



Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety



giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

Support on EPR schemes for mattresses and textiles for Greece

Final Report

16th March 2021

eunomia

Table of Contents

Background and disclaimer	6
Executive Summary	7
1. Introduction and Scope	9
2. Legislative requirements	9
3. Greek Context	10
4. Methodology: Approach and Analysis of Tasks/ Activities	11
5. Existing (good) practices (Task 1)	13
5.1 Textiles	13
France – EcoTLC/Re_Fashion	14
Sweden – EPR for Textiles	19
5.2 Mattresses	24
France – Éco-Mobilier	24
Belgium – Valumat	30
6. Guidance and key proposals for the setup of an EPR scheme for textiles and mattresses, suitable for Greece (Task 2&3)	34
6.1 Scope	34
Proposals	34
6.2 Costs to be covered	35
Proposals	35
6.3 EPR scheme administration	35
Proposals	36
6.4 Producer Reporting	36
Proposals	36
6.5 Producer Responsibility Organisations	36
Proposals	37
6.6 Financing the setup of a scheme	37
Proposals	38
6.7 Determining the levels of producer fees	38
Proposals	39
6.8 Fee modulation	40
Proposals	40
6.9 Collection and recycling infrastructure	40
Proposals	41
6.10 Performance targets	41

Proposals.....	42
6.11 Collection obligations.....	42
Proposals.....	42
6.12 Product labelling	42
Proposals.....	43
6.13 Free-riding.....	43
Proposals.....	43
7. Provision of guidance and specific proposals for the preparation of a JMD for the setup of EPR schemes for textiles and mattresses (Task 4).....	44
7.1 TEXTILES	44
General Principles of an EPR scheme.....	44
Provisions and obligations	46
Targets	48
Fees and criteria.....	49
Prevention programmes for waste textiles	50
Tender specifications for the approval of a PRO scheme	52
7.2 MATTRESSES	54
General principles of an EPR scheme.....	54
Provisions and obligations	56
Targets	58
Fees and criteria.....	59
Prevention programmes for waste mattresses	60
Tender specifications for the approval of a PRO scheme	62
8. Road map (Task 5).....	64
8.1 Textiles and Mattresses high-level Road map	65
Appendices.....	69
Appendix 1.0 – Table of CN codes	69
Appendix 2.0 - Questionnaire	70
Appendix 3.0 – Stakeholder engagement.....	84
A3.1 Textiles.....	84
A3.2 Mattresses	85

LIST OF FIGURES

Figure 5-1: EcoTLC collection, sorting, and processing supply chain.....	17
Figure 5-2: Flow of textile products in Sweden per capita	22
Figure 5-3 Éco-Mobilier shareholders.....	25
Figure 5-4 Advertising the Éco-mobilier ‘visible fee’ as introduced at IKEA France / ‘Recycling fee’ as set by Eco-mobilier for mattresses	26
Figure 5-5 Éco-Mobilier data report, mattress treatment breakdown, 2017	29
Figure 8-1 Roadmap - EPR for textiles and Mattresses	68

LIST OF TABLES

Table 5-1: In-scope CN codes.....	20
Table 5-2 Stakeholders’ role and responsibilities within the French EPR scheme	26
Table 5-3: Valumat's collection and recycling targets, 2021-2030	32

LIST OF ABBREVIATIONS

BMU	GERMAN FEDERAL MINISTRY FOR ENVIRONMENT, NATURE CONSERVATION AND NUCLEAR SAFETY
CP	COLLECTION POINTS
CN	CUSTOM TARIFF NUMBER
DG REFORM	DIRECTORATE-GENERAL FOR STRUCTURAL REFORM SUPPORT OF THE EUROPEAN COMMISSION
EC	EUROPEAN COMMISSION
EFW	ENERGY FROM WASTE
ELOT	NATIONAL BODY FOR STANDARDIZATION
EPR	EXTENDED PRODUCER RESPONSIBILITY
EU	EUROPEAN UNION
EUROSTAT	EUROPEAN STATISTICAL AGENCY
EWC	EUROPEAN WASTE CODE
FODSA	SOLID WASTE MANAGEMENT ORGANIZATIONS
GIZ	DEUTSCHE GESELLSCHAFT FÜR INTERNATIONALE ZUSAMMENARBEIT
GP	GREEN POINTS (ΠΡΑΣΙΝΑ ΣΗΜΕΙΑ)
HRA	HELLENIC RECYCLING AGENCY OR EOAN IN GREEK
JMD	JOINT MINISTERIAL DECISION
LWMP	LOCAL WASTE MANAGEMENT PLAN
MBT	MECHANICAL AND BIOLOGICAL TREATMENT
MRF	MATERIAL RECOVERY FACILITY
MSW	MUNICIPAL SOLID WASTE
NCV	NET CALORIFIC VALUE
NECP	NATIONAL ENERGY AND CLIMATE PLAN
NIR	NEAR INFRA-RED
NWMP	NATIONAL WASTE MANAGEMENT PLAN
NWPSP	NATIONAL WASTE PREVENTION STRATEGIC PLAN
PPC	PUBLIC POWER CORPORATION
PPP	PUBLIC PRIVATE PARTNERSHIP

PRO	PRODUCER RESPONSIBILITY ORGANISATION
RDF	REFUSED-DERIVED FUEL
RSCs	RECYCLING SORTING FACILITIES OR ΚΔΑΥ IN GREEK
RSWMP	REGIONAL SOLID WASTE MANAGEMENT PLAN
SAS	SEGREGATION AT SOURCE
SRF	SOLID RECOVERED FUEL
SRSP	STRUCTURAL REFORM SUPPORT PROGRAMME
SWMA	SOLID WASTE MANAGEMENT ASSOCIATION
TORS	TERMS OF REFERENCES
YPEN	HELLENIC MINISTRY OF ENVIRONMENT AND ENERGY
WMP	WASTE MANAGEMENT PLAN
WtE	WASTE TO ENERGY

Background and disclaimer

The competent Greek Authorities approached the European Commission (EC) for support in specific areas aiming for improvement of the implementation of the National Waste Management Plan (including the improvement of municipal waste management, regulatory issues of the waste sector, the management of specific waste categories) in order to raise the quality and quantity of recycling, to improve data quality and to effectively use economic instruments. To achieve the aforementioned goals, the Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) provides “[Technical support for the implementation of the National Waste Management Plan \(NWMP\) of Greece](#)” from January 2019 to March 2021. The project is funded by the European Union (EU) via the Structural Reform Support Programme (SRSP) and the German Federal Ministry for Environment, Nature Conservation and Nuclear Safety (BMU), and jointly implemented by GIZ and the Hellenic Ministry of Environment and Energy (YPEN), in collaboration with the EC.

GIZ commissioned Eunomia Research and Consulting IKE to provide specific technical expertise to GIZ and YPEN from 1st December 2020 to 26th March 2021 by implementing the following project “Support on EPR schemes for mattresses and textiles for Greece.”

Assignment	Support on EPR schemes for mattresses and textiles for Greece
Contract No.	81263695
Project Name	Technical support for the implementation of the National Waste Management Plan (NWMP) of Greece (68.3045.9)
Client / Project Executing Agency	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) Project Manager: Ulrich Laumanns (ulrich.laumanns@giz.de) Senior Adviser: Vasiliki Panaretou (vasiliki.panaretou@giz.de) Senior Adviser: Maria Pisimisi (maria.pisimisi@giz.de)
Consultant	Eunomia Research and Consulting Chris Sherrington – International Expert (Project Director) Hara Xirou – National Expert (Project Manager) Mark Hilton – International Expert (Technical Lead) Lucy Eggleston – International Expert (International Technical expert) Dimitris Mathioudakis – National Expert (Local Technical expert) Vasiliki Stergiou – National Expert (Local Technical expert)
Contract term	01.12.2020 to 26.03.2021

Disclaimer

Eunomia Research & Consulting has taken due care in the preparation of this report to ensure that all facts and analysis presented are as accurate as possible within the scope of the study. However, no guarantee is provided in respect of the information presented, and Eunomia Research & Consulting is not responsible for decisions or actions taken on the basis of the content of this report.

This document was produced with the financial assistance of the European Union. The views expressed herein can in no way be taken to reflect the official opinion of the European Union.

Reproduction is authorised provided the source is acknowledged.

Acknowledgements: We would like to thank all the authorities, organisations and consultants that provided data to assist with this project. We are particularly grateful to Mrs A.Arfanakou, Mrs S.Mani and Mrs G.Matzava from the Directorate of Waste Management of YPEN and Mrs F. Kotzia from HRA (EOAN) for their constructive comments and input.

Executive Summary

This study aims at providing specific technical assistance to the Hellenic Ministry of Environment and Energy (YPEN), by supporting the competent Greek authorities and other relevant stakeholders to build institutional capacities, for the setup of Extended Producer Responsibility (EPR) schemes for mattresses and textiles for Greece. In particular, the study focuses in identifying good practices in both EPR for textiles and mattresses while engaging with key stakeholders and proposing specific recommendations and proposals for the preparation of a Joint Ministerial Decision (JMD) for the setup of EPR schemes for mattresses and textiles while developing a Roadmap with an indication of timeline, milestones/activities and involved stakeholders. Over the past 25 years, EPR schemes have been widely implemented across Europe and beyond. In the EU 27, some product streams are targeted by specific Directives, resulting in all Member States implementing EPR schemes to meet legislative requirements for waste collection and processing. Although neither textiles nor mattresses have been subjected to specific Directives to date, France introduced EPR for textiles in 2007 and mattresses in 2009. In addition, the Revised Waste Framework Directive (EU 2018/851) requires Member States to establish separate collection for textiles by 2025 and newly specifies mattresses as included within “municipal waste”. With this in mind, we are beginning to see further Member States introducing EPR for these products.

The guidance and key proposals for the set-up of an EPR scheme in Greece cover the following aspects:

Scope: Firstly, establishing the type of products to be covered: every type of mattress (foam, bladder, box sprung, pocket sprung, topper pad etc.) and every size of mattress (King, Queen, Double, Single, Child etc.) shall be included in the mattress EPR scheme. Categories of products included within the scope of the textiles EPR shall be those falling under the CN codes. Footwear shall not be included in the textiles scheme. Secondly, identifying which producers of textiles or mattresses must contribute (avoiding free-riding); will be those that first place the item on the Greek market for sale; manufacturers, importers, brand owners and distance sellers from outside Greece (e.g. selling directly into Greece without a legal entity in Greece). Thirdly, establishing performance targets.

Producer fees shall cover the financial contributions needed to cover at least 80% of the waste management cost related to collection, sorting, treatment and recycling, as set out by the targets as well as the costs associated with preventing and removing illegal dumping of mattresses. This shall include payments to municipalities to cover their collection costs and to compensate retailers for any takeback storage costs incurred, but not retailer take-back collection costs.

Producers shall be responsible for reporting to the PRO scheme: for all the products they place on the market the quantity, type, weight, material composition and any characteristics of the products that might make them eligible for a bonus (or penalty fee) under eco-modulation. All producers should register to the ΕΜΠΑ online digital platform. It is recommended to establish one PRO per waste stream: one PRO for mattresses & one PRO for textiles. Both PROs shall be industry-led and owned, and set up as not-for-profit organisations.

The key organisations may provide **financial support** in exchange for capital shares. These organisations will become the shareholders of the PROs. In addition, at the beginning of the scheme, the producers shall not only be charged fees that encompass the costs needed for collection and processing but also an added contribution that can be used to pay off the loan used to establish the collection infrastructure.

Producers fees: Producers are charged both a membership fee and producer fees. Membership fees shall be annual costs calculated relative to the size of an organisation (i.e. the amount of product

placed on the market annually). Producer fees shall be charged for each product of a specific type placed on the market. Total fees shall be calculated in order to cover all operational costs, corporate support functions, communication/awareness raising activities, and R&D projects.

Mattress fees shall depend on the size (i.e., single, double etc.) and thickness of the mattress, as well as the type of mattress (i.e., pocket sprung, polyurethan foam etc.). These fees shall directly relate to the costs incurred to collect, store, transport, and process. Textile products shall be grouped into tariffs based on size (i.e., extra small: gloves, small: children's pyjamas etc.) or type of textile or material (i.e. cotton will be treated differently to polyester). CN Customs Tariff Codes shall be used.

Factors including durability, recycled content, and recyclability, can be used as a basis for **eco-modulation**, however modulation need not to be implemented immediately upon introduction of the schemes.

Collection of either waste streams should be incorporated into existing municipality waste management procedures, carried out through door-to-door collection services; street containers (only textiles), Green Points (both streams) or facilitated by take-back services provided by producers and retailers. It is important that collection/deposition of products shall always be at no added cost to the consumer at the end of the product's life. Cost of collection and transportation should be covered by the PRO and transportation shall be carried out either by PRO-owned vehicles or third-party collection services. Every effort shall be made to utilise existing facilities and infrastructure to prevent duplication and unnecessary costs. The PRO shall develop a network of appropriate sorting and reprocessing facilities. Introduction of EPR schemes shall not hamper or disadvantage producers already offering takeback schemes.

Retailers should have a collection obligation and be required to take-back free of charge either from the users' premises (i.e. households, hotels, hospitals) or their store.

Free riding: The PROs shall publish a list of their members, highlighting registered producers and shall fund regular free-riding investigations (audits). Penalties shall be introduced for non-compliance should it prove an issue. Member States should engage with multi-seller platforms as a key priority and obtain their commitment to action while requiring distance sellers to display information about the EPR scheme on their website.

Overall, the Roadmap presented in the report should be followed closely in order to provide a comprehensive and careful approach for the design of both EPR schemes for textiles and mattresses, providing specific milestones and specific responsibilities of key stakeholders with an indicative timeline.

1. Introduction and Scope

Economia Research and Consulting is pleased to present this report to the Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ). Greece has recently adopted the new National Waste Management Plan (NWMP)¹ setting ambitious targets and measures for 2020-2030 and has proceeded in the transposition of the new EC Directives on waste (2018/ 849/850/851/852).² In this respect, this study aims at providing specific technical assistance to the Hellenic Ministry of Environment and Energy (YPEN), by supporting the competent Greek authorities and other relevant stakeholders to build institutional capacities, for the setup of Extended Producer Responsibility (EPR) schemes for mattresses and textiles for Greece, as stipulated in the ToR, via:

- ensuring an integrated, holistic approach in line with the EU legislation and regulations
- transfer good practices and lessons learnt from other EU countries with similar conditions
- develop solutions adjusted to the Greek context and provide local know-how
- drive better product design for longevity, recyclability and use of recycled material.

In particular, the study focuses in **identifying good practices in both EPR for textiles and mattresses** while engaging with key stakeholders and **proposing specific recommendations and proposals for the preparation of a Joint Ministerial Decision (JMD) for the setup of EPR schemes for mattresses and textiles** while **developing a Roadmap** with an indication of timeline, milestones/activities and involved stakeholders.

