector towards greater sustainability and the circular economy.

European policy solutions



European Green Deal

<https://eur-lex.europa.eu/legal-content/ES/TXT/?qid=1588580774040&uri=CELEX%3A52019DC0640>



2022: EU Strategy for Sustainable and Circular Textiles

https://ec.europa.eu/environment/strategy/circular-economy-action-plan_es



- 1. GREEN TRANSITION**
empowering consumers to play an active role
- 2. DIGITAL TRANSFORMATION**
ensuring consumers are as protected online as they are offline
- 3. EFFECTIVE ENFORCEMENT AND REDRESS**
ensuring all consumers fully benefit from their rights
- 4. CONSUMER VULNERABILITY**
strengthen consumer awareness, addressing the needs of different consumer groups
- 5. CONSUMER PROTECTION IN THE GLOBAL CONTEXT**
promoting high-level consumer protection abroad

https://ec.europa.eu/info/sites/default/files/nueva_agenda_del_consumidor_-_hoja_informativa.pdf



NextGenerationEU, temporary instrument to boost recovery. Largest stimulus package ever financed in Europe to rebuild post-COVID-19 Europe. It will be a greener, more digital and more resilient Europe.

https://ec.europa.eu/info/strategy/recovery-plan-europe_es

European policy solutions

Other policy solutions specifically for the textile sector

- ***Pact for Skills*** to address challenges in terms of up/reskilling the workforce.
 - Identified skills needs:
 - Design
 - Product development
 - Technical textiles production
 - Digitalization
 - Sustainability and Circular Economy
- ***Single market surveillance*** to ensure that imported clothes comply with EU legislation (Intellectual property, REACH)



<https://euratex.eu/news/launch-of-the-tclf-pact-for-skills-putting-people-at-the-heart-of-the-industrys-competitiveness/>
(Des. 2021)

Spanish and Catalan legislation

SPAIN

Spanish Circular Economy Strategy + Bill on Waste approved April 2022:

- Ban on incineration and depositing unsold excess production in landfill (2021).
- Targets to prepare for the reuse and recycling of municipal waste and separate collection of textile waste (2025).
- Planned application of the Extended Producer Responsibility (EPR) principle to textile waste 3 years after the new law on waste comes into force

CATALONIA

General Programme of Prevention and Management of Waste and Resources of Catalonia (PRECAT):

- Strategy for the prevention and management of municipal textile waste in Catalonia 2020-2025



Gelderland province

- EPR implementation in the Netherlands
 - Public procurement
- New frameworks on Circularity – national and regional
 - Research on policy options
 - Raise of network organizations
 - New funding potential
- New applications (National Growth Fund)



Sofia Municipality

According to the Waste Management Law (WML) in Bulgaria, the mayor of the municipality is responsible for:

- the separate collection of household waste on the territory of the municipality at least for the following waste materials: paper and cardboard, metals, plastics and glass;
- the organization of the activities for separate collection of widespread waste and / or renders assistance to the organizations for recovery of widespread waste, incl. determines the locations for the necessary elements of the separate collection systems and the locations for the transfer of widespread waste.

In accordance with the requirements of the national legislation and the waste management policy, it is important for the Sofia Municipality to increase the quantities of household waste for reuse and recycling.

! **By January 1, 2025** -to introduce separate collection of textiles and hazardous household waste.
! **By 31 December 2023** - to provide separate collection or recycling at the source of bio-waste (eg. home composting). *This is in addition to the already existing separate collection for paper and cardboard, glass, metals and plastic.

In accordance with the national goals for reuse, recycling and recovery of waste, as well as the pursuit of municipal goals for recycling, recovery and reduction of landfilled waste led to the setting of Strategic Goal "Increasing the amount of recycled and recovered waste and prevention of the risk of landfilled waste" within the Waste Management Programme of Sofia Municipality.

Sofia Municipality is to initiate steps to modify Waste Management Programme with the inclusion of a circular economy (CE) section, and provide additional focus of CE leading to mapping circular economy actors, cross-cutting projects, increasing the knowledge of the regional context and to understand the readiness to develop CE, networking, ideas-gaps (opportunities) among partnerships and stakeholders.



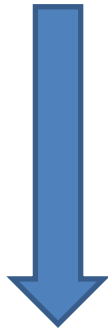
3. Good practices



Lombardy Region

Stages of CE: a focus on the fashion industry

7 STAGES



**18 MAIN CATEGORIES OF
BUSINESS BEST PRACTICES**

50 EXAMPLES



Image: European Parliament

**18 PROPOSED POLICY
SOLUTIONS**

Some examples...

DESIGN

Design for reparability/for reuse/for recycling



ACBC
ANYTHING CAN BE CHANGED

The company designs and manufactures sustainable footwear that is easily recyclable and repairable, thanks to a hinge that makes the upper interchangeable.



AQUAFIL
Global

The company produces Econyl, a new nylon fiber derived from recycled materials such as fishing nets no longer used and textile production waste.

PROPOSED POLICY SOLUTION: Promote innovation by strengthening links between companies, universities and research centers.

VALUE IN TERMS OF POST COVID-19 RESILIENCE: Design for recycling aims to increase the availability of secondary raw materials, increasing the resilience of downstream sectors.

RAW MATERIALS

Use of natural/renewable/recyclable raw materials



Ohoskin is the first made in Italy, bio-based material alternative to luxury leather made with oranges and cactuses.

Industrial Symbiosis



Vegea is an innovative biomaterial coming from the waste from the processing of fibers and oils contained in the marc.

PROPOSED POLICY SOLUTION: The policy maker could favor the accompaniment to the establishment and strengthening of partnerships between companies (of non-connected sectors) linked by belonging to the same territorial area, aimed at favoring strategic projects. With a view to sharing services (category of industrial symbiosis e.g. supply networks), the region could incentivize the creation of integrated energy distribution networks (smart grids) and offer support for the creation of energy communities (CER).

VALUE IN TERMS OF POST COVID-19 RESILIENCE: Industrial symbiosis, allowing exchanges of production inputs and outputs between companies operating in different production cycles and supply chains, can make it possible to effectively resist shortages both in procurement and in supplying end markets.

PRODUCTION

Innovative and sustainable processes also thanks to IoT technologies



PRISMA PROJECT: The Hegoplan technology was developed in the technological center of Prato which, starting from a photo and with the help of Big data, Artificial Intelligence and Machine learning, extrapolates the dimensions of the body so that the user can choose the model, size and fabric of the dress in seconds, reducing the risk of returns by 40%.

PROPOSED POLICY SOLUTION: Launch initiatives and projects to promote innovative start-ups.

VALUE IN TERMS OF POST COVID-19 RESILIENCE: The automation and digitization of processes can foster the resilience of the post-pandemic production system.

DISTRIBUTION

Building certifications for shops

Use of sustainable packaging



OVS



Circe
Jrope

PROPOSED POLICY SOLUTION:

- Support in the adoption of certifications through incentives for the development and adaptation of sustainable buildings. Measures for the realization of interventions of adaptation and renovation of buildings, possibly combined with the use of renewable energies.
- Measures aimed at supporting the inclusion of qualified figures in the R&D area (with adequate preparation on the issue of the circular supply chain).

VALUE IN TERMS OF POST COVID-19 RESILIENCE:

- A strategy that prevents the risk of interruptions, increasing the level of energy resilience, is the local production of energy from renewable sources.
- The adoption of sustainable packaging and packaging reuse solutions would have allowed companies to contribute much less to (and therefore prevent) one of the worst environmental effects of the pandemic in business management.

CONSUMPTION / USE / REPAIR / REUSE

*Sharing platform/second
hand*

greenchic
by **armadioverde**

Used clothing sales system (via online platform) in which it is easy to deliver your garments at the end of their life.

Product as a service

DREXCODE
DRESS YOUR CODE

Luxury clothing and accessories rental.

PROPOSED POLICY SOLUTION: Communication campaigns and initiatives aimed at raising citizens' awareness of new forms of sustainable consumption.

VALUE IN TERMS OF POST COVID-19 RESILIENCE:

- Second hand and return of end-of-life products to be resold as second hand can prevent a shortage in terms of availability of supplies on the markets. However, a possible problem in this case could be the unwillingness of consumers to "share" clothes or to use second-hand clothes in a situation where there is a risk of contagion.
- The replacement of products with services (the so-called PSS - Product Service System) has the main effect of dematerializing the dynamics of production and consumption, making the production of packaging less necessary, for example.