2. Legislative requirements

The current legislative requirements both at EU and national level have been examined and are presented below. Specifically, the adopted Waste Framework Directive EU (2018/851):

- a) has **set new requirements** for the definition of ‘municipal waste’, under Article 3 (2b) including textiles and mattresses; Specifically, the Article stipulates that:

“municipal waste” means:

(a) mixed waste and separately collected waste from households, including paper and cardboard, glass, metals, plastics, bio-waste, wood, textiles, packaging, waste electrical and electronic equipment, waste batteries and accumulators, and bulky waste, including mattresses and furniture;

- b) has **amended Article 9** – 1 d) Prevention of waste to encourage the re-use of products and the setting up of systems promoting repair and re-use activities including textiles and furniture; and
- c) has **amended Article 11** - Preparation for reuse and recycling, to reflect that Member States shall set up separate collection at least for paper, metal, plastic and glass, and, by 1 January 2025, including textiles.

A new EU Strategy on Textiles³ is currently under development, including eco-design measures to ensure that textile products are fit for circularity; improving the business and regulatory environment for sustainable and circular textiles in the EU, in particular by providing incentives and support to product-as-service models, circular materials and production processes; providing

¹ ΠΥΣ 39/31.8.2020 (ΦΕΚ185/Α/29.9.2020) ‘Έγκριση του Εθνικού Σχεδίου Διαχείρισης Αποβλήτων (Ε.Σ.Δ.Α.) 2020- 2030’

² <http://www.opengov.gr/minenv/?p=11440>

³ https://ec.europa.eu/growth/industry/sustainability/textiles_en

guidance to achieve high levels of separate collection of textile waste, which Member States have to ensure by 2025; and boosting the sorting, re-use and recycling of textiles, including through innovation, encouraging industrial applications and regulatory measures such as extended producer responsibility. The Consultation on the EU strategy for textiles Roadmap closed on 2nd February 2021 with the objective to develop a Communication Document by the end of 2021.

In Greece, the current transposition of the Directive on Waste (EU) 2018/851, establishes the introduction of a new EPR scheme for textiles for reuse, preparation for reuse and recycling (Article 8 of the draft legislation 'Σχέδιου Νόμου ΥΠΕΝ 'Προώθηση της Ανακύκλωσης'). Specifically, **by the 31 December 2023**, textile producers and/or importers are obliged to design, organise and operate single or multiple Producer Responsibility Organisations (PROs), within the context of paragraph 9 of article 2 of law 2939 / 2001 (A '179), for all the products they put on the market. Other legal requirements include the definition of compliance with the EPR scheme, responsibilities, such as: EPR fees charged to the producers, cost of separate collection, design and organisation of scheme, data collection and reporting to 3rd party auditors, data availability and awareness raising. Minimum requirements concerning the separate collection, transportation, treatment of textiles as well as the data availability and quality shall be approved by 3 January 2022, via a JMD relating to the reuse, preparation for reuse and recycling of textiles.

3. Greek Context

The Greek markets of textiles and mattresses are characterised by extended data gaps, that correspondingly affect our understanding of the waste generation quantities.

The characteristic of the mattresses market in Greece is that there are a few big players and a vast majority of small manufacturing units/ family businesses. An estimation of the market share of the players was not possible, however there are some useful data acquired:

- For mattresses:
 - A medium size manufacturer in the mattresses market that we engaged with sells approximately 30000 (which corresponds to 1.5 tonnes) mattresses per year.
 - The producers estimates that one of the big players in the mattresses market might sell as many as 1200 mattresses/day.
 - One of the premium mattresses' producers mentioned that they sell approximately 40 tonnes of mattresses annually.
 - The average cost of production for a mattress according to estimate given by another producers is approximately 150 € and the average lifespan 10 years, while for the premium ones the cost is around 450€ per mattress and the lifespan 20 years.
 - The mattresses industry due to its nature has already established an extended take-back schemes. Specifically, it is a common practice that customers ask the businesses to take-back their old mattresses upon delivery of the new ones. However, the fate of these taken back mattresses is unclear.
- For textiles:
 - There are approximately 6000 companies in the textile sectors, from which 3900 are in clothing and 1500 in fabrics manufacturing.
 - The vast majority, approximately 92%, of the businesses in the textile sector are small enterprises (1-9 employees).
 - The turnover of the textiles industry in Greece is 2.5 billion €.

An important conclusion from the engagement with national producers of both industries is that there is limited knowledge on the EPR system. The majority of these producers have not heard about either the concept of EPR or the fact that a system will be implemented in Greece and almost no-one knew exactly what such system would involve.

Furthermore, our engagement included two textile waste operators (collectors) with largely different approaches and level of success. Their experience can be greatly important for the development of the EPR scheme, especially on the collection side. Specifically, both the businesses highlighted the importance of the products' collected quality to ensure maximum market value either in the recycling or the reuse market. Furthermore, they both agreed that establishing a collection network in the largest cities (Athens, Thessaloniki, Larisa, Trikala etc.) can be much more efficient compared to other smaller cities, villages and islands. Indeed, RECYCOM which is a textile waste collector has already come to contractual agreements with some island municipalities to establish collection networks (bins), however the Local Authorities will retain the responsibility to collect and transport the waste collected, in an effort to decrease RECYCOM's costs and make this operation financially sustainable. Finally, it should be noted that the representatives of both companies highlighted the importance of investing in and developing local sorting and recycling infrastructure to reduce dependency on export through building up domestic recycling capacity. As far as the collection levels is concerned RECYCOM, mentioned that in 2019 (one of their most successful years, before observing a slight decrease due to the COVID-19 pandemic) they collected approximately 2500 tonnes of textiles waste⁴.

Finally, our team engaged with representatives from the NGO and Social Economy sectors. Their consensus was that charities as well as Social Economy efforts should be actively supported through the EPR since they have the potential to (and already do) provide significant services from an environmental (waste avoidance through reuse and donations), economic (jobs creation and value production) and social (inclusion and cohesion) point of view. They also stated that several key stakeholders (municipalities, businesses and broadly the civil society) have already made efforts to develop collection, reuse and even recycling schemes, however the development of an EPR would enhance these efforts and provide a clearer framework and direction.

4. Methodology: Approach and Analysis of Tasks/ Activities

The main research and data tasks that were carried out, are outlined below. These included:

a) Reviewing officially reported data and studies on EPR for mattresses and textiles, such as:

- *Guidance for separate collection of municipal waste – European Commission (2020)*⁵
- *Study to Support Preparation of the Commission's Guidance for Extended Producer Responsibility Schemes - European Commission (2019 - 2020)*⁶
- *Circular Economy Opportunities in the Furniture Sector – EEB (2017)*⁷
- *Technical Support for Mattress EPR Schemes – Zero Waste Scotland (ongoing)*⁸
- *Towards an EU Product Policy Framework – European Commission (2018)*⁹
- *Policy Toolkit for Carpet Circularity in EU Member States – Changing Markets – EEB (2017)*¹⁰;
- Previous relevant studies/ publications/ reports on mattresses or textiles for Greece

⁴ Eunomia's engagement with RECYCOM representatives

⁵https://ec.europa.eu/environment/waste/studies/pdf/15.1.%20EC_DGENV_Separate%20Collection_guidance_DEF.pdf

⁶ https://ec.europa.eu/environment/waste/studies/pdf/DG%20Env%20EPR%20Guidance%20-%20Final%20Report_FOR%20PUBLICATION.pdf

⁷ <https://www.eunomia.co.uk/report-category/client/eeb/>

⁸ <https://www.eunomia.co.uk/providing-technical-support-for-developing-mattress-epr-schemes/>

⁹ <https://op.europa.eu/en/publication-detail/-/publication/805144ba-6412-11ea-b735-01aa75ed71a1>

¹⁰ https://www.duh.de/fileadmin/user_upload/download/Projektinformation/Kreislaufwirtschaft/Teppich-Recycling/181129_Eunomia_EU_Carpet_EPR_Toolkit_Final.pdf -

b) Identifying and engaging with relevant stakeholders from regulatory bodies, competent authorities and industry in the EU and national level to gather existing available data, such as indicatively:

At a European Level, for:

Mattresses

- European Bedding Industries' Association (EBIA)
- European association of flexible polyurethane foam blocks manufacturers (EUROPUR)
- Flame retardants Europe (FrE)
- Producer Responsibility Organisations (PRO) for mattresses, such as Eco-Mobilier (France) and Valumat (Belgium)

Textiles

- European Apparel and Textile Organisation (EURATEX)
- European Branded Clothing Alliance (EBCA)
- European Confederation of the Footwear Industry (CEC)
- Producer Responsibility Organisations (PRO) for textiles, such as EcoTLC/Re_Fashion (France) and the new PRO for textiles in Sweden
- Other key EU organisations such as ACR+ and Plastics Europe.

At National level, the following key stakeholders were contacted as part of this Task:

- Ministry of Environment and Energy (YPEN)
- Hellenic Recycling Agency (HRA)
- National Statistics Authority (ELSTAT)
- National Industry Associations: Hellenic Clothing Industry Association (HCIA), Hellenic Fashion Industry Association (SEPEE), Hellenic Association of Footwear Manufacturers and Exporters (ELSEVIE)
- Producers / Manufacturers / Retailers, such as ALFASTROM, Coco-mat and SOFFA
- Regional and Local Authorities
- Waste management facilities (MBT/ Recycling Sorting Centres (RSCs or ΚΔΑΥ)/ transfer stations/ landfills) contractors/ operators in Greece.
- NGOs active in the waste textiles or mattresses sectors like Klimax+ and Eco-rec

It is noted that selective key stakeholders were contacted by email or/and structured telephone interviews, a list of which is available in Appendix 3.0 – Stakeholder engagement. Supporting documents were prepared as necessary to enable effective data gathering, such as an (online) questionnaire and a formal support letter signed by YPEN for the provision of the data. The questionnaire template is available in Appendix 2.0 - Questionnaire

c) Reviewing the existing Legal Framework, specifically the EU and national legislation as described in Chapter 2.

d) Description of Good Practices – According to the ToR, the following existing (good) practice for each material, were selected:

- **Textiles: France.** This is the only mandatory EPR scheme for textiles in EU since 2007 - via Eco TLC. France is the only country in the world implementing a mandatory EPR scheme for end-of-use clothing, linen and shoes.
- **Textiles: Sweden.** Sweden is now set to have an Extended Producer Responsibility on clothing and textiles enacted into law on 1st January 2022, with licensing of collections starting on 1st January 2024.

- **Mattresses: France.** There has been furniture EPR in France since 2009 and mattress recycling became a focus in 2013. Éco-Mobilier is responsible for collection, sorting, recycling and recovery of mattresses (and furniture in more general).
- **Mattresses: Belgium.** Implementation of the EPR scheme commenced on the 1st of January 2021. Valumat was established by three sector federations in Belgium and was set up to take organisational and financial responsibility for fulfilling the waste management requirements of mattress manufacturers and importers.

Through stakeholder engagement with relevant key actors, the project team engaged directly with the relevant EPR schemes to collect data and a detailed understanding of the current practices. The project team examined the relevant considerations and approaches that were then fed into the development of the guidance and key proposals for the setup of an EPR scheme for textiles and mattresses, suitable for Greece.

5. Existing (good) practices (Task 1)

Over the past 25 years, EPR schemes have been widely implemented across Europe and beyond. In the EU 27, some product streams are targeted by specific Directives, resulting in all Member States implementing EPR schemes to meet legislative requirements for waste collection and processing. Although neither textiles nor mattresses have been subjected to specific Directives to date, France introduced EPR for textiles in 2007 and mattresses in 2009. In addition, the Revised Waste Framework Directive (EU 2018/851) requires Member States to establish separate collection for textiles by 2025 and newly specifies mattresses as included within “municipal waste”¹¹. With this in mind, we are beginning to see further Member States introducing EPR for these products.

5.1 Textiles

Currently, only 1% of all textiles globally are recycled into new textiles. As part of the new Circular Economy Action Plan published in March 2020, the European Commission identified textiles as the fourth highest-pressure category for the use of primary raw materials and water¹². In response, the Commission proposed the creation of a comprehensive EU strategy for textiles. The consultation on the roadmap for the initiative closed on the 2nd of February 2021, and the strategy is planned to be adopted in the third quarter of 2021. Alongside developing tools for the industry to encourage the transition towards circularity, the strategy will also provide guidance on how to achieve high levels of separate collection for textile waste. In line with the revised Waste Framework Directive, Member States will have to ensure they are meeting these targets by 2025.

France is the only Member State with an established EPR scheme for textiles. The Swedish Government has released initial communications regarding a scheme that will come into force on the 1st of January 2022¹³. Other Member States who are reportedly active in this area include Italy and Spain¹⁴.

¹¹ <https://eur-lex.europa.eu/legal-content/en/TXT/PDF/?uri=CELEX:32018L0851&from=EN>

¹² <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0098>

¹³ <https://www.regeringen.se/4ada18/contentassets/b6ad93ca7b9a40518355624c010dea7d/producentansvar-for-textil-en-del-av-den-cirkulara-ekonomi-sou-202072>

¹⁴ Engagement with EBCA on the 19th of January 2021.

France – EcoTLC/Re_Fashion

In February 2020, French law *Loi n° 2020-105 relative à la lutte contre le gaspillage et à l'économie circulaire* was enacted¹⁵. This law builds on previous efforts to transform France from a linear to a more circular model through the 2015 *Loi relative à la transition énergétique pour la croissance verte - LTECV*¹⁶. It promotes low consumption of non-renewable resources, reuse, and the design of more sustainable and more durable products.

Waste management

In France, household waste collection is managed by municipalities. Most French residents are expected to separate compostable and recyclable waste. In large municipal areas, waste collection occurs weekly and directly from homes. In villages and rural areas, residents deposit their sorted waste into communal bins for collection.

For some end-of-life products, for example textiles and furniture, owners are required to take their waste to a local 'déchèterie' (recycling centre). There are more than 4,500 recycling centres in France, many of which have close links with 'ressourceries', organisations that collect unwanted goods and recondition them for resale and reuse¹⁷.

Extended producer responsibility

In France, there is an EPR Commission (which includes the French Ministry of the Environment plus ADEME, the regulatory body) which effectively grants a licence to Producer Responsibility Organisations (PROs) to operate. PROs are typically industry-led and privately owned not-for-profit organisations set up where there is a need for an organisation to co-ordinate responsibility on behalf of producers for the collection and processing of a particular waste stream.

The PRO is awarded a 5 yearly licence based on a 'bill of specification' (binding terms of reference) and within this they have the power to set fees, to address potential free-riders and implement initiatives such as encouraging eco-design through use of modulated fees or amending competition rules with recyclers to encourage cost efficiencies.