COLLECTION

Take back service



FALCONERI

The Falconeri brand dedicated the first months of 2019 to the "New life for your cashmere" project, a recycling campaign that allowed customers to bring an old cashmere garment to the store in exchange for a voucher.

Textile waste collection service from industries



LANZANI
FRATELLI

The company collects the textile waste directly at the plant, with its own regularly certified vehicles. The materials coming from the most varied activities (textile workshops, spinning, weaving, etc.) are subsequently selected and destined for new production cycles.

PROPOSED POLICY SOLUTION:

Forecasting of targets and incentives for the collection of garments and EPR schemes (extended responsibility of producers) and training for companies to understand the End of Waste legislation.

VALUE IN TERMS OF POST COVID-19 RESILIENCE: The possibility for the company to close the circle by recovering and recycling the garments guarantees less dependence on raw materials, increasing the company's resilience capacity.

UPCYCLING / RECOVERY / RECYCLING

Reverse industrial symbiosis



Manifattura Maiano produces thermoacoustic panels with recycled fibers coming from the waste from the processing of the nearby industries of the Prato textile district.

Upcycling: sartorial transformation



Rifò: “Sustainable Wear Project”. With this project, the company is able to transform scraps of fabric and old clothes into new garments that retain the same qualities of the original products.

PROPOSED POLICY SOLUTION:

- Strengthen partnerships between companies (of unrelated sectors) and encourage the transfer of raw materials.
- Direct infrastructure investments towards schemes such as integrated post-use collection and reprocessing systems.

VALUE IN TERMS OF POST COVID-19 RESILIENCE: The use of fabric scraps and scraps improves the efficiency in the management (and logistics!) Of the waste cycle, and the dependence on the supply of raw materials; the inverse industrial symbiosis can efficiently allow to resist to “shortage” in supplies.



Catalonia Region

Sustainable transformative initiatives Policies in and for Catalonia

Solutions identified during stakeholders meeting



Sustainable transformation opportunities

Leverage points identified at Catalan level

Palanques de Transformació Competitiva 			
01.	02.	03.	04.
Transformació Digital	Transformació Ecològica	Nous mercats	Innovació
Incorporar noves tecnologies als processos de disseny, producció industrial i comercialització de productes per tal de guanyar eficiència i accedir als consumidors són claus per a la viabilitat de les indústries de la Moda.	Els consumidors esperen noves empreses amb propòsit social i mediambiental. Ecodisseny, nous materials, certificacions, programes socials, nous proveïdors, nous models de negoci, comunicació una nova gestió del residu tèxtil.	La desaparició de molts competidors com a resultat de la crisi i l'aparició de nous canals i nous models de negoci generarà oportunitats de mercat que cal aprofitar. S'esvaeixen les fronteres internacionals.	Evitar la guerra de preus del sector de la Moda implica diferenciar-se i agregar valor als consumidors gràcies al relat de marca, la innovació en producte o la creació de nous models de servei dels nostres productes.

Sustainable transformative initiatives

Existing policies in Catalonia

- Adaptation of industrial textile companies toward higher efficiency and resilience
- Product range adaptation thanks to innovation
- Energy efficiency investments (building efficiency and own installations of renewable energy) by Textile manufacturers
- Intercompany collaboration for raw materials and energy supply
- Training and support provided by the textile sector Unions
- Platform to fund companies affected by the supply and raw materials crisis (measure of the National Pact for the Industry (2022-2025))
- Reinforcement of policies initiated before the pandemic :
 - Waste Cluster
 - Waste regulation
 - Green Procurement for textiles products



Gelderland province

- Research and Innovation Program on Circular textiles
 - Cluster on Fashion and Design
 - Supportive Innovation Ecosystem

1. Research and Innovation Program on Circular textiles

Wageningen University and Research; plant, environmental science, biobased research, economy (multidisciplinary)

Funding: Ministry LNV, province of Gelderland, EU, Laudes Foundation

Network: regional (Gelderland), research institutes France, Germany, Italy, large EU companies

Projects:

- Horizon Europe Engage4Bio (Improving understanding of and engagement in bio-based systems with training and skills development.)
- Horizon Europe CISUTAC
- Topsector SMP (agrofood residues to textiles)
- 13 proposal RegioGreenTex

2. Cluster on Fashion and Design

- New biobased materials, new applications, new functions
- Artez School of Arts; WUR;
- Mode 025 – network organization Fashion
- GIST – Gelderland network on sustainable textiles
- DCTV – Dutch Circular textile Valley – inter regional collaboration; Gelderland specialization Fashion and Design
- Mode neighbourhood (Mode Kwartier), ateliers, incubator, start-ups
- State of Fashion

3. Supportive Innovation Ecosystem

- Different intermediate organizations, facilities and support services for ideation and startup initiatives
- Active scouting for new ideas and innovations
- Regional development agency
- Cluster organization
- Startlife
- Innovation brokers at knowledge institutes and within public administrations
- ...



Sofia Municipality

GP1: Introduced "Door-to -Sorting center" textile waste collection service on demand :

TEXAID Ltd introduced "Door-to -Sorting center" textile collection service during COVID -19 outbreaks: Collection of clothes in large quantities (min. 10 - 20 shopping bags) from the addresses of persons who have previously requested this service. (new service)

GP1 has high social effect, as the waste generator does not have to look for opportunities for regulated disposal of large quantities of waste.

GP2 - School collection -: Textile collectors campaign activities at schools

Textile collectors aimed at promoting separate collection, reduction of wastes and preparation for reuse and recycling of waste textile clothing generated; (new service)

GP2 Adds high value to circularity model from an environmental point of view, textile waste continues to be collected and handed over for reuse or appropriate treatment.

GP3- used clothes return deposit loyalty system at shops:

H&M stores in Sofia , Bulgaria organise used clothes deposit system at shops ; H&M stores in Sofia introduced collection of textile waste from clothes for reuse or recycling linked to discount loyalty programme at shops. Part of H&M Group wider sustainability campaign on Re-wear: Re-work: Recycling;(Ongoing service)

GP3 Demonstrate high value and resilience, because from an ecological point of view, textile waste continues to be collected and handed over for reuse. High social and multiplying effect related to the resource efficiency and circular and climate positive organisations, people and communities.



4. Policy options and actions



Lombardy Region

1. *Creation of Science and Technology Parks*

The "Protocollo d'Intesa" between the Rectors' Conference and Confindustria has as its basic objective the pursuing in the medium-long term and the strengthening of the country's research and innovation infrastructures. There are three models that can be configured: a) research "national networks"; b) national institutes; c) science and technology parks.



CONFINDUSTRIA

The allocation of public funds and the contribution of the State and the Regions should essentially take place in the start-up phase of the initiatives. It would be advisable to ensure management autonomy for the structure by providing, if necessary, only contributions for counter-benefits. The fundamental rule to be respected is, in fact, the one relating to the autonomous financing capacity of these structures.

The SMEs, often excluded from the research processes, could benefit from this action by economically using the derived results. In fact, Italian universities represent an enormous reservoir of knowledge, often not used for production purposes.

1. *Creation of Science and Technology Parks*

Case of Emilia Romagna

“Rete dei Tecnopoli dell'Emilia Romagna” is a High Technology Network of Emilia-Romagna and is made up of industrial research laboratories and innovation centers accredited by the Region, which proposes itself as the ideal partner to offer concrete solutions to the development's needs of companies. The Network is organized into 6 Thematic Platforms defined starting from strategic themes whose technological development is able to influence the growth, competitiveness and sustainability of the territory:

- 1) Agri-food
- 2) Construction
- 3) Energy Environment
- 4) ICT and Design
- 5) Mechanics Materials
- 6) Science of life.



2. Strengthening of relationships with universities and companies on environmental sustainability

Case of Abruzzo

The Abruzzo Region has, together with universities, businesses and social bodies, defined the Carta di Pescara, a planning document that incorporates the guidelines of European policies on environmental sustainability applied to industry. Membership, for interested companies, is voluntary and allows them to take advantage of some advantages such as: procedural simplifications, reduction of administrative, fiscal and tax burdens, financial benefits and supporting legislation. Thus, for Lombardy Region, it could be a starting point for the implementation of a similar agreement, but built mainly on circularity.