As of 2014, France had 14 operational EPR schemes¹⁸. Some of these were introduced in direct response to EU legislation, others have been implemented domestically. To date, France remains the only Member State with an established EPR scheme for textiles.

The used textiles sector in France has typically provided employment opportunities to individuals unable to secure stable work in other industries. In the early 2000s, increasing financial burdens caused many sorting operations to struggle to maintain business. The EPR scheme for clothing, linen, and footwear was introduced in an attempt to help protect the sector and prevent significant loss of low-skilled jobs across the country.

This law was first introduced by the *Code de l'environnement* on the 1st of January 2007¹⁹. It ensures that all legal entities placing new household clothing, linen, or footwear on the French market are

¹⁵ <https://perma.cc/9YRB-SQGQ>

¹⁶ <https://www.planete-energies.com/en/medias/close/france-s-energy-transition-green-growth-act>

¹⁷ <https://www.completefrance.com/living-in-france/utilities-services/eco-living-recycling-and-shopping-in-france-1-6250253>

¹⁸ <https://www.oecd.org/environment/waste/France%20%28final%29.pdf>

¹⁹ https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000041599069/

held responsible for the proper waste treatment of their products. The scheme does not include professional workwear.

Manufacturers, importers, and distributors are able to meet their legal obligation by:

- Engaging with, and paying in to, an accredited PRO; or
- Creating a take-back scheme approved by the French public authorities.

The only PRO currently accredited by French government, *Eco-organisme du textiles, du ligne et de la chaussure* (EcoTLC) was created in 2008. Just ten years later, approximately 97% of all French textile producers and importers were members of EcoTLC²⁰. In 2020, EcoTLC rebranded as Re_Fashion, however it remains widely known as EcoTLC.

PRO stakeholders

EcoTLC is a not-for-profit private company with the legal status of simplified limited company. It's share capital is distributed among 29 shareholders representing the whole textiles supply chain²¹. Previously, shareholders were split into five distribution channels. Since 2017 they have instead been organised into four product types²²:

1. Clothing. For example, Carrefour;
2. Household textiles. For example, La Redoute;
3. Shoes. For example, Eram; and
4. Independent and other liable parties. For example, waste processors.

The shareholders were established at the conception of the PRO. They contributed financial support to help to raise the capital needed to set up the scheme. Alongside representatives from the French National Clothing Federation (FNH) and the French Textiles Union (UIT), these shareholders now act as industry representatives, contributing to shaping strategy and determining new targets and modulation criteria²³.

EcoTLC operates in fixed-term mandates. The mandates set out responsibilities, activities, and targets. The first two mandates were each six years. The third (and current) mandate is just three years. Although reasoning for the shorter period is unclear, it is likely that it is to focus attention on improvements. With each new mandate, and sometimes more frequently, a new president is elected to chair the PRO.

To become a member, organisations register with the PRO. According to the most recent annual report, in 2019 EcoTLC established 1,519 membership agreements and 4,019 registered members²⁴. Registered members include both companies and associations from the entire supply chain (for example, this includes waste management organisations and local authorities). Membership agreements are the contracts in place with producers, from which fees are collected. From these members, €25.5 million was collected in eco-contributions.

²⁰ http://www.ecap.eu.com/wp-content/uploads/2018/07/ECAP-Textile-collection-in-European-cities_full-report_with-summary.pdf

²¹ <https://journals.sagepub.com/doi/pdf/10.1177/0734242X18759190>

²² [Technical report templates \(wrap.org.uk\)](https://www.wrap.org.uk/technical-report-templates)

²³ <https://journals.sagepub.com/doi/pdf/10.1177/0734242X18759190>

²⁴ https://refashion.fr/pro/sites/default/files/fichiers/ECO_TLC_EN_BD.pdf

Eco-contributions and modulation

EcoTLC eco-contributions are calculated annually dependent on the members' activities in the one year prior. EcoTLC estimates how much revenue is needed to meet its mandated obligations (supporting sorters and local authorities, funding R&D), and fees are then a function of the size and number of the products a producer places on the market. In effect, fees are relative to market share. In addition, since 2012, discounts have also been applied if the product meets certain criteria for durability or recycled content (i.e., eco-modulation)²⁵. Costs per unit are outlined in Table below.

Table 4-1: Eco-contributions in 2018

	Cost per item (€)			
	Standard	Modulation 1: Durability (- 75%)	Modulation 2: Post-consumer recycled content (- 50%)	Modulation 3: Post-production recycled content (- 25%)
Very small (e.g., socks)	0.00132	0.00033	0.00066	0.00099
Small (e.g., underwear)	0.00528	0.00132	0.00264	0.00396
Medium (e.g., pyjamas)	0.00791	0.00198	0.00395	0.00593
Large (e.g., coats)	0.05280	0.01320	0.02640	0.03960

Source: UK Textiles EPR – WRAP (2018)²⁶

To meet the requirements for durability modulation, the product must meet two of the following four criteria:

1. Dimensional stability;
2. Colour fastness;
3. Abrasion resistances; and
4. Piling.

Collection and sorting

For EcoTLC, collection points (CPs) are primarily either located at recycling centres or found as standalone bins in accessible areas. According to the most recent published annual report, in 2019, 90% of the population had access to a CP. By what criteria this is judged, however, is not clear. In addition, there was an average of 1 CP per 1,440 people. This exceeded coverage targets of one CP per 1,500 inhabitants. These figures include all overseas territories such as Guadeloupe and Martinique²⁷.

In 2019, there were 63 sorting centres processing 159,820 tonnes of textiles waste across France. 57.8% of this is reused, 33.5% is recycled, and 8.2% is sent for energy recovery. The remaining 0.5% is sent for landfill or incineration without energy recovery.

In 2009, approximately 18% of all the clothing, linen, and footwear placed on the French market was collected. EcoTLC's first mandate included a target to increase this collection rate to 50% by 2013. By

²⁵ [Technical report templates \(wrap.org.uk\)](https://www.wrap.org.uk/technical-report-templates)

²⁶ [Technical report templates \(wrap.org.uk\)](https://www.wrap.org.uk/technical-report-templates)

²⁷ https://refashion.fr/pro/sites/default/files/fichiers/ECO_TLC_EN_BD.pdf

2013, the actual collected quantities were approximately 27%. Subsequent analysis deemed the initial target too ambitious.

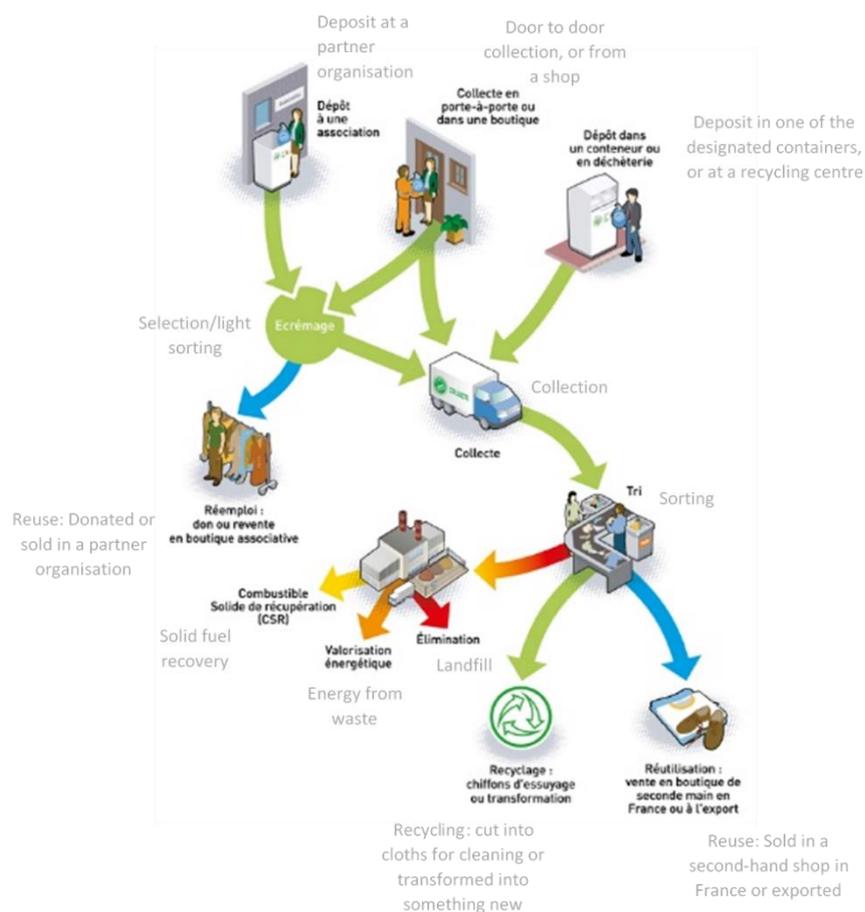
Targets for 2019 included:

- 50% of textiles placed on the market to be diverted from landfill by 2019;
- 95% of sorted tonnages being recovered (primarily with a focus on reuse and recycling but with no obvious limit on recovery through incineration with energy recovery); and
- No more than 2% disposed to landfill or incineration without energy recovery²⁸.

According to their 2019 Annual Report, actual rates were:

- 38% of textiles, linen, and footwear placed on the market was collected (missing the target by 12%), of which;
- 99.5% was recovered:
 - 57.8% was destined for reuse; and
 - 41.7% was identified for recycling and/or energy recovery;
- Just 0.5% was disposed of to landfill or incineration without energy recovery²⁹.

Figure 5-1: EcoTLC collection, sorting, and processing supply chain



²⁸ https://www.wrap.org.uk/sites/files/wrap/UK_Textiles_EPR.pdf

²⁹ [ECO TLC EN BD.pdf \(refashion.fr\)](#)

Source: EcoTLC³⁰. Translations added.

Limitations of the EPR scheme

The limitations of the EPR system in France can largely be broken down into issues surrounding accessibility, technical capability, and lack of producers applying for modulated fees.

A number of limitations of the French textiles EPR scheme have been identified:

- There is a portion of the French population with no easy access to collection points³¹. This is particularly prevalent in rural or remote areas and prevents nation-wide coverage;
- Fibre to fibre recycling of textile waste is not yet sufficiently mature. As a result, little textile waste is recycled into new items of clothing. Most is 'down-cycled' into rags, non-woven fabrics, or secondary raw materials with little value;
- Although eco-modulation criteria are in place, the available discounts are not sufficient to encourage most manufacturers, importers, and distributors to rethink their designs. In essence a significant percentage variation (e.g. 25% to 75% bonus) on a very small fee per item (as a percentage of the cost of the product) remains a very small incentive overall. Without stronger incentives, organisations are unlikely to invest in ecodesign, and circularity in the textiles industry will not be achieved. An alternative approach that may provide better results could be the introduction of penalties (malus fees);
- As France is the only Member State with established EPR, they are unlikely to have influence over enough of the market to result in designers changing their practices. However, if all EU Member States introduced EPR schemes with similar modulation criteria, they would have a greater influence at the same level of fee modulation;
- Until 2014, the French legal framework did not penalise PROs for failing to meet their legal obligations. Even now, the penalty is small (a maximum of €30,000 as of 2016) relative to overall PRO budgets and rarely enforced³²; and
- The French scheme did not begin with a waste composition analysis. This resulted in over-ambitious targets that were significantly underachieved during the first few years of operation.

EPR scheme impacts and opportunities

EcoTLC financially supports three main areas³³:

1. Approximately 73% of expenditure goes to sorting and processing activities. A discussion with international textile collection organisation I:CO suggests that EcoTLC do not contribute to collection costs at all;
2. Approximately 11% of expenditure is provided to local authorities' education activities; and
3. Approximately 3% of expenditure is reserved for technical research and development projects.

³⁰ <https://refashion.fr/pro/fr/%C3%A9l%C3%A9ments-graphiques>

³¹ Collection Points: Collection points are defined as designated points with over-ground or underground container(s) for citizens to discard the textile waste.

³² [Technical report templates \(wrap.org.uk\)](#)

³³ [Technical report templates \(wrap.org.uk\)](#)

Aside from enabling effective waste processing and supporting technical development, the scheme also supports the creation of new jobs. According to EcoTLC, collection and sorting of textiles waste alone represents 2,500 full-time equivalent jobs³⁴.

Future developments

Historically, the commencement of a new mandate has resulted in changes to the scheme. For example, at the beginning of the third mandate:

- EcoTLC rebranded to Re_Fashion with the aim of enabling a full-sectoral transformation;
- ‘Eco design’, the digital platform providing guidance to fashion professionals, was launched; and
- The PRO committed to focus on integrating data processing and analysis into day-to-day processing.

It is expected that, with the fourth mandate additional changes will come. This could include more ambitious targets, changes to eco-contributions, or the introduction of additional modulation criteria.

Sweden – EPR for Textiles

In 2019, the Swedish Government commissioned a study with the aim of developing a proposal for EPR for textiles in Sweden. The scheme is expected to come into force on the 1st of January 2022³⁵. As the scheme is not yet established, available information regarding its setup and impact is limited. It is expected, however, that this scheme will be the next of its kind in the EU (after France).

Waste management

The Swedish Environmental Code came into force on the 1st of January 1999³⁶. The code contains 15 acts that aim to promote sustainable development. As part of this, each of the 290 municipalities in Sweden were required, by law, to provide adequate collection, sorting, and recycling of household waste³⁷.

Since 1999, the introduction of a series of significant taxations on landfill³⁸ have seen Sweden’s waste management system refined to the point that today, less than 1% of all waste generated in the country is sent to landfill³⁹, although a significant proportion goes to energy from waste. In 2018, Avfall Sverige, the Swedish waste management and recycling association, introduced voluntary targets for decreasing food and residual waste⁴⁰ with the aim of decreasing annual food and residual waste production to 169 kg per person.

In most areas, waste collection in Sweden occurs routinely and directly from homes. Bulky waste is largely collected at municipal recycling centres, which residents can freely access. In 2018, almost 60% of the country’s recycling centres had means for accepting materials and items for reuse. Often

³⁴ https://refashion.fr/pro/sites/default/files/fichiers/ECO_TLC_EN_BD.pdf

³⁵ <https://www.regeringen.se/4ada18/contentassets/b6ad93ca7b9a40518355624c010dea7d/producentansvar-for-textil-en-del-av-den-cirkulara-ekonomi-sou-202072>

³⁶ <https://www.government.se/legal-documents/2000/08/ds-200061/>

³⁷ <http://www.swedishepa.se/Environmental-objectives-and-cooperation/Swedish-environmental-work/Work-areas/Waste/Municipal-waste-management/>

³⁸ https://www.avfallsverige.se/fileadmin/user_upload/Publikationer/SAH_2019_EN.pdf

³⁹ <https://www.bioenergyconsult.com/waste-management-sweden/>

⁴⁰ https://www.avfallsverige.se/fileadmin/user_upload/Publikationer/SAH_2019_EN.pdf

this includes furniture and textiles and is carried out in collaboration with aid organisations looking to sell or donate the collected products⁴¹.