3. Promotion and creation of energy communities

The Piemonte Region was the first to adopt, in 2018, a law for the "Promozione dell'istituzione delle comunità energetiche" (Promotion of the institution of energy communities) (Law no. 12 of 3 August 2018). This law gave the mandate to explore what possibilities could arise for people, organizations and companies to exchange self-produced energy with renewable sources, creating an energy community. The following year the call for applications came out. The conditions for being considered suitable concerned the number of subjects involved, the production and consumption volume of the group.

Case of Piedmont

“Energy City Hall” is the first energy community built in Italy, based in the Municipality of Magliano Alpi, in Cuneo, Piedmont.



4. GPP promotion and dissemination

Preparation of a Regional Plan on Green Public Procurement and preparation of training / information tools.

Case of Friuli Venezia Giulia

The Friuli Venezia Giulia Region, as well as other Italian regions, has prepared a regional action plan for green purchases, including training and technical support activities for the regional personnel responsible for purchasing, in the preparation phase of the plan itself. The Regional Plan, starting from the reference legislation and from what has been done at the central level with the National Action Plan on GPP, has the purpose of promoting and implementing GPP policies and practices within the Regional Administration by introducing green purchases in the Departments Central and regional bodies and by disseminating and encouraging GPP throughout the local public sector.

Furthermore, the Region has prepared a very useful document entitled "FAQ GPP" which clarifies in a simple and effective way in which phases of the purchasing procedures it is possible to introduce elements of GPP, describing for example how to enhance environmental considerations in the subject of the contract, or how to use environmental labels or environmental management systems in GPP.

5. Promotion of private initiative on IoT issues

Development of information campaigns that allow businesses and citizens to get to know more closely the financing tools available in the research, innovation and IoT sector.

Case of Veneto

The Veneto Region has created a youtube channel, entitled FESR Veneto, in which there are descriptive and informative videos of the various AXES (Assi), which offer food for thought and raise awareness on the issues dealt with by the FESR. One of these videos is specifically dedicated to research, innovation and technology transfer, representing a valid support tool in the context of regional communication policies.



6. Promotion of green and sustainable buildings

Support in the adoption of certifications through incentives for the development and adaptation of sustainable buildings. Measures for the implementation of adaptation and renewal interventions of the plants, possibly combined with the use of renewable energies and the eventual recovery of energy, and / or interventions for energy efficiency and emissive improvement of buildings.

Case of Piedmont

Piemonte Region, as part of the PREPAIR project, has launched a tender for the creation of training courses for "Green requalification of private buildings". Object of the call: Service for the construction and provision of 4 editions of the training course "Green requalification of private buildings: starting from condominiums". This was an initiative based on formation and communication to implement green models.



7. Promotion of new circular consumption models

Investing in hardware, software and services that guarantee citizens access to garment sharing services. Encourage the development of second hand platforms for the exchange of used clothing. Promote communication campaigns and initiatives aimed at raising citizens' awareness of new circular consumption models.

Case of Caserta Chamber of Commerce (Campania)

Digital Vouchers. The intends to promote the dissemination of digital culture and practice in Micro, Small and Medium Enterprises, from all economic sectors through economic support for digitization initiatives, also aimed at green-oriented approaches to the productive fabric. They are beneficiaries of the call for Micro, Small and Medium Enterprises based in the territory of the Chamber of Commerce of Caserta. The benefits will be granted in the form of a voucher. The vouchers will have a maximum unit amount of € 6,000.00. This instrument has financed interventions relating, for example, to: internet of things and machines; technological solutions for immersive, interactive and participatory navigation (reality augmented reality, virtual reality and 3D; big data and analytics; additive manufacturing and 3D printing; artificial intelligence; blockchain; digital technological solutions of the supply chain for the optimization of the supply chain.

8. Contribute to the definition of the End of Waste legislation and its understanding

New policies could remove the potential barriers caused by the categorization of the fabric used as waste, starting support strategies for the elaboration of the End Of Waste Decrees, necessary for the reuse of secondary raw materials.

Case of Toscana

On January 17, 2020, the "Textile Pact" was signed in the Tuscany Region, aimed at identifying measures to address the critical issues in the management of textile waste in the Lucca-Prato-Pistoia district. The "Textile Agreement" protocol was signed between the Tuscany Region, the Municipality of Prato, Alia Servizi Ambientali SPA, Confindustria Toscana Nord, CNA Toscana, Confartigianato Toscana / Textile / Fashion and Astri. For a long time the Region had argued that the critical issues of special waste management concerned private individuals and not institutions, called upon to manage only urban waste. Finally, however, the same Region has embraced the proposal of Confindustria Toscana Nord to evaluate scenarios that envisage synergistic solutions for urban and special waste, overcoming the division that represents a limit to investments. The protocol contains some concrete proposals made by the Region, including the provision, for the textile waste of the district, of a platform owned by ALIA that will take care (the complex authorization phase has yet to be completed) for the collection from the companies, of the characterization and of a first processing in view of a subsequent sending to recovery or disposal plants.

9. Directing infrastructure investments towards schemes such as integrated post-use collection and reprocessing systems

Case of Puglia

The Puglia Region (Dec 2021), has adopted a new Regional Plan for the Management of Urban Waste, which adopts the principles of the circular economy and has the following general objectives: reduction of waste production; definition of general criteria for the location of MSW management plants; acceleration of the achievement of separate collection, recycling and recovery objectives; strengthening of the plant equipment at the service of the cycle; evaluation of technologies for energy recovery solid secondary fuels (CSS) deriving from municipal waste; rationalization of the costs of the integrated waste cycle.

The objectives of the program in summary are: dissemination of the culture of sustainable production (eg eco-design) and raising awareness of a conscious and efficient use of natural resources; integration of environmental criteria in the procedures of Public Administrations (Green Public Procurement); encouraging practices for extending the life cycle of products and strengthening the integrated reuse chain (eg municipal collection, repair and reuse centers); reduction of waste production through the dissemination of good practices, such as those that combat food waste, and agreements with the parties involved; reduction in the quantity of waste destined for landfills, in particular for durable goods.



Catalonia Region

Sustainable transformative initiatives

Policy solutions proposals for Catalonia

- New governance systems (collaboration between actors of the value chain and public-private partnerships)
→ *Pacte per a la Moda Circular* (work in progress)
- Consumer awareness
- Clearer information on textiles and a digital product passport
- Enhancing industrial innovation to improve resilience
- Support reshoring and near shoring
- Incentives for new business models in public procurement
- Controls on imported products
- Carbon border tax



Gelderland province

Options

- Interior/Housing, construction/insulation
- Small high value added production lines; role of design; niches; fashion cluster Arnhem; new products with local bio resources and waste streams

Bio resources

- Increase bioresources production in the regio'; fibre rich
- Regional processing; fibre campus.
- Identification of opportunities for new applications of bio waste, recycling of textiles
- Improve collection, sorting and recycling of textiles; coordination, synergies en finding the optimal scale.
- Facilities, regional versus level of Western Europe; recycling in Lille?

Organisational power

- Connect the value chain; waste and primary production, with processing and manufacturing;
- From pilots to large scale projects;
- Quadruple helix collaboration on societal challenges; circular, climate adaptation and mitigation; innovations and transitions;
- Intermediate; support services; cluster, platform or network; (Kiemt, Oost NL, DCTV, Gist).

Society

- Public values and perspectives of circular economy, optimal utilization and valorization of bioresources, renewables; limited transport;
- Awareness, understanding and engagement for circularity, re-use, re-pair. Increase collection of waste streams. Show the opportunities of circular textiles; Demonstrations and inspirations;
- Human capital, capacities and capabilities; education

Instruments

- Support small initiatives, startups and pilots; connections;
- Circular procurement; clothing, interiors
- Subsidies EFRD, provincial funding; funding research program;
- Investments in intermediates as clusters and RDA
- Policy frames and priorities;
- Connect with national policies;
- Agenda setting; circularity; biobased; climate program



Sofia Municipality

Policy options

Sofia municipality concept and objectives

The key intention to continue the process of roadmap for transition to circular economy (CE) in the capital city of Sofia, to discover the local and regional performance concerning practical implementation of measures related.

- *To set up systematic and impactful internal and external communication plan for raising awareness on the circular economy;*
- *To embrace a systemic approach to the circular economy in the capital city political and economic agenda;*
- *To draft and imply clear roadmap to deepen the actions that promotes consultation and collaboration between stakeholders;*
- *To foster and strengthen coordination between local government and key stakeholders.*

The municipality policy goal is to build a stronger framework for circular economy models and better coordination of activities between stakeholders through:

- *Increasing cooperation among stakeholders in the field of the circular economy;*
- *Increasing initiatives to take measures aimed at circular economy models;*
- *Prevention of waste generation;*
- *Improving waste management by applying circular economy models.*

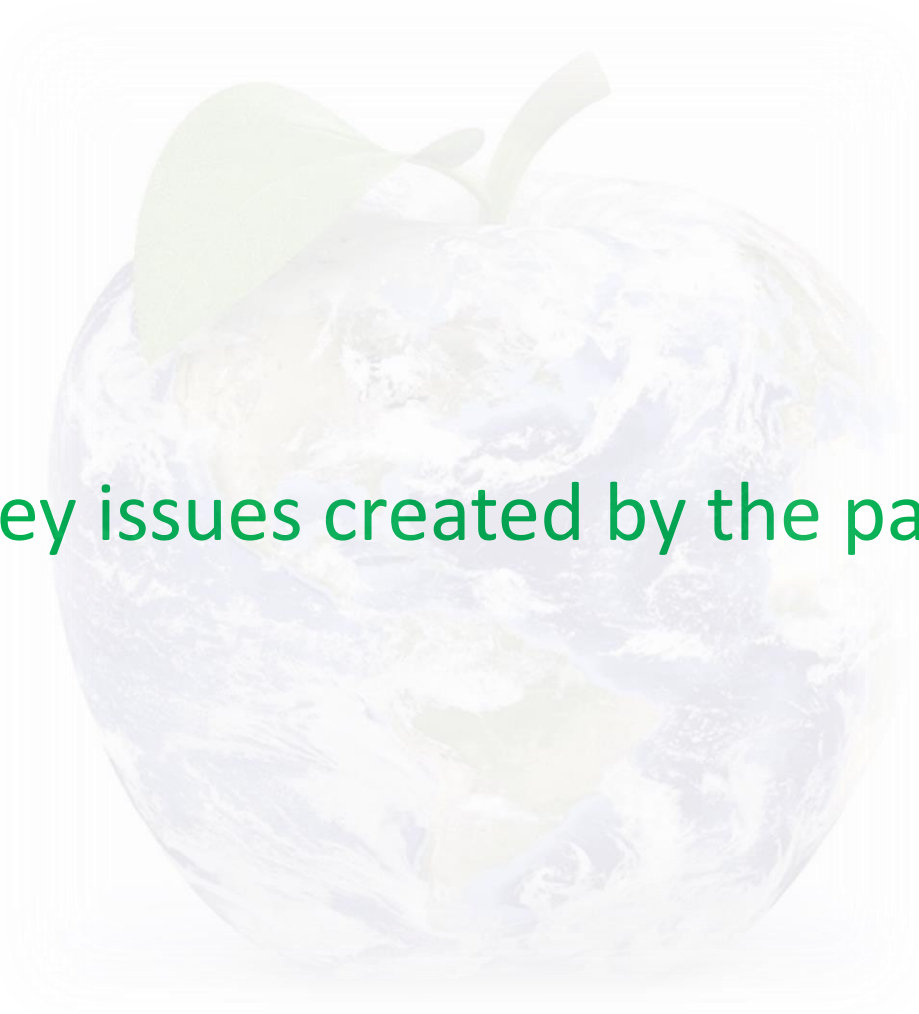
Policy actions

Sofia municipality to initiate steps to modify waste management programme with the inclusion of a CE section, and provide additional focus of CE leading to mapping circular economy actors, cross-cutting projects, increasing the knowledge of the regional context and to understand the readiness to develop CE, networking, ideas-gaps (opportunities) among partnerships and stakeholders, as follows:

- ***Improving circular economy actions at the local level;***
- ***Introduction of the circular economy for certain waste streams incl. textile waste;***
- ***Introduction of a system of incentives to increase the separate collection of municipal waste at source.***



Food waste sector



1. Key issues created by the pandemic





Lombardy Region



The food sector in Italy

The extended agri-food chain (agricultural sector, food industry, distribution and Horeca) is the leading economic sector in our country, with a turnover of over 500 billion euros and almost 4 million employees (Tondo, 2021).

Some of the winning factors of the Italian agri-food industry:

- Wide range of high quality products;
- Certified products at the "Top" of international markets;
- Close links with the territory and with the Italian cultural heritage;
- High safety standards;
- Ability to combine tradition and constant process and product innovation.

(Italian Trade Agency, 2017)



(Beverfood, 2018)

The importance of this sector is such that the Covid-19 pandemic has affected the agri-food sector relatively little, with a 4% contraction in terms of value added on an annual basis (Tondo, 2021).

Beverfood, 2018: <https://www.beverfood.com/documenti/settore-alimentare-italiano-2017-chiude-positivamente-produzione-132-miliardi-euro-wd111566/>

Italian Trade Agency, 2017: L'agroalimentare in Italia: produzione ed export
https://www.ice.it/sites/default/files/inline-files/NOTA_AGROALIMENTARE_E_VINI_2017.pdf

Tondo, 2021: <https://www.tondo.tech/blog/2021/06/29/circular-economy-for-food/>

Some of the main economic impacts on the food sector:

- **The production index** for the food industry in the second quarter of 2020 **decreased by 5.3%** compared to the same period last year (however, in the face of a much more evident reduction in the manufacturing industry, equal to 27.5%);
- The **logistical and production complexities** and the **lack of seasonal workers** have affected the functioning of the supply chains and the **difficulties in procuring raw materials**.
- **Export difficulties** that have impacted above all on made in Italy companies engaged in the production of quality wine, beer, cured meats and cheeses;
- Economic impacts related to the **closures of the Ho.Re.Ca.** and the **elimination of tourist flows**. In the second quarter of 2020 compared to 2019, catering showed a 64.2% decrease in the turnover index.

According to an ISMEA survey carried out on a panel of agricultural companies and the **food industry**, the latter **suffered most from the COVID-19 emergency** due to logistical difficulties, personal shortages and the difficulty of complying with health protection requirements.
(Crea, 2020)

Crea, 2020, *Valutazione dell'impatto sul settore agroalimentare delle misure di contenimento covid-19*.
<https://www.crea.gov.it/documents/20126/0/Valutazione+dell%27impatto+sul+settore+agroalimentare+delle+misure+di+contenimento+COVID+19.pdf/7b9d5345-caca-1fcf-a699-1aabffb83020?t=1589809230780>

The trends introduced by the pandemic on the consumer side

- Greater use of **online shopping and food delivery** (+ 43.6% the value of e-commerce sales);
- Particular attention is paid to **storable products** (pasta, rice, flour, preserves, etc.) to create home stocks and prepare for any situations of scarcity and to **healthy food**;
- Preference for **local foods**, avoiding products imported from countries where the number of infections was higher;
- Preference for **packaged or cooked products**, avoiding products to be consumed raw (growth in retail sales of packaged agri-food products: + 18% in the 2020 lockdown period compared to the same period in 2019);
- + 3.5% GDO sales and + **6.5% small retailer sales** (due to proximity to the home and safety in terms of reduced crowding).

While on the one hand non-domestic consumption showed a strong contraction, on the other, domestic consumption was favored by the restrictions put in place to tackle the pandemic: in the second quarter of 2020, according to Ismea data, the domestic spending of Italian families for food products it grew by 11%.

What happened from the point of view of sustainability and the Circular Economy?

Greater attention of consumers to **the sustainability of the packaging**, and, in particular (from companies side), to the **reduction of formats**.

Greater attention to **product safety** and the origin of raw materials (the issue of **traceability** and **clarity of labels** is important).

Consumer preference for the purchase of **healthy food**.

Increase in **the perception** by businesses and consumers **of food waste as an environmental problem** and cause of **an increase in costs**.