Extended producer responsibility

Sweden currently has EPR schemes in place for batteries, cars, tyres, electrical and electronic equipment, packaging, newsprint, and pharmaceuticals⁴². In addition, there are also voluntary schemes that are similar to EPR for office paper and agricultural plastics.

Sweden seeks to be a role model in achieving Sustainable Development Goals. In line with this ambition, and as noted above, it is set to become the second Member State to implement a mandatory EPR scheme for textiles. The scheme is expected to come into force on the 1st of January 2022⁴³ and is issued on the basis of the Swedish Environment Code⁴⁴. The law aims to:

1. Promote measures that increase the reuse of textiles and reduce volumes of textile waste;
2. Require producers to join a collective system that takes operational and financial responsibility for the collection and treatment of textile waste;
3. Make it simpler for those with textile waste to have it collected separately;
4. Achieve ambitious collection and recycling targets.

The EPR scheme will apply to clothes, household and interior textiles, bags, and accessories. The scheme will exclude furniture, professional textiles, filters, fabric by the metre, mattresses, and shoes. This selection was made in line with guidance from the Waste Framework Directive⁴⁵. Sweden has provisionally chosen to use the Customs Tariff CN codes to define which products fall within and outside of the scope. The in-scope items fall under the CN codes described in Table 5-1.

Table 5-1: In-scope CN codes

CN chapter or code	Description of article
4202 1291	Executive-cases, briefcases, school satchels and similar containers with outer surface of plastics or textile materials
4202 1299	Other trunks, suitcases, vanity cases, executive-cases, briefcases, school satchels and similar containers with outer surface of plastics or textile materials
4202 2290	Handbags, whether or not with shoulder strap, including those without handle with outer surface of textile materials
4202 3290	Articles of a kind normally carried in the pocket or in the handbag with outer surface of textile materials
4202 9291	Travelling-bags, toilet bags, rucksacks, and sports bags with outer surface of textile materials
4202 9298	Other travel goods, handbags, and similar containers with outer surface of textile materials
6301	Blankets and travelling rugs
6302	Bedlinen, table linen, toilet linen and kitchen linen
6303	Curtains (including drapes) and interior blinds; curtains or bed valances
6304	Other furnishing articles, excluding those of heading 9404
6505	Sacks and bags, of a kind used for the packing of goods

⁴¹ https://www.avfallsverige.se/fileadmin/user_upload/Publikationer/SAH_2019_EN.pdf

⁴² <http://www.swedishepa.se/Guidance/Guidance/Waste/Guidance-for-producers/>

⁴³ <https://www.regeringen.se/4ada18/contentassets/b6ad93ca7b9a40518355624c010dea7d/producentansvar-for-textil--en-del-av-den-cirkulara-ekonomi-sou-202072>

⁴⁴ [the-swedish-environmental-code-ds-200061 \(government.se\)](http://the-swedish-environmental-code-ds-200061.government.se)

⁴⁵ <https://scienceparkboras.se/wp-content/uploads/2021/01/Extendedproducerresponsibilityfotextiles.pdf>

9404 30 00 00	Sleeping bags
9404 90	Other miscellaneous manufactured articles
Chapter 57	Carpets and other textile floor coverings
Chapter 61	Articles of apparel and clothing accessories, knitted or crocheted
Chapter 62	Articles of apparel and clothing accessories, not knitted or crocheted

Source: *Extended Producer Responsibility for Textiles in Sweden*⁴⁶

In order to meet their legal obligations, producers, importers, and distributors are required to:

1. Sign up to a licensed collective system that has committed to managing their textiles when they become waste; and
2. Notify the Swedish Environmental Protection Agency that they have done so.

PRO stakeholders

As the scheme is not currently established, there are not yet any licensed collectors (Producer Responsibility Organisations). Most EPR schemes in Sweden have only a single PRO servicing them per product stream. The number of members they have and the variety of stakeholders they are engaged with varies widely dependent on the product stream⁴⁷.

It is expected that the list of stakeholders could include:

- Swedish companies: more than 90% of the companies who will be affected by the introduction of the EPR scheme will be Swedish;
- Foreign companies: a large number of foreign businesses distance-sell textiles to Swedish end users, however their proportion of the total market is small;
- Intermediaries: mostly organisations representing digital marketplaces through which producers are able to sell textiles; and
- Approved collectors: textile waste collectors and processors who meet the PRO's requirements and have taken part in a formal approval process.

Other potential stakeholders may include other collectors (including municipalities) and charities who are outside the EPR scheme but may contribute to overall collection and processing.

Eco-contributions and modulation

Information regarding eco-contributions and potential future modulation is not yet publicly available. Overall expected costs to different actors within the textile supply chain can be seen in Table 4-2 (below), however this is not broken down into a cost per item. No available indication of product categories or resulting eco-contributions were found.

Collection and sorting

At present, approximately 38,000 tonnes of textiles and textile waste are collected by charities each year. According to currently available data, this represents roughly 30% of the new clothes and household textiles put on the market annually⁴⁸. These charities are hired by municipalities or companies to contribute to local waste management.

In addition, there are existing private businesses collecting and selling second-hand clothing and textiles to the public. As a result, many households are already used to separating textiles from other household waste. It is the intention of this scheme to maintain these collection routes. The organisers of these systems will be able to choose to continue to operate as they currently do, or to

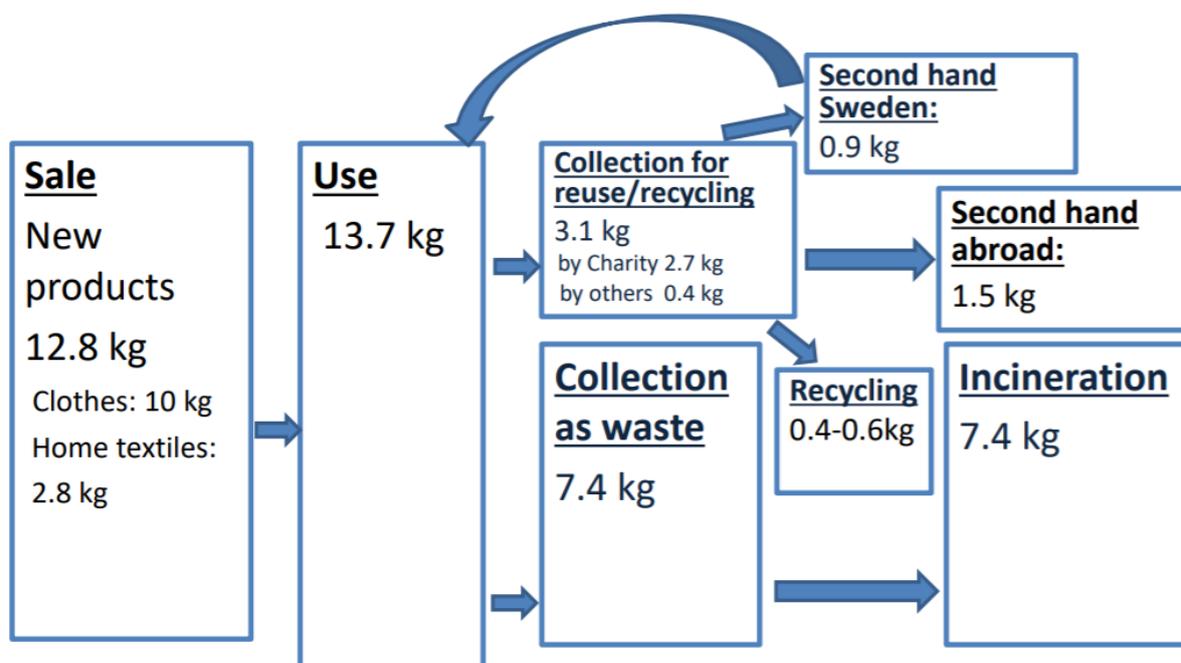
⁴⁶ Statens Offentliga Untregningar(2020) *Producentansvar för textil - en del av den cirkulära ekonomin*,

⁴⁷ [Extended Producer Responsibility in Sweden ISBN 978-91-620-6944-5. \(naturvardsverket.se\)](https://naturvardsverket.se)

⁴⁸ [Mistra-report-3.2.4-Policies-for-Supporting-New-Business-Models.pdf \(mistrafuturefashion.com\)](https://mistrafuturefashion.com)

meet with the waste management requirements of the PRO go through a formal approval process. This would allow them to begin offering their services as part of the new EPR system.

Figure 5-2: Flow of textile products in Sweden per capita



Source: *Discussions on an EPR system for textiles in Sweden – some critical issues*⁴⁹

In order to receive financial support from the PRO, a collector must first obtain a license to operate within the scheme. Collectors must meet a set of requirements before they can be contracted to work as part of the PRO. These requirements can be summarised as:

1. They must be able to provide easily accessible collection points where households and businesses can dispose of their textile waste free of charge;
2. As far as possible, they must have collection points close to locations that are commonly visited by the majority of the local population; and
3. They must operate collection in a way that encourages preparation for reuse and recycling.

For it to be considered *national* it must provide collection points in every municipality, and the geographical spread should be reasonable in terms of population density. Coverage obligations have not yet been defined as part of the Swedish EPR requirements.

Long-term targets aim to reduce textile waste sent to landfill with no recovery by 90% per capita compared to 2022 levels. Shorter term, the target will be ramped in four-year intervals:

- By 2028, the average textile waste sent to landfill with no recovery should be 70% lower than 2022 levels;
- By 2032, the average should be 80% lower; and

⁴⁹ [PowerPoint-presentation \(sei.org\)](#)

- By 2036, the average should be 90% less than 2022.

From 2028, at least 90% by weight of the textile waste collected should be prepared for reuse or recycled. The principles of the waste hierarchy must always be applied:

- Reuse must always be prioritised over recycling; and
- Every effort should be given to recycle any material that cannot be reused through fibre recycling so that textile waste is used to make new textiles.

Limitations of the EPR scheme

The primary limitation of the Swedish EPR scheme for textiles is that its functionality is unproven. The scheme has yet to begin, and therefore there are many unknowns regarding its potential for success.

Alongside this, the Swedish Environmental Protection Agency does not yet have accurate figures for the volume of textiles waste discarded each year. To combat this, a pick analysis will be carried out in 2022, analysing the composition of the waste entering recycling centres across Sweden. Collection targets will then be calculated based on this baseline.

EPR scheme impacts and opportunities

The aim of the EPR scheme is to reduce the total volume of textile material that is discarded without recovery. Ambitious targets and investment in collection, sorting, and recycling infrastructure will support this vision.

The Government-commissioned inquiry into extended producer responsibility for textiles in Sweden evaluated the potential economic impacts of introducing the scheme. All calculations were based on the 90% reduction target. Although quantitative analysis was implemented wherever possible, in some instances it was only possible to qualitatively indicate whether the impact would be a financial benefit (noted by a +) or a cost (noted by a -).

Table 5-2: Predicted costs to the supply chain resulting from introduction of textiles EPR in Sweden

Organisation profile		One-off cost (SEK)	Annual cost (SEK)
Companies selling textiles	Swedish	1,300,000	320,200,000
	Foreign	110,000	4,600,000
	Intermediaries	850,000	
Textile waste collectors	Licensed	720,000	296,000,000
	Unlicensed (excluding charities)	24,000	62,000
	Charities	7,000	58,000
Waste producers	Households and consumers		446,000,000
	Operators		-
Sorting and recycling companies			+
Public sector	Municipalities		4,200,000
	Swedish Environmental Protection Agency	2,500,000	6,888,750
	Courts		-
Environment			+

Source: *Extended Producer Responsibility for Textiles: Report from The Inquiry on extended producer responsibility for textiles, Stockholm (2020)*⁵⁰

⁵⁰ <https://scienceparkboras.se/wp-content/uploads/2021/01/Extendedproducerresponsibilityfotextiles.pdf>

The environmental impacts are expected to have potentially significant positive impacts. Increasing separate collection will result in higher rates of reuse and recycling rather than energy recovery or landfill. Although comprehensive modelling has not yet been undertaken, it is expected that all impact categories will experience positive progress.

Future developments

Increasingly ambitious targets will likely result in increasing positive change. Although no formal references for future developments of the scheme have been found, examination of existing EPR schemes in Sweden as well as best practice in other Member States suggest that eco-modulation may be introduced. This is particularly relevant to the Swedish context, where the focus is on circularity and ecodesign.

5.2 Mattresses

France – Éco-Mobilier

Waste management overview

Please refer to Section 5.1: France – EcoTLC/Re_Fashion

Extended producer responsibility

In France there is a common EPR scheme for both furniture and mattresses which was created in 2009 during the National Environment Conference “Grenell de l’Environnement”. The development of the EPR scheme is based on the assumption made at the time that every year a 4-person family throws away about 100 kg of furniture and mattresses from which approximately 50% of furniture and 100% of mattresses ended up in landfills⁵¹.

The development of the EPR scheme aimed at:

- Transferring waste management costs from municipalities to producers
- Incentivising investments in recycling facilities
- Encouraging producers to eco-design their products

Furthermore, the objectives of the EPR itself are the following:

- i. Decrease waste quantities (tonnage) to landfill
- ii. Increase recycling (the target for 2012 was 23%, while for 2015 45%)
- iii. Increase eco-design

In France, there are two PROs that run the EPR scheme but they work closely together with one (Éco-Mobilier) mostly handling B2C furniture and the other (Valdelia) mainly B2B (approximately 10% of the furniture).

The initial target set by Éco-Mobilier was to achieve the recycling of 100,000 metric tonnes of mattresses annually by 2018 ⁵¹.

Manufacturers and retailers of furniture had to register with Éco-Mobilier before May 1st, 2013, otherwise they would have to pay an administrative fine.

PRO stakeholders

As mentioned in the Law N° 2010-788 of 12 July 2010:

⁵¹ <https://www.livingcircular.veolia.com/en/industry/recycling-old-mattresses-industry-future>

“Art. L. 541-10-6 – As from January, 1st, 2011, any person who manufactures or imports furniture shall provide for the collection, sorting, recovery and treatment of waste furniture, either by setting up an individual system, or by financing State-approved collective schemes.(...)”

Hence, those responsible for organising and financing the system, according to the French Law are the producers:

- French manufacturers, selling products under their own brands
- French importers
- French retailers
- Foreign retailers who sell by distance directly to the final user in France

Figure 5-3 Éco-Mobilier shareholders



Source: Presentation given by Éco-Mobilier to Eunomia during interview on 05/02/21

Éco-Mobilier was created initially by 12 retailers and 12 manufacturers and currently has more than 5,500 industrial members/producers⁵².