Overall, sector surveys suggest to political subjects to focus on the following aspects:

1. **Facilitate business access to work** for both immigrants and the workforce available from other sectors, ensuring the safety of working conditions;
2. **Facilitate the transport and logistics of perishable products** (fresh milk, fruit and vegetables) which are those that run the greatest risks;
3. **Recognize as "essential" all the parts of the supply chain**, upstream and downstream including for example feed and packaging, in order not to damage the production chain;
4. Guarantee the integrity of the supply chain through measures that strengthen **traceability in order to protect trust in food safety**;
5. In commercial relations, **monitor any sanitary and phytosanitary barriers** (SPS);
6. **Guarantee liquidity to businesses**, avoiding credit restrictions, introducing measures that can alleviate financial tensions and help businesses;
7. **Ensure access to food** for the most vulnerable sections of the population.



Lower Silesia Region



- In 2021 17% of gastronomic establishments was closed compared to the number from 2019.
- the effects of COVID-19 were hardest hit by discos, seasonal venues and pubs, where meeting others in person are main motive of customers. On the other hand, venues created with a view to eat a meal quickly, such as pizzerias or fast food restaurants, found their way easier in covid reality.
- Estimating food losses and food waste is a difficult challenge. First of all, the issue itself has an ethical dimension, which is why both business entities and households are reluctant to admit that they waste food.



Sofia Municipality



Sofia Municipality (SM), Bulgaria settled and successfully operating systems for collection of 13 (thirteen) different streams of household waste.

Overall the food waste fraction represents around 9,0 % (57 408 tons) of the total waste generated per year (2020) in Sofia. At the end of 2021, the total amount of separately collected food waste was 4992 tons for Sofia territory .

Since the beginning of 2014, a system for separate collection of bio-waste (food and kitchen) has been introduced on the territory of Sofia Municipality. At present, the covered more than 700 sites of the system are schools, kindergartens, catering establishments, restaurants, agro-food markets, commercial sites, hotels and other sites whose activities generate food and kitchen waste. The collection and transportation of bio-waste is carried out by Sofia municipality sole enterprise "Sofia Waste Treatment Plant" which operates a biological treatment plant for treatment of bio-waste and green waste ("Khan Bogrov" site) . The site is in operation since January 2014 and has one CHP installation and composting facility as follows:

Installation for composting of biodegradable waste, with a capacity of 20,000 tons / year.

Installation for composting of green waste, with a capacity of 24000 tons / year.

In 2021 Sofia Municipality has realized the production of 13,858 tons of high quality compost and produced 1,081 MWh electricity.

At Sofia municipality a "Waste Management Information System" has been established since 2014. The system collects and processes information on waste management of SM .

The information system allows complete standardization and automation of activities, sites and registers related to waste management by collecting and processing information about packaging waste and waste materials from paper and cardboard, metal, plastic glass, and widespread waste, for sites under regulatory requirements of the Waste management act in Bulgaria, as well as the data on the quantities of household bio-waste and construction waste.

Sofia linear to a circular early stage economy transition in line with international experience to date. The activities encompass communication, consultation, representation, partnerships and co-production depending on available resources, sub-sectors and level of participation in the process.

*CHP installation and
composting facility(photos):*



-Safety of solid waste management (SWM) workers at SOFIA WASTE PLANT:

The livelihood of the workers (manual staff and administration) have been affected lightly by the lockdown due to COVID-19 –The issue highlighted the need to create safer and healthier conditions inside the premises during pandemic times;

-Redistribution of waste collection:

Waste generation at residential areas increased, shifted from commercial and administrative zones to living areas;

-Challenges in collection and disposals of municipal waste :

Increased generation of municipal waste has made financially and physically challenging for municipality and the waste collection companies to cope;

-Increased healthcare and social protection costs related to COVID-19 as well the municipal revenues were impacted;

*** Recycling activities have been affected lightly by the lockdown due to COVID-19.**

-Highlights the critical need to sustainably manage the environmental impact of human activities and to adopt more sustainable SWM practices, thus mean to increase food and textile sectoral waste sector funding schemes and adapt comprehensive solutions to downsize risks and control inadequate disposal of municipal waste;

-Reinstate the need to increase partnering with private sector through public private partnership to find sustainable solutions (eg. Established cooperation with for textile waste collection companies in Sofia municipality);

-Supply chain distribution slowdown and reduction of manufacturing and commercial activities with direct implication on waste collection companies;

-Municipal waste has increased in volume, overwhelming existing waste collection and disposal systems, especially leading to stockpiling at medical and single use plastic –based and packaging materials.



2. News in the legislation



Lombardy Region



European context

- December 11, 2019: Presentation of the **European Green Deal**
- March 11, 2020: **Action Plan for the Circular Economy**
- May 20, 2020: Presentation of the "**From Farm to Fork**" Strategy

The **Farm to Fork strategy** aims to accelerate our transition to a sustainable food system which should:

- have a neutral or positive environmental impact;
- help mitigate climate change and adapt to its impacts;
- reverse the loss of biodiversity ensure food security, nutrition and public health;
- ensuring that everyone has access to sufficient, safe, nutritious and sustainable food;
- preserve the affordability of food while generating more equitable economic returns, promoting the competitiveness of the EU supply sector and promoting fair trade.

Farm to Fork Strategy

The strategy sets out both regulatory and non-regulatory initiatives, with the common agricultural and fisheries policies as key tools to support a just transition.



“Legislative framework for sustainable food systems”

Its goal is to accelerate and make the transition to sustainable food systems easier. It will also have as its core objective the promotion of policy coherence at EU level and national level, mainstream sustainability in all food-related policies and strengthen the resilience of food systems.

It will be adopted by the Commission by the end of 2023.



COM (2021) 689 Final 12.11.2021

“Contingency plan for ensuring food supply and food security in times of crisis”. Emergency plan to ensure food supply and food security in times of crisis. The plan aims to ensure citizens have a sufficient and varied supply of safe, nutritious, affordable and sustainable food at all times.



Proposal for “Sustainability labelling framework”.

It will cover the provision of consumer information relating to the nutritional, climate, environmental and social aspects of food products.

Italian context

- Food safety legislation (law no. 283/1962)
- In Italy, the issue of managing any unsold product was dealt with under the so-called **Gadda Law, Law 166/2016** containing specific provisions concerning the donation and **distribution of food for the purposes of social solidarity** and for the limitation of waste.
- New CAMs: decree n. 65 of 10/03/2020
"Minimum environmental criteria for collective catering and food supply"





Lower Silesia Region



Act of 19 July 2019 on counteracting food waste

The act, deals with directly less than 7% of the pool of food wasted in Poland per year (weighing 341 thousand tons) and it is worth noting that according to the NIK (Supreme Chamber of Control) report, organizations recovered approx. 5.5% of food wasted in trade. The provisions of the act include obligatory information campaigns conducted by retail chains, the question remains unanswered about their impact on the consumer as responsible for 60% of the generated waste, and considering the time of their emission and frequency, its effectiveness in this link seems to be questionable.

One of the stakeholders of CircE project has analysed its functioning under provisions of the Act.

The act certainly supports and increases the recovery and redistribution of food, and it certainly caused the systemic ordering of relations with sellers and strengthened the position of non-governmental organizations in relation to retail and wholesale trade units. Thanks to the act, commercial establishments, especially chains, which, before the act, did not have the will to cooperate in this area, started to apply for cooperation in the field of food recovery. The main problem at the time of the entry into force of the Act regulations and the existing long-term practice of food recovery is their incompleteness and imprecision as well as the lack of funds for handling, coordination and recovery of the food. The newest experience after 2 years of the act's operation necessitates its review and making the necessary adjustments to improve its implementation. From 2016 to 2021, the recovery increased by 600% however it can be seen that there is already a decrease under the act of law. The increase in the number of retail outlets did not translate into an increase in the amount of recovered food. The beginning of 2022 showed dramatic declines in transfers of recovered food. It is still too early to draw precise conclusions why that is happening.

To sum up, the act in its present form is only a contribution to further changes, the aim of which should be to increase the systemic motivation to save food, to include a broader catalog of participants in the act, and to increase the educational component in relation to households.



Sofia Municipality



According to the Waste Management Law (WML) in Bulgaria, the mayor of the municipality is responsible for:

- the separate collection of household waste on the territory of the municipality at least for the following waste materials: paper and cardboard, metals, plastics and glass;
- the organization of the activities for separate collection of widespread waste and / or renders assistance to the organizations for recovery of widespread waste, incl. determines the locations for the necessary elements of the separate collection systems and the locations for the transfer of widespread waste.