The division of the specific roles and responsibilities of each of the stakeholders within the French EPR scheme for mattresses is presented in Table 5-2:

⁵² Presentation given by Éco-Mobilier to Eunomia on 05/02/21.

Table 5-2 Stakeholders’ role and responsibilities within the French EPR scheme

Determining fees	Paying membership fee	Paying recycling fee	Administration of EPR scheme	Governance	Recycling or reuse
PRO in collaboration with producers	Producers/importers, retailers	Consumers, municipalities	PRO	French Ministry of Environment	Charities and recyclers

Éco-mobilier focus on engagement with key stakeholders to improve the design of the scheme and has created guidelines and safeguards to support recyclers working with the scheme.

Eco-contributions and modulation

Producers have to add the “visible recycling fee” to their products prices and make them visible for the consumers, as shown in Figure 5-4. Producers have to add a recycling fee to their products price, which is paid by consumers and then paid back to Eco-mobilier. 2018’s eco-fee pricing scale covers 4 major categories : furniture, seats, beds, pillows and duvets.

Figure 5-4 Advertising the Éco-mobilier ‘visible fee’ as introduced at IKEA France / ‘Recycling fee’ as set by Eco-mobilier for mattresses⁵³



Eco-mobilier was required by the law to develop a national recycling program covering approximately 50 million inhabitants by 2016. According to the initial design of the scheme, Eco-mobilier would have covered 100% of the French territory by 2020. Then, the total cost of the recycling scheme was estimated at about 200 million euros, corresponding to approximately 4% of the turnover of the furniture industry⁵⁴.

Éco-mobilier calculates the financial contribution (membership fee) dependent upon the volume of products an organisation produces (i.e. a banded admin charge). Furthermore, there is also a collection/recycling fee covering the costs of collection, dismantling and material recycling related to

⁵³ Presentation given by Éco-Mobilier to Eunomia on 05/02/21.

⁵⁴ <https://www.eco-mobilier.fr/rapport-dactivite-2019/>

mattresses. Specifically, in 2014 the cost for a single mattress was 1.67 euro and for a double mattress 3.33 euro (Figure 5-4 Advertising the Éco-mobilier 'visible fee' as introduced at IKEA France / 'Recycling fee' as set by Eco-mobilier for mattresses).

Fees are determined by the Administrative Council made up of leading producers within the scheme, using a formula that reflects the actual costs of the collection and recycling contracts. The Government bodies (i.e. ADEME or the Ministry) have no say in the fee setting, however it should be noted that it is in the interests of the producers to keep the fees as low as possible so as not to deter sales. The scheme is governed more broadly by its authorisation, however, and it is stipulated that the PRO is not allowed to pursue profit making and must only cover the actual waste management costs.

Éco-mobilier scheme uses modulated fees which were introduced in 2016 related to furniture design. For furniture, items made almost entirely of wood or metal (e.g. without upholstery) and those that are modular and 'scalable', lower fees are applied, with an approximate 20% discount. Eco-modulation is not yet applied to mattresses and the current pricing is based only on basic mattress type and size from a recycling cost perspective.

In France it is noted⁵⁵ that stakeholders generally find these 'differentiated fees' attractive, especially as they help create dialogue between producers and waste management operators. Some also point out that such criteria would be more efficient if developed at a European, or greater, scale. In theory, the additional amount should faithfully reflect the extra end-of-life cost associated with the difference in design (e.g. an extra cost if the product will be more costly to recycle), in order to provide a direct price signal to marketers. In practice however, it is often difficult to establish the specific value of such an extra cost, and this leads to a 'negotiated' price rather than to an exact price.

Under the Éco-Mobilier scheme fees for mattresses range from €0.18 for an inflatable mattress, through €1.10 for a topper, to €6 for a full size 'regular' mattress. Hence they represent a small additional cost on a traditional mattress that could be several hundred euros (e.g. even €6 is 1% on a €600 mattress for example). Even so, for a large producer, the overall difference in costs could be very significant even where the absolute cost variation for a single mattress is small. As noted earlier, where market forces allow it, this additional cost can be passed on to the end consumer quite legitimately under EPR.

In order to select the eco-modulation criteria for furniture in general, Éco-Mobilier undertook an extensive consultation with the various stakeholders (members, professional associations, stakeholders in the social economy and charity sector, furniture item waste management operators, technical centres). All criteria selected were validated by the public authorities and accepted by consensus at the working group coordinated by Éco-Mobilier in July 2013. The supporting documentation related to eco-modulation (i.e. records of which products get the eco-modulation discount and the supporting evidence of meeting the relevant criteria) must be kept by producers. Where this is not available during an audit, contributions outstanding in respect of eco-modulation will be payable to Éco-mobilier.

Although not a mandatory element of the French EPR scheme, Éco-mobilier published an Eco-design guidance in 2016 to provide information and raise awareness for key actors in the industry on

⁵⁵ 20 years of EPR in France: achievements, lessons learned and challenges ahead, French Ministry of Environment 2014

recyclability issues. They have also run eco-design workshops for SME furniture producers. This, in tandem with the modulated fees for furniture in general, was hoped to increase recyclability (although noting that modulated fees do not apply to mattresses). There is no data on the impact of the eco-design guidance and there are no consequences for producers of not improving product design, other than having to pay the higher (un-modulated) fees.

The Éco-mobilier scheme representative interviewed had the opinion, however, that even where modulated fees had been applied for furniture, this had not been very effective, since the variation, around 20% of a relatively small fee, was insufficient to influence buyers and hence had little impact on producers. A review of fees is being undertaken at present and the aim is to better reflect the recyclability of materials (e.g. wood vs chipboard) and to reflect post-consumer recycled content although this has not yet been finalised.

Collection and sorting

Figure 5-6 Collection and sorting strategy implemented by Éco-Mobilier



14

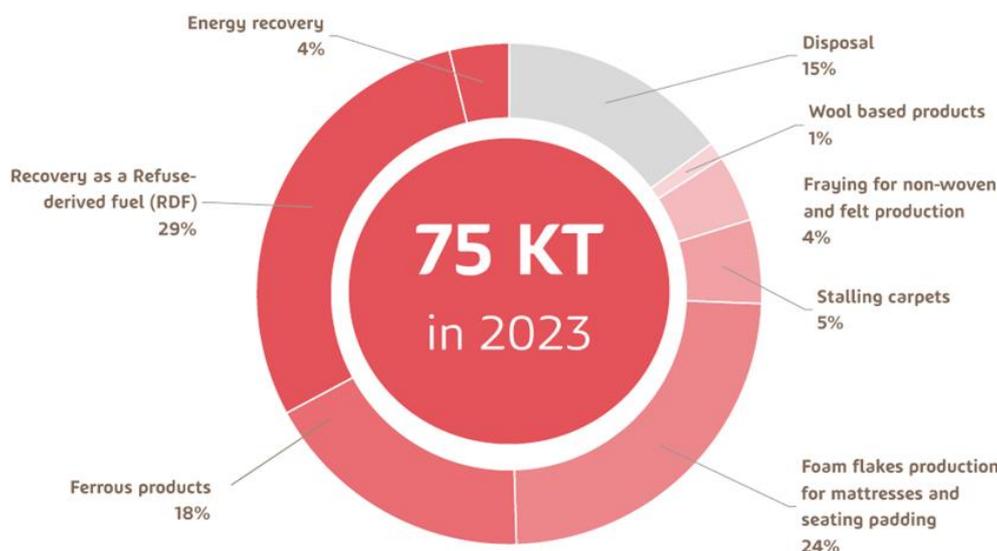
In 2013, Éco-Mobilier selected dismantling and recycling operators that waste mattresses were transported to after collection, following an open call for tenders. The number of facilities has constantly increased since then. The materials that are separated and sent to recycling are: PUR foam, latex foam, textiles and metal (springs). Now, Éco-Mobilier use seven contractors across France to reduce transport impacts and reduce costs. In 2015, Éco-Mobilier achieved to collect 840,000 tons of mattresses and furniture combined, from which the 52% of the materials were recycled.

Currently, Éco-Mobilier operates under a 4-years plan established in 2019, which does not set a specific target - the assumption being (on discussion with Éco-mobilier) that old mattresses have to be disposed of (they are hard to keep due to space constraints) and so long as an adequate number of collection points is provided, the collection rates will be high. Based on our discussion with Éco-mobilier, however, there was a lack of clarity on collection rate, although it is thought to be over 50% of arisings (an estimate). This seems a low proportion given the large number of collection points in France, although some mattresses will not be accepted if soiled or badly damaged.

However, there is a target set to recycle at least 50% of the collected mattresses. Furthermore, a target for refurbishment/reuse has not been set, but there is an aspiration to do so in the coming years.

Currently, 4794 collection points are supported across France via municipal collection points (2919), retailers (1392) and social enterprises (483). Incentivising collection (e.g. through a small payment or voucher scheme), does not appear to be an element of the French EPR scheme, however it is probably not needed since it is free to drop-off at these sites and the high density of these collection points makes it relatively convenient to the citizens. The network that has been developed ensures that 96.2% of the French population is covered, while the 67% of the municipalities have their waste monitored by Éco-Mobilier. Last but not least, the Social Economy Structures have enhanced Éco-Mobilier’s efforts by ensuring that 50,353 tonnes of furniture and textiles have been reused.

Figure 5-5 Éco-Mobilier data report, mattress treatment breakdown, 2017



Limitations of the EPR scheme

There are three main sources of limitations identified for Éco-Mobilier:

- i. Increased costs as collection increases: As the collection network steadily expands and the consumers in France become more aware of their obligations, the amount of mattresses collected also increases which in turn increases the collection costs and complexity.
- ii. Technical capacity: Apart from the metallic parts (springs) of the mattresses the recycling of the rest of the materials included in mattresses face significant technological barriers.

However, there is now a Research & Development effort led by the industry to develop suitable technical practices.

- iii. Secondary materials market: Éco-Mobilier having the ownership of the materials collected, struggles to find markets for the various secondary materials.
- iv. E-commerce contributes to free-riding since there is no setup monitoring methodology.

Future developments

An important development that Éco-Mobilier wants to introduce the coming years is to stop the collection of mattresses through Green Points and generally municipal collection points and focus more on take back schemes and on-call collections. The reason is that they have come to the conclusion that there is a significant percentage of mattresses collected through Green points that does not follow the proper standards (being wet or destroyed) making them unsuitable for the treatment processes (especially dismantling) and even sometimes harmful for the employees of these facilities, because of the development of microbial communities.

Dow and Éco-Mobilier jointly announced in August 2020 a new collaboration for the collection and supply of post-consumer polyurethane foam for the Renuva Mattress Recycling Program.

As part of this innovation partnership, Eco-mobilier will employ its used mattress collection and dismantling capabilities to supply post-consumer polyurethane foam to Orrion Chemicals Orgaform's recently announced chemical recycling unit in Semoy, France⁵⁶. In Semoy, Dow's Renuva Mattress Recycling Program will use chemical recycling to convert this recovered foam into new valuable polyurethane raw materials (polyols). Dow aims to validate and work towards creating a market for these recycled polyols⁵⁷.

Belgium – Valumat

Governance in Belgium is primarily carried out at regional level. Belgium does not have a national waste prevention programme, instead, each of the country's three regions (Brussels, Flanders, and Wallonia) have separate programmes:

- In Brussels, they have the *Plan de gestion des ressources et des déchets* (resource and waste management plan)⁵⁸;
- In Flanders, the programme is the *Uitvoeringsplan huishoudelijk afval en gelijkaardig bedrijfsafval* (implementation plan for household waste and similar industrial waste)⁵⁹; and
- In Wallonia, they have the *Plan Wallon des déchets-ressource* (Wallonia waste-resource plan)⁶⁰.

Waste management

Each of the Belgium's three regions is responsible for its own waste infrastructure. Management in each of these regions is handled differently.

Brussels is responsible for approximately 10% of the municipal solid waste (MSW) created in Belgium⁶¹. As the capital region, its population density is very high, and it is largely urbanised. There

⁵⁶ <https://www.oc-orgaform.com/en/2020/09/28/eco-mobilier-and-dow-partner-to-fill-semoy-pu-to-polyol-plant/>.

⁵⁷ Presentation given by Éco-Mobilier to Eunomia on 05/02/21.

⁵⁸ https://environnement.brussels/sites/default/files/user_files/pgrd_181122_fr.pdf.

⁵⁹ <https://www.ovam.be/sites/default/files/atoms/files/HA-uitvoeringsplan-VR-20161609-def-LR.pdf>.

⁶⁰ http://environnement.wallonie.be/rapports/owd/pwd/PWDR_3.pdf.

⁶¹ https://www.eea.europa.eu/ds_resolveuid/9EZNUQ20YP.

is therefore little space for stationary waste management infrastructure. As a result, there are very few waste deposit containers and no landfill capacity.

Flanders is the largest contributor to the nation's MSW at approximately 60%. The first waste management plan in Flanders was introduced in 1986. Over the past 30 years, ambitious targets and landfill bans have increased the volumes of waste collected separately and decreased the percentage sent to landfill.

Wallonia accounts for approximately 30% of the MSW in Belgium. Waste management plans were first introduced in 1991 and focussed primarily on the development of separate collection of waste. Subsequent plans have set increasingly ambitious waste prevention targets.

Regardless of differences in infrastructure and regional legislation, most waste collection across the country occurs at kerbside. Residents are expected to separate recyclable and compostable waste streams from residual waste that must be incinerated or sent to landfill⁶².

Extended producer responsibility

Despite waste management operation occurring in the three regions individually, to date, policy regarding all of the 11 waste flows subject to EPR has been introduced at a national level. The 2019 *Plan de gestion des ressources et des déchets* set out a circular economy action plan focussed on resource efficiency and waste stream recovery⁶³. One of the strategic objectives of the plan is to optimise and extend EPR, with mattresses specifically identified as one of the new flows of interest.

Regardless of historic efforts to harmonise EPR across all of Belgium, initially, EPR for mattresses was exclusively driven by Flanders. In 2012, Flanders identified the need for the scheme, raising it to the other regions. Initial lack of interest meant implementation was delayed from the previous 2018 target⁶⁴. In January 2021, EPR for mattresses was implemented and the PRO Valumat came into operation.

Alongside lack of cooperation from all regions, the second largest barrier to implementation for the scheme was the lack of recycling facilities for flexible polyurethane (PU) foam in Belgium. PU foam is a key material used in the manufacture of many mattresses, in particular so-called 'memory foam' mattresses, however sustainable end of life processing poses a significant technical challenge. Although recent innovation and development has resulted in a number of possible solutions, most are either not at commercial scale or not necessarily easily accessible by the Belgian market. The creators of the scheme wanted to ensure that the technology was in place, or close to it, before they began implementing mandatory collection.