In accordance with the requirements of the national legislation and the waste management policy, it is important for the Sofia Municipality to increase the quantities of household waste for reuse and recycling.

! By 31 December 2023 - to provide separate collection or recycling at the source of bio-waste (eg. home composting).

*This is in addition to the already existing separate collection for paper and cardboard, glass, metals and plastic.

In accordance with the national goals for reuse, recycling and recovery of waste, as well as the pursuit of municipal goals for recycling, recovery and reduction of landfilled waste led to the setting of Strategic Goal "Increasing the amount of recycled and recovered waste and prevention of the risk of landfilled waste" within the Waste Management Programme of Sofia Municipality.

Sofia Municipality is to initiate steps to modify Waste Management Programme with the inclusion of a circular economy (CE) section, and provide additional focus of CE leading to mapping circular economy actors, cross-cutting projects, increasing the knowledge of the regional context and to understand the readiness to develop CE, networking, ideas-gaps (opportunities) among partnerships and stakeholders.



3. Good practices



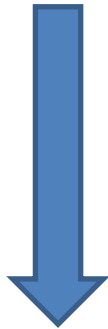


Lombardy Region



Stages of CE: a focus on the food sector

7 STAGES



**20 MAIN CATEGORIES OF
BUSINESS BEST PRACTICES**

53 EXAMPLES



**19 PROPOSED POLICY
SOLUTIONS**



Image: European Parliament

Some examples...

DESIGN

Ecodesign for sustainable packaging



Collaboration for the production of totally compostable food packaging, which can be disposed of in the collection of organic waste.



Design of packaging made with materials from food by-products.

PROPOSED POLICY SOLUTION: Measures aimed at supporting the inclusion of qualified figures in the R&D area (with adequate preparation on the issue of the circular supply chain) within companies can be implemented. At the same time, the building of stable relationships between the world of research and innovation can be supported.

VALUE IN TERMS OF POST COVID-19 RESILIENCE: Design for recycling aims to increase the availability of secondary raw materials, increasing the resilience of downstream sectors.

RAW MATERIALS

Responsible and short supply chain/responsible sourcing policy



Unilever has developed a responsible sourcing policy which includes a set of mandatory requirements that all its suppliers must meet in order to do business.

PROPOSED POLICY SOLUTION: Policymakers can stimulate demand of food products that comes from a responsible supply chain and encourage businesses to respect/adopt a green procurement.

VALUE IN TERMS OF POST COVID-19 RESILIENCE: The increase in the safety and sustainability of supplies makes the sector more resilient in the event of a health crisis; furthermore, with the pandemic, consumers pay greater attention to product safety and the origin of raw materials (the issue of traceability and clarity of labels is important).

PRODUCTION

Process decarbonisation



Illy supports major investments to minimize the environmental impacts of the coffee processing processes at the Trieste plants, in line with the Carbon Neutrality objectives.



Starting from 2020, all the activities of the production plants, offices, flagship stores and company vehicles have reached carbon neutrality. Lavazza also aims to offset indirect emissions along the entire supply chain of the Group, upstream and downstream of our operations: from green coffee to packaging, from logistics to disposal.

PROPOSED POLICY SOLUTION: Encourage collaboration between companies (for example, through associations), to devise new self-regulation and development protocols. Provide financial support to lead small and medium companies toward the transition.

VALUE IN TERMS OF POST COVID-19 RESILIENCE: The decarbonization of the business and the commitment to the 1.5 pledge roadmap can promote the resilience of the post-pandemic production system.

DISTRIBUTION

Sustainable Transport and Logistics



Use of forms of intermodal transport for the reduction of emissions in the Logistics sector. Coop has significantly reduced its emissions in the Logistics and Transport sector through rail transport.

PROPOSED POLICY SOLUTION: Provide incentives for companies that adopt greener logistics and transport systems. Encourage the creation of gas transport networks. Encourage the sale of bulk/draft products.

VALUE IN TERMS OF POST COVID-19 RESILIENCE: The gradual switch from a traditional transport to intermodal transport of to transport with alternative fuels with reduced CO2 emissions, can promote the resilience of the post-pandemic food-distribution system.

CONSUMPTION/USE/REPAIR/REUSE

Promote responsible consumption



The new returnable empty bottles, also called "UNI" because they are universal among all beer producers, now have the indication "returnable empty", in order to communicate the sustainability of this packaging in a clear and immediate way to the consumer. The empty returnable bottles are more resistant than normal bottles to allow their reuse, with a life cycle ranging between 15 and 18 reuses. *Peroni Vuoto a Rendere* is available in Italian bars and restaurants, in 20 cl, 33cl and 66cl formats.

PROPOSED POLICY SOLUTION: Development of digital channels and innovative customer relationship management tools (CRM) to support marketing from a circular perspective. Communication campaigns and awareness-raising initiatives aimed at encouraging the use of new forms of consumption by citizens.

VALUE IN TERMS OF POST COVID-19 RESILIENCE: Educational projects increases the awareness of consumers on food waste and circularity, thus avoiding food waste and favoring packaging correct division.

COLLECTION

Collection for solidarity purposes



The companies periodically donate products to Banco Alimentare that are no longer salable for various market reasons (seasonality, logistical variants, etc.), but are still perfectly edible.

PROPOSED POLICY SOLUTION: Invest in hardware, software and services that guarantee citizens access to food sharing services. Platform development.

VALUE IN TERMS OF POST COVID-19 RESILIENCE: The possibility to donate food, which alternatively would have been thrown away, has positive implications both for consumers and for the company. With regards to the company, it can donate food thus reducing the amount of expired food to throw away; with regards to the consumers, the possibility to easily donate food may encourage them to adopt a more sustainable consumption, increasing the amount of expiring food they buy (in case of expire, they know this is donated and not wasted).

RECOVERY / RECYCLING

Industrial symbiosis (Recovery of agri-food chain waste / resources sharing ecc)



Caviro Extra annually collects about 370,000 tons of musts, lees and marc and wastewater which - at two plants in Faenza and Treviso - translates into semi-finished products and raw materials for agronomic, industrial, pharmaceutical, food and beverage companies all over the world.



Funghi Espresso uses the coffee grounds as a growing medium, combining it with the "seed" of the mushroom. All in a completely natural way, without the use of chemicals.

PROPOSED POLICY SOLUTION:

- New policies could remove some trade bans between sectors or incentivize the transfer of raw materials and products.
- The region could offer (or guarantee) support for the establishment and strengthening of partnerships between companies (of non-connected sectors) linked by belonging to the same territorial area, aimed at favoring strategic projects.
- Support strategies could be launched for the elaboration of the End Of Waste Decrees, necessary for the reuse of secondary raw materials.
- Partnerships between research centers (eg. university) could be promoted to develop strategic research projects.

VALUE IN TERMS OF POST COVID-19 RESILIENCE: Industrial symbiosis, allowing exchanges of production inputs and outputs between companies operating in different production cycles and supply chains, allows to effectively resist "shortage" both in procurement and in supplying end markets.



Lower Silesia Region



Project Foodshift2030

A food system needs a shift towards more plant-based, resilient and localized food systems.

The FoodSHIFT 2030 framework focuses on increasing the technological and societal readiness levels of food system innovations in nine selected city-regions across Europe. It focuses on identifying, maturing and scaling-up citizen-led innovations in the local communities that respond to social and environmental challenges, using sustainable design and circular economy principles to help scale and grow initiatives to become economically viable and socially valuable.

The Wroclaw FoodSHIFT Accelerator Lab will increase the accessibility of food gardens to different social and aging groups by creating linkages between sustainable local food producers and consumers, education and engagement of stakeholders. It will create a model for establishing new social gardens with training and material support for an urban gardener.

campaign #WROCLAWNIEMARNUJE (Wroclaw does not waste)

- Wrocław City launched a special website [wroclaw-nie-marnuje](http://wroclaw-nie-marnuje.pl) - it is a place where are information on where to give away food, unnecessary toys, clothes and books. These are not landfills, but places where everyone has a chance to use the potential of unwanted, but still attractive, items for free. The interactive map also includes places that support not wasting: shops, cafes, restaurants - all aimed at the circular economy.
- The bills from The Municipal Water and Sewerage Company will contain information on water quality parameters. The supplied water meets the strictest Polish and European standards.
- Large events in Wrocław will be more eco-friendly. Wrocław Marathon will give up plastic cups for the first time in the history of the run and runners will consume water and isotonic drinks from biodegradable dishes.

Biocanteens project

The main goal of the project implemented by Wrocław City is to introduce healthy and balanced meals in schools using organic and local products and to reduce food waste in 4 Wrocław schools. The process begins at the stage of preparing the menu (e.g. by including dishes with increased and better use of legumes or by using the seasonality of vegetables and fruits). After that, it is important to adjust the food ration to the child's appetite and use the excess of one product to prepare another - to reduce food waste. It is also a practice related to the education of children and encouraging the youngest to eat new dishes. It is also important to remember what to do after the meal - the waste needs to be sorted and the food that a child has left on the plate should be weighed.



Sofia Municipality



GP1: Large grocery chain stores procure better quality and more durable goods and thus reduce food waste generated .

-Highly valuable business practice at grocery chain stores , because the quantities of generated waste at the source (food and packaging waste) are steadily reduced (continued service)

GP2: Introduction of " Food box " - a special stand that offer food /meals with an expiring but still valid expiration date during Covid-19 outbreak / lockdowns.

Highly valuable grocery chain stores good practice because the amount of waste generated is steadily declining, and there is a high social value, especially in the current situation when food prices are continuously rising (new service)

GP3: Prepaid food (eg. bread) or beverage (eg. coffee).

-Social community -based imitative during Covid-19 outbreaks in local and small shops and coffee bars(dining, coffee and snacks).

GP4: Expansion of the system for separate collection of food waste .

- Sofia waste treatment plant (SWTP) to accept/deliver separated food waste from other/or neighboring municipalities to the bio waste treatment installation in Sofia ("Khan Bogrov" site)
-Creates a culture of separate disposal of food waste. Enables the built installation for production of biogas and electricity (CHP) from food waste to work at full capacity, in normal technological mode. (New measure proposal)

GP4: Expansion of the system for separate collection of food waste

- Sofia waste treatment plant (SWTP) introduced direct collection of food waste from hospitals , day care medical centres and hospices during Covid-19 outbreak / lockdowns (New service)

GP5: Expanding the scope of an existing project for separate collection of food waste

-Sofia municipality to purchase more bio waste containers and placing them in different size and management residential complexes in Sofia, incl. gated type households/ living complexes. (New pilot scheme proposal)



4. Policy options and actions



Lombardy Region



1. Call for proposal for EIT Food

Case of Sardegna

Sardegna Region have opened the call for proposal for the EIT Food. EIT Food's vision is a world where everybody can access and enjoy sustainable, safe, and healthy food – with trust and fairness from farm to fork.



The intention of this Call for Proposals is to maximise the societal, economic and environmental impact of innovative ideas and consortia within the scope of EIT Food's Impact Framework, as described in the Strategic Agenda 2021-27.

EIT Food's Impact Framework targets four primary Impact Goals for food system change: - Improvement in conditions for enhanced public trust in the food system - Reduction in relative risk of obesity & Non-Communicable Disease (NCD) prevalence in target populations due to known dietary factors - *Improved environmental impact of agri-food systems* - *Enabling transition to a circular & sustainable economy.*

https://www.eitfood.eu/media/documents/EIT_Food_Strategic_Agenda_2021-2027.pdf

2. Promote the dissemination of Food CAMs

Case of Regione Veneto

The Veneto Region, on its website, provides specific information on the legislation on Minimum Environmental Criteria applicable to the catering sector. In particular, the enhancement of zero kilometer products and the short supply chain, the implementation of solutions to reduce the environmental impacts of logistics and the verification of working conditions along the supply chains, using companies or specialized personnel who carry out unannounced checks at workplaces.



The screenshot shows the official website of the Regione del Veneto. The header includes the regional coat of arms and the text "Regione del Veneto - Il portale della Regione del Veneto". A search bar is located in the top right corner. The main navigation menu features "Home page", "la Regione", and "Servizi". Below this, a secondary menu lists "ASSESSORATI", "CONTATTA GLI UFFICI", "BANDI", "AVVISI", "MODULISTICA", and "DALLA A ALLA Z". The main content area is titled "Agricoltura e Foreste - Il settore primario del Veneto". A breadcrumb trail reads: "Agricoltura e Foreste / Prodotti agroalimentari di qualità / Produzione biologica / Mensa Scolastica Biologica / CAM - Criteri Ambientali Minimi /". Two columns of content are visible: "Prodotti agroalimentari di qualità" with sub-items "Vini DOCG, DOC e IGT" and "Prodotti DOP, IGP e STG"; and "CAM - Criteri Ambientali Minimi" with a news snippet: "Lo scorso 10 marzo sono stati adottati, con decreto n. 65 del 10/03/2020 'Criteri ambientali minimi per il servizio di ristorazione collettiva e fornitura di derrate alimentari' del Ministero dell'Ambiente e della Tutela del Territorio e del Mare (pubblicato sulla Gazzetta Ufficiale del 4 aprile 2020, pagg. 17-31), i nuovi criteri ambientali minimi (CAM), la cui norma entra in vigore il 02/08/2020."

<https://www.regione.veneto.it/web/agricoltura-e-foreste/cam-criteri-ambientali-minimi>

3. Promote new technologies for sustainable production

Case of Lombardia

The Lombardy Region funded a project for the construction of the IDaiS app, which saw the involvement of the University of Milan and 13 livestock companies (for Dairy Sustainability). Through this smartphone application, a data collection system is created, useful for measuring the milk delivered, not only from a quantitative and qualitative point of view, but also the environmental impact.

The information collected through this App allows you to control the production of the various companies and also to make a comparison between them in order to reward the most virtuous and to stimulate the others to sustainable production. The Life Cycle Assessment (LCA) method is applied to the collected data, a globally recognized method which, through an algorithm, allows to evaluate the environmental impact of a product throughout its life cycle: from the extraction phases of the materials raw materials, to production, distribution, use and final disposal.

The App therefore promotes the virtuous behavior of companies that become more sensitive to the environmental impact of their productions. But it also serves to create benchmarks to help the Cooperative's livestock farm optimize production.

<https://www.latteriasoresina.it/digital-sostenibilita/>

4. Protection of riders and digital workers (connection to food delivery)

Case of Toscana

Tuscany is committed to increasing the protection and safety of riders, initiated by regional law 18 of June 4, 2021.

With the decision of the council of last January 31st, in fact, a report was presented to the Regional Council of Tuscany on the state of preparation of the "Regional Technical Reference Document", provided for by the same law and aimed at identifying occupational risks and the consequent safeguards for this type of worker, whose vulnerable conditions emerged above all in the epidemiological emergency period, when mobility restrictions intensified home delivery services.

The elaboration of the document is entrusted to a working group of the Region-Health Authorities, coordinated by the ASL center and aims to implement the political address expressed by the regional law, aiming at expanding the sphere of protection in favor of digital workers regardless from the contractual framework. The setting of the guideline was presented to the Regional Committee on Occupational Safety, the Labor Inspectorate, Inail and the trade unions.

<https://www.toscana-notizie.it/-/riders-e-lavoratori-delle-piattaforme-digitali-in-dirittura-di-arrivo-indirizzi-per-tutela-e-sicurezza>

5. Educational projects against food waste

Case of Emilia Romagna

The Emilia Romagna Region has launched an educational project that involved 700 high school students who joined throughout the region, entitled “Stop waste: the taste of conscious consumption”.

It is an experiential educational project, dedicated to food at 360 °: tasty food, food attentive to the conservation of biodiversity, food produced with low environmental impact methods, shared food and above all food that must not be wasted. The food education project was financed by the Region, Department of Agriculture, Agri-food, Hunting and Fishing.



Two educational courses were at the center of the educational campaign, conceived by Alimos and managed by dieticians with experience in dissemination and teaching for children with the involvement of farmers, representatives of the educational farm accredited by the Emilia-Romagna Region with the LR 4/2009.