PRO stakeholders

Valumat was established by three sector federations in Belgium: Fedustria (federation for the textile, wood, and furniture industry), Comeos (federation of trade and services), and Navem (federation of furniture trade). It was set up to take organisational and financial responsibility for fulfilling the waste management requirements of mattress manufacturers and importers⁶⁵.

To fulfil their legal obligations, producers and responsibilities can either:

- Join a PRO; or

⁶² <https://www.fostplus.be/en>

⁶³ https://environnement.brussels/sites/default/files/user_files/pgrd_181122_fr.pdf

⁶⁴ <https://www.eea.europa.eu/themes/waste/waste-prevention/countries/belgium>

⁶⁵ <https://valumat.be/en/about-valumat/who-or-what-is-valumat>

- Organise their own waste collection plans and have these agreed by all three governments.

Valumat is currently the only approved PRO, and no organisations have attempted to have individual plans agreed.

Eco-contributions and modulation

Valumat's fees are currently only dictated by mattress size. There are four categories:

1. Baby mattresses;
2. Single mattresses;
3. Double mattresses; and
4. Mattress toppers.

The visible fee, paid at the point of sale, for a standard double mattress is €17. Within this size category, the fee is constant regardless of materials, construction, or quality. This cost was calculated assuming the following, and dividing by the predicted number of mattresses placed on the Belgian market:

- The cost to establish and facilitate collection and recycling in all communities. In Flanders alone, the cost for this is almost €4 million per annum;
- A contribution to encourage innovation and R&D, and to facilitate an ecodesign working group. This is expected to be approximately €500k each year;
- A nominal amount to give to shops acting as deposit centres for old mattresses. Cost currently unknown; and
- An additional small fund to subsidise gate fees at recycling centres where it may occasionally be needed. Cost currently unknown⁶⁶.

All eco-contributions to the scheme are backdated to its implementation. For example, should an organisation join Valumat in August 2021, they would be liable to make contributions for all mattresses they have put on the market since the 1st of the year.

Following successful implementation of the basic scheme, Valumat will introduce eco-modulation based on the eco-design characteristics of the mattresses. It is expected that the eco-design working group will be key in determining parameters and modulations.

Collection and sorting

Collection of end-of-life mattresses is coordinated by Valumat and in collaboration with municipalities and intermunicipal waste associations. Nationally, Belgians are able to bring their old mattresses to their local recycling centre free of charge. In some municipalities, residents are also able to organise kerbside collection. There are also sellers who will take back waste mattresses when a new one is purchased from them⁶⁷. Retailers are not mandated to engage in takeback schemes, however Valumat does financially compensate those who do.

Collection and recycling targets have been laid out for the next ten years:

Table 5-3: Valumat's collection and recycling targets, 2021-2030

⁶⁶ Communication with Valumat on 12th January 2021

⁶⁷ <https://valumat.be/en/i-want-to-recycle-my-old-mattress>.

	Collection	Reuse and recycling of the collected mattresses
From 01.01.2021	30%	30%
From 01.01.2023	50%	35%
From 01.01.2025	65%	50%
From 01.01.2030	80%	75%

Source: Communication with Valumat, 12th January 2021⁶⁸

Limitations of the EPR scheme

Through stakeholder interviews, several limitations of the Valumat scheme were established:

1. At present, the scheme and fees are only legally enforceable in Flanders. It is expected that Brussels and Wallonia will soon also establish the necessary legislation;
2. Sufficiently mature recycling technologies for mattresses are not yet in place. As there are hygiene and safety issues associated with directly reusing mattresses, there is a gap in the supply chain that needs filling;
3. Initial planning did not involve the professional sector (hotels, hospitals, schools etc.) as it was intended that they would not be subjected to the legislation. Subsequent Government steering has meant this sector must be subjected to the same regulation. As a result, Valumat was not set up with these producers of potentially large volumes of waste in mind;
4. In some instances, long-lasting professional contracts have caused difficulties in assigning fee accountability. For example, there are hospitals that have multi-year agreements with mattress suppliers whose contracts do not account for the additional costs associated with implementation of the EPR scheme; and
5. When producers and retailers have no physical footprint in Belgium, it is difficult to enforce involvement in the scheme. This may leave members paying more to cover the shortfall.

EPR scheme impacts and opportunities

As the scheme is very recent in implementation, fully understanding the impacts of the scheme and the opportunities created by it are difficult. It is expected that funding research and development opportunities using a portion of the eco-contribution fees will enable advancements in disassembly and recycling technologies. This, coupled with increasing collection rates, should reduce the number of mattresses sent to landfill in Belgium.

In addition, the creation of this new scheme is expected to stimulate an increase in low-skilled jobs within the waste management sector.

Future development

Valumat will set up a working group focussed on ecodesign and design for circularity. Through this working group, they will promote sustainable best-practice and work with all aspects of the supply chain to educate and inform the industry.

In addition, they expect to introduce eco-modulation to incentivise producers to design and manufacture mattresses that are easier to disassemble, promoting preparation for recycling. Although Valumat recognises that eco-modulation will be a useful tool for aiding the transition to a more circular economy, the organisation also feels that guidance on criteria should be centralised and come from the European Commission, also noted by other stakeholders the project team

⁶⁸ Communication with Valumat on 12th January 2021.

engaged with during this assignment. This will be particularly important as more Member States introduce EPR legislation.

6. Guidance and key proposals for the setup of an EPR scheme for textiles and mattresses, suitable for Greece (Task 2&3)

The ToR requests to consider key aspects and concrete proposals for the setup of an EPR scheme for mattresses and textiles, suitable for Greece. In order to do so, Chapter 6 introduces the general principles and concepts of EPR highlighting the key considerations and proposals needed for the implementation of schemes for mattresses and textiles in Greece.

6.1 Scope

It is important firstly to set out what items are and aren't to be covered by the EPR scheme, and which organisations will have obligations. This facilitates:

- Establishing performance targets; and
- Identifying which producers must contribute (avoiding free-riding).

Proposals

- Producers will be obligated in the following ways:
 - To fund at least 80% of the full cost of collection (including any by a municipality), sorting and treatment at an authorised treatment facility;
 - To join a producer responsibility organisation (unless undertaking their own take back and treatment to the same standard as required under the legislation);
 - To report on what is placed on the market annually and any collection and treatment activities.
- Producers of textiles or mattresses will be those that first place the item on the Greek market for sale; manufacturers, importers, brand owners and distance sellers from outside Greece (e.g. selling directly into Greece without a legal entity in Greece).
- Larger mattress retailers (>€X annual turnover) will also be obligated in terms of being required to take-back used mattresses free of charge, one-for-one, of any brand and type, on delivery of a new mattress.
- Larger textile retailers (>€Y turnover) shall also be required to take-back textile items free of charge, irrespective of whether they were purchased there or not.
- There shall be no other exemptions for smaller producers or retailers, other than in regard to simplified reporting and lower admin fees (TBD).
- Every type of mattress (foam, bladder, box sprung, pocket sprung, topper pad etc.) and every size of mattress (King, Queen, Double, Single, Child etc.) shall be included in the mattress EPR scheme.
- Special attention shall be given to sofa beds. Where the mattress can be separated from the furniture (is easily removable and replaceable, i.e. not stitched into the structure), it is considered a mattress and shall be included.
- Categories of products included within the scope of the textiles EPR shall be those falling under the CN codes outlined in Appendix 1.0 – Table of CN codes
- This shall include professional clothing and textiles as well as personal.

- Note that, initially, footwear shall not be included in the textiles scheme. This is because the technology and infrastructure needed to dismantle and recycle shoes is significantly different to the majority of the rest of the textiles categories. This could be reassessed and included at a later date, or footwear could be subjected to separate EPR legislation.

6.2 Costs to be covered

It is important to define the costs to be covered by the EPR scheme early on during its inception. Namely, to decide whether the costs shall cover only the financial contributions needed to facilitate the level of collection and recycling set out by the targets, or whether producers shall also be held responsible for the costs of the residual fraction, plus the cost of dealing with any illegally dumped products.

Collection and recycling targets are typically low when a scheme is first set up. If producers are only required to contribute for these volumes of waste, fees will be low. As the scheme develops and targets are raised, the associated financial contributions will need to reflect the increasing collection and processing requirements. Establishing initial fees that cover more than the bare minimum can prevent subsequent major price fluctuations and can also cover some of the added infrastructure and capital costs incurred during the initial stages of an EPR scheme, and as the scheme grows.

It is worth noting that while retailers should be required to take-back free of charge, it may be appropriate to compensate retailers regarding the costs of storage, prior to collection by the PRO or its contractor.

Proposals

- Producer fees shall cover the financial contributions needed to cover at least 80% of the waste management cost related to collection and recycling, as set out by the targets, plus the costs associated with illegal dumping, and a sum that contributes towards short-term capital and infrastructure costs. This shall include payments to municipalities to cover their collection costs and to compensate retailers for any take-back storage costs incurred, but not retailer take-back collection costs.

6.3 EPR scheme administration

EPR schemes are collective systems organised through one or more Producer Responsibility Organisation (PRO). While PROs are often industry-led and privately owned, Government mandates the associated performance targets and obligations. Government also determines the quantity and quality of the data that PROs must supply to the regulator. In most cases, PROs are required to submit a six-year plan which has to be approved by the Government authorities, and hence results in an authorisation to operate as a PRO. According to Greek law, however, in Greece PROs must submit a six-year plan.

Governments also sometimes have a role in helping to govern the PRO, acting as a non-executive board member, and have to also approve fee structures (particularly where there is a single PRO).

PROs are generally responsible for reporting the products that their members place on the market, the quantities and composition of the waste streams they collect, the sorting and reprocessing undertaken, and the recycling outcomes by material. They must report this data to the appointed regulator (the Hellenic Recycling Agency), which tracks performance and reports progress against targets and approved plans.

Audits are carried out regularly to verify the data reported by producers. The reviewed data can be used to identify potential irregularities which could in turn highlight the need for changes in supply chain practices, or termination of the authorisation to operate as a PRO. Audits can either be conducted by the PRO or outsourced to an external third-party auditor. A third-party auditor, is common in other EU Member States.

Proposals

- Government Authorities (i.e. YPEN and the Hellenic Recycling Agency) shall mandate the performance targets for both schemes (mattresses & textiles), provide authorisation for the scheme to operate, and approve fee structures and Operational Plans.
- The PROs must submit a six-year plan, based on Greek Law to be approved by YPEN in order to gain authorisation to operate.
- The respective PROs shall be responsible for reporting the key performance data and fee structures to the regulator.
- Audits shall be organised through both the PRO and the Hellenic Recycling Agency and should be carried out regularly to ensure the data reported by producers is accurate. An annual audit should be carried out, with a s monthly audit during the first two years of its establishment.

6.4 Producer Reporting

Producers are responsible for reporting to the scheme (PRO), the quantity, type, weight, material composition and eco-modulation characteristics of the products they place on the market. This data should be recorded on a central electronic producer register database. The list of companies that are registered should be made public to aid transparency and reduce free riding. Once a product is registered, producers are then required to report the quantities of that product placed on the market. Registering products placed on the market, and reporting quantities, provides the PRO with the means to set and apportion fees, and provides the regulator with accurate data from which to assess progress.

Proposals

- Producers of mattresses and textile products will register their product details to a central database run through their respective PRO.
- For Greece, this database shall be ΕΜΠΑ (Ελληνικό Μητρώο Παραγωγών)⁶⁹
- Producers shall then be responsible for reporting the quantities of each product placed on the market to the PRO, and thereby summary information to the regulator (HRA and YPEN).
- The PRO/s will make the producer register publicly available.

6.5 Producer Responsibility Organisations

Producer Responsibility Organisations (PROs) are typically industry-led and privately owned not-for-profit organisations set up where there is a need for an organisation to co-ordinate responsibility on behalf of producers for the collection and processing of a particular waste stream.

In some markets, a single PRO services all producers and distributors. In others, multiple PROs compete for business by varying their baseline costs and the levels of service they offer. Starting with one single PRO can help to ensure that collection and processing systems meet the needs of as

⁶⁹ <https://empa.eoan.gr/login.php>

much of the industry as possible. It can also make administration and governance simpler, particularly given complexities around eco-modulation of fees and the related imbalance in PRO funding that can result. Longer term, there are strong arguments for continuing to have a single PRO, especially as further investment becomes necessary in time to achieve higher recycling rates.

It is the responsibility of a PRO to ensure that they meet all requirements set out by the Government. The PRO must fund the collection and treatment of the in-scope waste streams and provide adequate communication with households, municipalities, and the regulator.

PROs typically have both shareholders and members. Shareholders are key organisations from across the supply chain that are involved in the setup of a scheme. They provide financial support to the PRO in return for shares. This is essential for funding the infrastructure and transport capital costs needed at the beginning of a scheme. Shareholders contribute to PRO strategy planning/roadmap activities and can also influence revision of targets and the introduction of any modulation.

Members are organisations that pay into a scheme in order to meet their responsibilities as mandated by EPR legislation. Members typically contribute an annual membership fee as well as a contribution that is calculated to cover the collection and processing costs of the products they place on the market, factored down in relation to the overall targets set nationally. In some cases producers are obligated to become members of a scheme and in other cases they are allowed to undertake their own take back and treatment arrangements as an alternative, whilst ensuring that they meet the same targets and treatment standards as the collective scheme.

Proposals

- There shall be one PRO per waste stream. i.e., one PRO for mattresses and one PRO for textiles.
- Both PROs shall be industry-led and set up as privately owned not-for-profit organisations.
- The PROs shall include shareholders from key organisations within the industry they are servicing.
- Producers shall be able to, for a fee, become members of the scheme. This will ensure they meet their obligations as mandated by EPR.
- Although producers will not be legally obliged to join the industry's PRO, they shall otherwise be obligated to establish a scheme that meets with EPR requirements.

6.6 Financing the setup of a scheme

The creation of a new scheme, and raising the financial support required to do so, is often driven by industry. PROs can look to finance the setup and capital costs associated with the scheme by taking out a loan. As there will be a guaranteed income coming from the producer fees, it is likely that very low-cost loans may be available from banks such as EIB etc. As is discussed further in Section 6.9, a portion of the producer fees charges during the initial stages of implementation will be used to pay back the loan. In addition, key players from across the supply chain may contribute to the scheme setup costs in return for capital shares.

The scheme must finance, at a minimum, 80% of the full costs of operation, as stipulated by Law. This includes:

1. The collection of separate waste streams;
2. Collection of illegally disposed waste; and

3. The subsequent transportation and treatment of waste.

The European EPR Guidance study provides a comprehensive list of additional activities that should be covered by the scheme⁷⁰. A few key activities and services that should be funded are likely to include:

- Vehicle, staff, and container costs (both capital and running costs);
- The cost of maintaining capital;
- The costs of establishing, maintaining, and running vehicle depots, intermediate sites (e.g., transfer stations) and other supporting facilities;
- The cost of sorting or processing waste for any further use or treatment;
- Any corporate overheads, for example IT or HR services;
- The management costs of marketing and selling reused items or recycled materials;
- Communication and raising awareness campaigns;
- Research and development to further technologies, business models, and designs.