<https://agricoltura.regione.emilia-romagna.it/notizie/2021/luglio/stop-allo-spreco-grazie-al-progetto-regionale-gligli-studenti-diventati-201crisparmiosi201d>

6 . Encourage food collection and donations thanks to IoT technologies

Case of Emilia Romagna

The Emilia-Romagna Region was selected as a pioneering example in the management of withdrawals from the market and free distribution of fresh fruit and vegetables to the needy through the network of charities otherwise destined for pulping. In particular, innovation made in Emilia-Romagna consists in the development of a platform - called Sir (Information system of withdrawals) - which keeps track of the products withdrawn in the context of EU interventions for the prevention and management of crises of market and which also allows constant monitoring of the amount of food donated.

By participating in Lowinfood, a project that will go on for four years, the Emilia-Romagna Region can aspire to be accredited at European level as a model of excellence in the management of market withdrawals and distribution of food surpluses to the less fortunate. Thanks to the management system based on maximum efficiency, from 2012 to 2020, over 36 thousand tons of fresh fruit and vegetables were withdrawn from the market and destined to charities operating in Emilia-Romagna, over 130 thousand throughout Italy.

<https://www.regione.emilia-romagna.it/notizie/2021/gennaio/alimentare-regione-in-prima-fila-nella-lotta-agli-sprechi-con-la-partecipazione-al-progetto-europeo-lowinfood>

7. Strengthen the synergies between public entities, companies and research centers for the development of circular solutions

Case of Lazio

The Lazio Region, through Lazio Innova, launches with Amadori, a leading group in the Italian poultry sector, with Almacube, incubator and innovative hub of the University of Bologna and Confindustria Emilia Area Centro, and with the technical partner Digital Magics, the open innovation challenge "Circular economy and environmental sustainability in the poultry supply chain".

A challenge that aims to involve startups, companies and spin offs with innovative ideas on circular economy and environmental sustainability in the poultry sector. The goal is the search for innovative solutions throughout the supply chain - from feed production to breeding, from food processing to distribution - with a view to green economy, energy saving and zero impact.

The challenge is addressed, in particular, to the search for solutions in the field of waste enhancement, waste management and the search for innovative raw materials for the breeding phases.

<https://www.lazioinnova.it/news/economia-circolare-sostenibilita-ambientale-nella-filiera-avicola-al-centro-challenge-imprese-startup/>



Lower Silesia Region



On January 5, 2021, the Board of the Lower Silesian Voivodeship adopted a new Lower Silesian Innovation Strategy 2030 (DSI 2030):

- The result of over a year of work of a Marshal's Office of the Lower Silesian Voivodeship team and a group of experts whose work was to analyse and diagnose the situation and to develop a new document, including assessment and modification of the existing regional smart specialisations and strategic goals.
- The new document implements the guidelines laid out in the new Lower Silesian Voivodeship Development Strategy until 2030 (SRWD 2030) adopted on September 20, 2018, but also takes into account a number of key challenges that appeared in the world and in Europe in the period ranging from the adoption of the new SRWD 2030 up to 5 January 2021, including the Covid-19 pandemic.
- As part of the new Innovation Strategy 2030, seven smart specialisations were identified, including three horizontal specialisations, one of which concerns the so-called Green Deal, and within its framework, the need to support the circular economy was indicated as one of the top priorities set for the Voivodeship's local authority.

(1) The CircE stakeholder group as a body supporting the Management Board of the Lower Silesian Voivodeship in shaping the regional circular economy policy:

- **The Working Group for Smart Specialisations** is the most important forum for cooperation of the Lower Silesian regional authority with business, science and research sector, business environment institutions and other participants of the Lower Silesian innovation system, and at the same time an important element of the entrepreneurial discovery process defined in the Lower Silesian Innovation Strategy 2030, it provides expert support for the Board implementing the DSI 2030 provisions.
- **The Group's** work aims to constantly identify and monitor the seven development areas in the region, determine the directions of the region's development and the most promising niches and ensure constant cooperation between the local authority and participants of the Lower Silesian innovation system.
- As part of the CircE project implementation in Lower Silesia by the Innovation Department of the Marshal's Office, two groups of stakeholders were established to support its activities, with focus on natural resources and their recovery and food waste.
- Adding the CircE project stakeholder group to the group of experts influencing the development of the voivodeship policy in seven strategic areas, including the horizontal specialisation - *Green Deal*, which covers the circular economy, will provide the voice of experts whose scientific research and social and economic activity is to support circular economy. These experts will have the opportunity to give their opinion and influence the activities of the voivodeship in terms of spending own and European funds, so that the projects co-financed by the voivodship implement the priorities of the circular economy.

(2) The Just Transition Fund as an instrument supporting the Circular Economy in Lower Silesia in the EU 2021-2027 financial perspective:

- On January 14, 2020, the European Commission published a proposal for a just transition mechanism, which aims to provide support to regions facing major socio-economic challenges to achieve climate neutrality through the modernisation of the carbon economy. The initiative has three pillars: the Just Transition Fund, the use of some InvestEU funding, and the European Investment Bank loan facility.
- In 2020, the European Commission adopts the Country Report - Poland 2020. In Annex D, the Wałbrzych sub-region is presented as one of the priority areas for the Just Transition Fund.
- Coal regions designated for JTF support will be able to obtain them on the basis of their Territorial Just Transition Plans describing the transformation process and indicating the goals that the mining region wants to achieve. As a result, the financed projects should, inter alia, contribute to the transformation towards a sustainable, climate neutral and circular economy and include measures to increase resource efficiency.
- The Just Transition Fund will be implemented under the European Funds for Lower Silesia 2021-2027 Programme (FEDŚ). The Territorial Just Transformation Plan (TPST) of the Lower Silesian Voivodeship 2021-2030 for the Wałbrzyski Sub-region is an appendix to the programme and will be approved for implementation along with it. Activities related to circular economy have been defined for support as *investments in strengthening circular economy, including by preventing and reducing waste, efficient resource management, re-use, repair and recycling (without landfill rehabilitation, unless in post-mining areas)*.

(3) Proposals for new provisions in the new Development Strategy for the Lower Silesian Voivodship concerning the circular economy:

- the Development Strategy for the Lower Silesian Voivodeship 2030, adopted in 2018, is a strategic document shaping the regional development policy.
- The vision of the future development of the region has been defined in the following way: **Lower Silesia 2030 – a friendly, modern and competitive region of balanced development.**
- After four years of implementing the Strategy, it is known for sure that the document does not fully respond to the threats and challenges that have emerged in Europe, Poland and the region in the last 4 years (the Covid-19 pandemic, the unprecedented economic crisis combined with inflation and the increasingly intense process of climate change). The need for update also results from the change in the principles and directions of support under the new programme and financial perspective of the European Union for 2021-2027, including the focus on supporting projects and initiatives in the area of Green Deal and Circular Economy.
- Therefore, based on the project's conclusions, 13 new provisions on circular economy have been formulated to be proposed to be included in the proces of drafting the new Development Strategy for the Lower Silesian Voivodeship.



Sofia Municipality



Policy options

Sofia municipality concept and objectives

The key intention to continue the process of roadmap for transition to circular economy (CE) in the capital city of Sofia, to discover the local and regional performance concerning practical implementation of measures related.

- *To set up systematic and impactful internal and external communication plan for raising awareness on the circular economy;*
- *To embrace a systemic approach to the circular economy in the capital city political and economic agenda;*
- *To draft and imply clear roadmap to deepen the actions that promotes consultation and collaboration between stakeholders;*
- *To foster and strengthen coordination between local government and key stakeholders.*

The municipality policy goal is to build a stronger framework for circular economy models and better coordination of activities between stakeholders through:

- *Increasing cooperation among stakeholders in the field of the circular economy;*
- *Increasing initiatives to take measures aimed at circular economy models;*
- *Prevention of waste generation at source; Improving waste management by applying circular economy models;*

Policy actions

Sofia municipality to initiate steps to modify waste management programme with the inclusion of a CE section, and provide additional focus of CE leading to mapping circular economy actors, cross-cutting projects, increasing the knowledge of the regional context and to understand the readiness to develop CE, networking, ideas-gaps (opportunities) among partnerships and stakeholders, as follows:

- ***Study and design of a system for separate collection of bio waste/food waste;***
- ***Improving circular economy actions at the local level;***
- ***Development of a module aimed at the registration of “suppliers” of food waste within the existing “Waste Management Information System” in the Municipality;***
- ***Study and design of a system for separate collection of biowaste;***
- ***Expansion of the system for separate collection of food waste;***
- ***Introduction of a system of incentives to increase the separate collection of municipal waste at source.***