Proposals

- The setup of both the scheme for mattresses and the scheme for textiles shall be led by key organisations from the respective industries.
- The schemes shall investigate to take out a loan to fund the initial setup and capital costs based on the certainty of the subsequent producer fees as income, or they should look for other EU or national financial/funding sources (i.e. EIB, Structural or Cohesion funds, Green Fund (Πράσινο Ταμείο), ΕΠΑνΕΚ)
- The key organisations may provide financial support in exchange for capital shares. These organisations will become the shareholders of the PROs.
- In addition, at the beginning of the scheme, the producers shall not only be charged fees that encompass the costs needed for collection and processing but also an added contribution that can be used to pay off the loan.

6.7 Determining the levels of producer fees

Producers fees should cover:

1. The cost of collection and any further processing of the products they place on the market, apportioned according to their market share and overall national targets,⁷¹ and
2. A proportion of the cost of any overheads associated with running the PRO, proportional to their market share.

These costs can either be combined into one fee or left separate.

When setting the cost of collection and further processing, it is important to determine whether the fees should cover just the volume of products associated with the reuse and recycling targets or if

⁷⁰ Eunomia Research & Consulting (2020) *Study to Support Preparation of the Commission's Guidance for Extended Producer Responsibility Schemes*, Report for DG Environment, April 2020, <https://www.eunomia.co.uk/reports-tools/ec-waste-framework-directive-epr-recommendations-for-guidance/>

⁷¹ The charging back mechanism should be according to their market share – and it won't reach 100%. Specifically it will only refer the cost of collecting and treating what needs to be collected and treated to meet national targets.

they should also cover the costs of processing any products that are managed within the residual stream (see Section 6.2).

As far as possible, producer fees should be kept reasonably consistent between consecutive years. This not only allows for simpler administrative duties but can also help to pay off any loans taken out to finance any infrastructure or capital costs incurred during the setup of a scheme. The loan payback costs can be absorbed within producer fees while collection and recycling targets, and therefore processing costs, are lower.

The per unit visible fee attributed, if applied, to each product should reflect the actual cost of collecting, storing, and processing it. Factors that may, therefore, affect this cost may include:

- The volume of the product;
- The weight of the product;
- The number of different materials used in the product;
- How easy the product is to dismantle; and
- Any health and safety implications associated with a product's processing.

However, the 'per unit visible fee' may be problematic in relation to eco-modulation – if the consumer pays it at the cashier it may have little impact. Therefore, the proposal on producer fees should focus on the need to be paid directly by the producer, not at the point of sale.

In addition, special consideration should be given to the calculation method on what is placed on the market (PoM), as during online fast fashion this figure may be misleading (according to information received during stakeholder engagement).⁷²

Proposals

- Members shall be charged both a membership fee and a per unit (the case in France – EcoTLC) or by weight producer fee.
- Membership fees shall be annual costs calculated relative to the size of an organisation.
- Producer fees shall be calculated relative to the quantities and type of items a producer places on the market.
- Total fees shall be calculated in order to cover all operational costs, corporate support functions, communication/raising awareness activities, and research and development projects.
- During the initial stages of operation of a scheme, total fees shall also be used to payback the loan taken out to fund the PRO's inception.
- Mattress fees shall depend on the size (i.e., single, double etc.) and thickness of the mattress, as well as the type of mattress (i.e., pocket sprung, polyurethan foam etc.). These fees shall directly relate to the costs incurred to collect, store, transport, and process.
- Textile products shall be grouped into tariffs based on size (i.e., extra small: gloves, small: children's pyjamas etc.) or type of textile or material (i.e. cotton will be treated differently to polyester). CN Customs Tariff Codes shall be used to differentiate products (Appendix

⁷² For online sales, textile businesses may sell three sizes of the same item and get two back from the same consumer – so only one is actually sold, as some consumers may throw away the two pieces rather than check, clean, repackage, if the product is cheap. Therefore, the put on the market (PoM) figure may be misleading.

6.8 Fee modulation

Modulated fees can be used to incentivise designs that are considered to have lower environmental impacts. The base fees should represent the actual waste management/processing costs, whilst modulated fees can then vary dependent on certain product properties. In existing EPR schemes, they have thus far been based on factors including durability, recycled content, and recyclability.

Modulation must not, however, result in the PRO charging insufficient funds to cover the total net costs for the waste stream. Therefore, when one product category is granted a discount (bonus), resulting in fees that are less than the net costs associated with end-of-life management, another must be subjected to fees that exceed the base fee (malus). All modulation should be within the bounds of overall cost coverage for the scheme.

Proposals

- Modulation need not be implemented during the initial introduction of the schemes.
- When modulated fees are considered, every attempt shall be made to keep the criteria in line with current practices from other Member States. If possible, guidance at EU-level should be sought in order to promote harmonisation of modulation criteria.
- When modulated fees are introduced, they should be sufficient to effectively drive eco-design decisions, but the net effect of the bonus and malus modulations must be within the bounds of overall cost coverage for the scheme.

6.9 Collection and recycling infrastructure

Collection can be:

- Incorporated into existing municipality waste management procedures;
- Carried out through door-to-door collection services; or
- Facilitated by take-back services provided by producers and retailers.

Regardless of the way in which it is facilitated, collection should always be funded through the EPR scheme. Incorporating existing infrastructure, such as collection and sorting facilities, can help to reduce initial capital costs.

Existing municipal collections can, in some instances, be adapted to meet the needs to the EPR scheme. Where this option is explored, local authorities must be responsible for providing adequate collection to households. Dependent on the product, this could be through *the use of separate household collection boxes at or local communal collection points*. The number and distribution of local collection points should reflect population density and spread. Municipalities should also be responsible for the collection of fly-tipped waste within their locales.

Individual *door-to-door collection services* requested by a consumer through either a local authority or a third-party service can increase the coverage of a scheme. This collection method requires consumers to be able to identify when a collection is needed and how it can be organised. By increasing the accessibility of a collection scheme, instances of fly-tipping can be reduced. Collection should always be at no additional cost to the consumer.

Take-back services through retailers and producers can provide a convenient method for consumers wishing to return goods. When the size of the product allows it, physical stores can provide in-store drop-off points at locations that are commonly visited by households. Where products are typically bought as replacements, for example mattresses, retailers can organise collection at the same time

as home deliveries. As with all other collection methods, the cost of recovery and distribution to the correct disposal route should be covered by the PRO.

Additional recycling infrastructure may be needed to meet the targets set out by EPR. In particular, where current recycling rates for a waste stream are particularly low, new technologies or facilities may be required. Where a need for such development is identified before the introduction of EPR, capital raised during the inception of a scheme should look to cover these costs. Innovation, research, and development can be funded using a portion of the producer fees.

Proposals

- There shall be a number of methods for collection of each waste stream, all providing secure and separate collection and transportation of the waste.
- Collection and transportation shall be carried out in such a way that prevents water ingress and other environmental damage.
- For mattresses, households shall be able to (free of charge):
 - Organise at-home collection through their local authority;
 - Return their old mattresses to a bricks-and-mortar retailer, if this is available;
 - Return their old mattresses to a retailer when receiving delivery of a new one; and
 - Deposit their old mattresses at a designated collection point (e.g. Green Points).
- For textiles, collection shall be facilitated through:
 - Street containers, which shall be located in areas that are regularly visited. For example, schools (which can also act as an education activity), supermarkets, etc.
 - Green points, which shall be reasonably distributed based on population density and local topography.
 - In addition, there shall be provisions made for the collection of unsold textiles from charity shops.
- Collection/deposition of products shall always be at no added cost to the consumer. The cost of collection and transportation shall be covered by the PRO.
- Transportation shall be carried out either by PRO-owned vehicles or third-party collection services.
- Every effort shall be made to utilise existing facilities and infrastructure to prevent duplication and unnecessary costs.
- As there is currently no waste management framework for mattresses in Greece, the PRO shall develop a network of appropriate sorting and reprocessing facilities.
- Introduction of EPR schemes shall not hamper or disadvantage producers already offering takeback schemes. These organisations shall be able to declare their collected volumes and their membership and producer fees discounted accordingly.

6.10 Performance targets

EPR schemes need clear and progressive performance targets that enable market development and result in a steady increase in collection, reuse, and recycling rates over time. Performance targets are most impactful when they are based on accurate waste composition data and provide ambitious waste processing objectives for the supply chain. The use of medium-term (e.g., five-year) roadmaps can provide clear and stable trajectories for the industry.

Performance targets that are often implemented include:

- **Preparation for reuse targets:** to increase the volumes of collected products that are reused in the same application;
- **Collection targets:** to increase the volumes of waste collected; and
- **Recycling targets:** to increase the volumes of waste that are recycled into secondary feedstock when they cannot be reused.

Regularly reviewing and adjusting targets against actual waste composition data can ensure that they are ambitious yet achievable.

Proposals

- During the first year of operation, waste composition analyses shall be carried out to determine accurate baselines for current collection and recycling rates for both mattresses and textiles.
- The Greek Government will, alongside the relevant PRO and its shareholders, establish performance targets against which the PRO will be held accountable.
- Targets for collection, preparation for reuse, and recycling shall be included for both schemes.

6.11 Collection obligations

In addition to performance targets, identifying collection obligations can ensure appropriate coverage and wider accessibility of a scheme. The number and spread of collection points should be determined using population density and local topography/geospatial data. Factors contributing to collection obligations can include:

- The number of households able to receive door-to-door collection (if appropriate);
- The average household proximity to a designated collection point (Green Point); and
- The average number of households a collection point services.

Attention should be paid to ensure that retailers secure a collection obligation.

Proposals

- An assessment of Greek topography and population spread shall be carried out to provide underpinning data needed to set targets for frequency and distribution of collection points.
- These collection points will then be developed by the scheme.
- Retailers should have a collection obligation and be required to take-back free of charge either from the users premises (i.e. households, hotels, hospitals) or their store.

6.12 Product labelling

Product certification and labelling processes can help to inform the supply chain about the products they are interacting with. Specifically, product passports (e.g. as a QR code) should be mandated to a) inform recyclers of what chemicals and other materials are in the product and b) the product could also be labelled (more directly, e.g. colour coded) to provide consumer information, to guide their decision. This could:

- Raise awareness about the product labelling scheme among consumers;
- Allow for easy identification of a product's compliance with EPR; and
- Once modulation is introduced, highlight where a product meets a particular criterion.

Labelling can empower consumers to make informed purchasing decisions and recyclers of what chemicals and other materials are in the product.

Proposals

- Producers shall be certified if they are correctly engaged with a PRO.
- The regulator (the Hellenic Recycling Association) shall provide the certification.
- Labelling shall both identify when a producer is EPR-compliant and highlight where a product meets a particular criterion.
- Product passports (e.g. as a QR code) should be mandated to inform both consumers and recyclers.

6.13 Free-riding

Free-riding occurs when a company benefits from an EPR scheme without financially contributing for their share of the costs. Where a producer has a physical presence in a country, tracking whether they are meeting their obligations is relatively simple. As is, therefore, enforcing any penalties. In contrast, where a 'distance-seller' places a product on a market without having a physical presence, ensuring compliance is more difficult. New obligations for online platforms should be established. These obligations require online multi-seller platforms such as Amazon to ensure that the collection and recycling of textiles or mattresses arising from products marketed and sold on such websites is properly financed. The online platforms will, by default, be held responsible if they cannot prove that a business that sells a product on their site makes an 'eco-contribution'. It is recommended, therefore, that Member States should engage with multi-seller platforms as a key priority and obtain their commitment to action to deal with freeriding across textiles and mattresses sales. Having different solutions and obligations at the Member State level can be problematic under Internal Market rules, therefore Member States should endeavour to follow the recommendations given here where possible.

Examples of methods put in place in an attempt to prevent free-riding in other markets include:

- Publishing a list of registered producers;
- Online sales audits;
- PRO-funded free-riding investigations; and
- Requiring distance sellers to display information on the EPR scheme on their website.

In addition, penalties could be introduced for non-compliance. These could include market bans, criminal penalties, and fines. Particularly, for the mattress in a box direct to your door – online retailers need to be given obligations regarding their sellers.

Proposals

- The PROs shall publish a list of their members, highlighting registered producers.
- The PROs shall fund regular free-riding investigations.
- Penalties shall be introduced for non-compliance should it prove an issue.
- Member States should engage with multi-seller platforms as a key priority and obtain their commitment to action.

7. Provision of guidance and specific proposals for the preparation of a JMD for the setup of EPR schemes for textiles and mattresses (Task 4)

7.1 TEXTILES

Current transposition of the EC Directive on waste (2018/851) into the Greek Law, includes the following addition:

*Article 9 – Introduction of new EPR scheme for textiles for reuse, preparation for reuse and recycling.*⁷³

Specifically, by the 31 December 2023, textile producers and/or importers are obliged to design, organise and operate single or multiple Producer Responsibility Organisations (PROs), within the context of paragraph 9 of article 2 of law 2939 / 2001 (A '179), for all the products they put on the Greek market. Specific proposals are recommended for the preparation of a JMD to be considered by YPEN. It is noted, following engagement with YPEN, that the technical Specifications will need to be approved by 3 January 2022 via JMD relating to the reuse, preparation for reuse and recycling of textiles.

Thus, this section focuses in providing strategic guiding recommendations, as well as selective, more detailed proposals in agreement with GIZ and the Ministry of Environment and Energy (YPEN).

General Principles of an EPR scheme

EPR for textiles shall be mandated by the Ministry for Environment and Energy in Greece (YPEN) and shall be regulated by the Hellenic Recycling Agency (HRA). Introducing EPR for textiles will place responsibility for the end-of-life processing of the in-scope textile products on the producers. This will help to ensure that adequate investment, infrastructure, and technology is in place to effectively collect and process textiles waste. The overall aim of EPR is to regain value from a waste stream, promoting recovery in line with the waste hierarchy. Once textiles enter the waste stream the focus should be, in decreasing order, on:

- Enabling reuse of items within the same application (e.g., second-hand clothing);
- Identifying secondary uses for textile products (e.g., portioning a discarded bedsheet into rags used for cleaning);
- Fibre-to-fibre recycling to make new textiles (e.g., recycled fibre clothing);
- Downcycling into non-woven applications (e.g., sound insulation);
- Downcycling into filler in plastic or composite materials (e.g., secondary materials);
- Solid recovered fuel recovery; and
- Incineration including energy from waste⁷⁴.

Categories of textiles that shall be considered within scope of the EPR scheme in Greece are:

⁷³ <http://www.opengov.gr/minenv/?p=11440>

⁷⁴ According to the French example (EcoTLC) – the scheme receives financial support per tonne recovered on a scale: zero support for tonnages disposed of with no recovery, some support for tonnages with energy recovery, and a greater level of support for tonnages recovered through reuse and recycling. This latter level of support also includes recovery through solid recovered fuels but there are minimum thresholds for reuse and recycling to meet first. Operators can also receive financial support for capacity expansion and for additional material sorting.

1. **Clothing** – This category shall encompass all clothing and wearable accessories made primarily from textiles. This shall include, but not be limited to, t-shirts, shirts, sweatshirts, sportswear (excluding shoes), underwear, ties, bracelets, and hairbands;
2. **Household linen** – This category shall encompass all textile products commonly found within households. This shall include, but not be limited to, bed sheets and duvet covers, tablecloths, towels, and napkins;
3. **Professional clothing** – This category shall encompass all workwear and uniforms used within professional environments (including school and sports uniforms); and
4. **Professional textiles** – This category shall encompass all non-clothing textiles used within professional environments. This shall include, but not be limited to, hotel, school, hospital, and prison bed linens and towels, and cloths used for cleaning.

It should be noted that, initially, footwear will not be included within the scope of the EPR requirements. This is because the technology and infrastructure needed to dismantle and recycle shoes is significantly different to the majority of the rest of the textiles categories. This could be reassessed and included at a later date, or footwear could be subjected to separate EPR legislation.

In order to allow easy determination of products that are in-scope and out of scope, Combined Nomenclature (CN) customs tariff codes shall be used. These codes are harmonised across the EU and are already used to classify categories of products in other applications. As a result, producers should already be familiar with them and there should therefore be less of an administrative burden on the supply chain when first introduced.

A single PRO shall be established to take responsibility for the collection, transportation, and further processing of textiles placed on the Greek market. A single PRO shall be used instead of multiple competing PROs as this will allow for simpler governance during setup.

The PRO shall be led by industry and set up as a private not-for-profit organisation. It shall be created by the key players in the textiles industry to reflect their needs. During the setup of the PRO, the whole textile supply chain shall be engaged. This shall include, but not be limited to:

- Fibre producers;
- Cloth manufacturers;
- Designers;
- Clothing manufacturers;
- Manufacturers of household linens;
- Retailers;
- The professional sector (e.g., hotels, hospitals, prisons, schools);
- Clothing and textile associations;
- Waste management actors, particularly those with textile processing facilities; and
- Charities and second-hand sellers of clothing and textiles.

Special attention should be given to ensure that representatives from all types and sizes of organisation are consulted with. Engaging with representatives from the entirety of the value chain at this point will ensure that all requirements are taken into account prior to the finalisation of the structure of the scheme. This will help to minimise any future barriers or limitations resulting from any disruptive, unplanned, or unexpected scenarios (e.g., a hotel discarding and replacing all of its bed linen every year).

It is expected that a selection of the key organisations shall then provide financial support to the scheme in exchange for capital shares. Typically, these shareholders are large organisations with

considerable market share. Examples of companies with considerable share of the textiles market in Greece include:

- Inditex (including Zara, Bershka, Stradivarius, etc.);
- UNICA Textiles; and
- Hellas Cotton.

In addition, the PRO should consider taking out a low interest loan which is then paid back over a period of time. The financial support provided shall be used to fund infrastructure and capital costs. This may include establishing new processing facilities, purchasing vehicles used for the transport of the textiles waste, and creating new methods for collection (e.g., green points, community collection bins, household recycling boxes). In addition, the financial support shall fund any initial marketing, communication, and education activities needed to ensure that households are clear on their duty to facilitate separate collection of textiles.

In addition to the shareholders, producers will be able to, for a fee, join the PRO as members. Once members of the established PRO, and if they correctly register their products and accurately report the volumes they place on the market, and pay the appropriate fees they will have met their obligations under EPR.

The PRO will then be responsible for reporting the volumes and composition of the waste they collect to the regulator, the HRA. The HRA will track performance and report progress against the targets to YPEN.

Provisions and obligations

a. Regulator

Hellenic Recycling Agency is the Greek regulator for the various EPR schemes, including the forthcoming EPR scheme for textiles. HRA shall be responsible for shaping the regulatory framework for the operation of the EPR and coordinating the various stakeholders (PROs, Producers, Local authorities and Consumers). Specifically, HRA's responsibilities are:

- i. To develop appropriate targets and performance indicators

HRA should engage with stakeholders to develop initial as well as future targets regarding the collection, recycling and reuse of textiles. Initially, the targets shall focus on being achievable, however over time and within a specific time horizon targets shall reach the EU requirements for collection, recycling and reuse.

- ii. To structure the reporting requirements

HRA is responsible for updating the corresponding Waste (Electronic Waste Register) and Producers (National Producers Register) databases to include textiles (including each of the in-scope sub-categories). Furthermore, the reporting obligations of the various types of producers (retailers, importers, manufacturers etc.) shall be defined in a simple and clear manner.

- iii. To perform and/or coordinate monitoring and/or auditing activities

HRA either directly or via external collaborations shall be responsible for performing on-site or desktop/data-driven auditing to ensure that the quantities reported are accurate. Furthermore, HRA shall provide the PRO(s) with guidance on how to assess the data collected and identify high-risk data inputs to develop a mechanism for more targeted audit activities.

- iv. To evaluate the PROs license applications and renewal applications

HRA shall organize the public tender for the interested parties to submit proposals for the development of the PRO and develop the criteria based on which the tender will take place. Below,

the characteristics of the public tender are presented. After receiving applications HRA will be responsible to evaluate them against the criteria previously set and license the most suitable one(s). Furthermore, HRA will be responsible for the periodic renewal of the license that successful applicants have ensured.

b. PRO(s)

There shall be a single industry-led PRO, which suggests that a consortium of textile waste producers (importers, producers, retailers and so on) should be developed and undertake the initial setup of the PRO becoming shareholders of the privately held non-for-profit legal entity. The shareholders in collaboration with HRA shall be responsible for the initial institutional and governance setup of the organization. Then the obligations of the PRO shall be:

i. Collection & Transportation

The PRO will be responsible for setting up and developing the network of collection points. Initially, the most appropriate collection methods shall be defined (kerbside collection, door-to-door collection, take back schemes, Green points etc.) in close collaboration with stakeholders. Furthermore, taking into consideration all the relevant geospatial data and focusing on achieving the targets set the PRO will be responsible for allocating the various collection points throughout the Greek territory. Furthermore, the PRO will be responsible to either directly or through collaborations with Municipalities and/or other companies develop a waste collection and transportation framework.

ii. Reporting

The PRO will be responsible for ensuring that its members appropriately report the relevant data to the authorities, as well as providing support to them on how to be compliant with their reporting obligations. Furthermore, in close collaboration with HRA the PRO shall investigate any misconducts or inaccuracies and proceed to appropriate measures.

iii. Capital equipment

The PRO shall responsibly and transparently invest the funds collected by its members and/or any loans (through membership and producer fees) into the necessary capital equipment:

- Collection bins and generally equipment necessary to achieve collection targets
- Waste transportation means (e.g. trucks or other equipment)
- Other equipment necessary for the operations of the PRO

iv. Providing support and transparent information to producers and consumers

The PRO shall be responsible for providing clear guidance for its members' businesses and the consumers of the in-scope products aiming at raising awareness of their obligations. To achieve this the PRO will have to develop a communication channel both with the producers and the consumers staffed with properly trained employees.

v. Lead communication with Local Authorities

Finally, the PRO shall establish an enhance collaboration with Local Authorities to ensure that they will proceed to the necessary actions aiming at raising citizens awareness and developing and operating the local collection network.

c. Producers

Producers are obliged to either enter into a contractual agreement with the PRO or otherwise organise their own licensed collection and subsequent management, which would include direct reporting to HRA. Those that choose to become a member of a PRO shall pay the corresponding fees and follow the guidance given by the organization in matters such as data reporting and other obligations.

Producers that choose to organise own licensed collection shall be sure to comply with the EPR requirements, since they retain full Producer's Responsibility. Furthermore, producers shall develop their own take-back schemes that can operate in various approaches (in-store collection points, upon delivery for e-commerce etc.) but shall be free of charge for the consumers.

d. Municipalities/Local Authorities

The Local Authorities will play a key role for the successful implementation of the EPR scheme and more specifically the achievement of the targets set. Their main responsibilities will be to:

- i. Integrate separate collection and transportation of textile waste into their operations supported by the PRO which will be responsible for providing the necessary equipment. Specifically, the Municipalities shall ensure that the collection equipment provided by the PRO will be distributed across the entire Municipal territory to serve all the citizens. Furthermore, it will be their responsibility to keep the equipment clean and in proper condition. Regarding the transportation of separately collected waste the Municipalities shall integrate textile waste into their overall separate collection schemes, following minimum requirements for collection.
- ii. Facilities: Local Authorities are responsible (as described also in the relevant legislation) for developing a network of facilities that will enhance the separate collection, recycling and reuse of textile waste. Specifically, the Municipalities shall ensure that Green Points and collection points will be developed, as well as Sorting centres (ΚΔΕΥ) and Reuse centres aiming at maximising the reuse potential of textile waste (among other waste streams) locally.
- iii. Awareness: Municipalities should invest on developing awareness strategies that will focus on their citizens. The scope of these strategies will be to inform the citizens about the importance of waste separation and separate collection as well as their obligations respecting waste management.

e. Consumers

The cornerstone for the EPR to be effective and achieve its goals relies on the consumers to adopt a proper behavior. Consumers shall:

- i. Separate their waste using the appropriate separate collection methods.
- ii. Make use of take back schemes developed by the producers and/or the PRO.

Targets

EPR schemes need clear and progressive performance targets to enable market development. Targets can be used to assess collection, reuse, and recycling rates over time. In addition, the inclusion of definitive collection obligation targets can ensure that schemes progress towards sufficient coverage which, in this instance, would be national coverage.

In order to determine an accurate baseline from which to assess progress, the first year of operation of the textiles EPR scheme should be accompanied by a waste composition analysis. This will not only provide an indication of the current state of play, but it will also ensure that reporting practices are established and implemented.

Long-term collection rates range in existing/emerging EPR schemes range from 50% (France) to 90% (Sweden). These targets seem to be largely affected by the population's attitude towards, and engagement in, separate waste collection and recycling. The Greek context should be considered when identifying long-term goals for this EPR scheme.

Without first knowing accurate current collection, reuse, and recycling rates, determining definitive near-term targets for the textiles industry in Greece is difficult. The first year of operation should focus on gathering data. Performance targets should then be assessed based on this information and in collaboration with the shareholders and regulator (HRA).

The EPR scheme should look to set targets on:

- **Collection targets:** to increase the volumes of textile waste collected when compared with total textile products placed on the market;
- **Preparation for reuse targets:** to increase the volumes of collected waste that are reused in the same application (e.g., second-hand clothing);
- **Recycling targets:** to increase the volumes of any collected waste that are recycled into secondary feedstock when they cannot be reused; and

In addition to these performance targets, **collection obligation targets** should also be set to stimulate progress towards national coverage and increase the accessibility of textile collection to the average household⁷⁵.

In addition to the existing charity shop route, collection of textile waste shall be facilitated through street containers and Green Points. Therefore, the minimum number and optimal spread of these collection points shall be determined using population density and local topography/geospatial data. Factors contributing to collection obligations for textiles can include:

- The average household proximity to a designated collection point; and
- The average number of households a single collection point services.

Targets should be set to promote staged progression towards national coverage.

Fees and criteria

The net end-of-life costs shall be fully covered by the producers. Defining the costs should be carried out through the breakdown analysis of the relevant net costs for the management of waste of the specific waste stream that has been generated (both those source-separated and those non-separately collected). On the other hand, potential revenues from selling secondary products (i.e. second-hand clothes) should be considered by the PRO and subtracted from the cost allocation to the producers (thus the net costs).

Specifically, the following cost items should be considered:

- Costs for collection;
- Costs of transportation;
- Costs of treatment including sorting and pretreatment processes;
- Reporting costs;
- Costs related to waste and littering prevention measures;
- Monitoring and auditing costs including measures against free riding;
- Communication and public information and awareness costs;
- Administrative costs;
- Other costs.

⁷⁵ Guidance for separate collection of municipal waste, EC European Commission (April 2020): https://ec.europa.eu/environment/waste/studies/pdf/15.1.%20EC_DGENV_Separate%20Collection_guidance_DEF.pdf

The PRO shall use a specific percentage of its annual income to specific actions that should be predefined following for example Austria's approach which obligates the PRO to use 0.3% of their annual income to support waste prevention projects.

During the initial stages of the implementation of the EPR scheme for textiles the PRO shall apply an average fee to all their member and all products put on the market, with a minimum degree of differentiation, e.g. per type of materials in the case of packaging used for the products. However, different-level fees shall be gradually introduced in order to reward businesses that actively contribute to decreasing end-of-life costs and/or make eco-design efforts. This shall be achieved through the implementation of eco-modulation in fees based on certain eco-design criteria (durability, recycled content, and recyclability). This approach will ensure that the true cost principle, which aims at differentiating the producer responsibility by linking the financial responsibility with the true costs of the management of the products put on the market by a specific producer, will be promoted.

The setup of the PRO for textiles shall be led by key organisations from the respective industry (ΣΕΠΕΕ. The certainty of the revenue stream from producer fees will help to secure the financing (bank loans etc.) which will be used to fund initial capital investment. Furthermore, the key organisations shall have the option to self-finance the setup of the PRO in exchange for capital shares, thus becoming the shareholders of the PRO.

The fees paid by the producers shall adopt the following breakdown:

- i. **Membership fee:** A one-off fee paid upon becoming a member of the EPR scheme which should be equal for all the producers.
- ii. **Annual fee:** Shall be paid on an annual basis based on the size and market share of the company.
- iii. **Product put-on- the-market fee:** each product put-on-the-market shall incorporate this fee (in a way that it will be visible for the consumers). Specific characteristics of various products shall be considered (e.g. different fees for t-shirts and jackets).

Prevention programmes for waste textiles

Waste prevention of textiles refers to their reduction in quantity, to their reuse, as well as to the reduction of the use of harmful substances in materials and products which pose a problem in their quality.

The main way to prevent the flow of textiles is to strengthen industrial competitiveness and innovation in the textiles sector, while providing a boost to the market for sustainable and circular textiles, dealing with fast fashion and promoting new business models. A basic condition for its success is the quality of the finally used product after it has been purchased and its end user. In particular with regards to EPR for textiles, in order to promote the reuse of such products as well as the preparation for their reuse and recycling through separate collection, the focus should be on the categories selected by the Greek Government: Clothing, Household linen, Professional clothing as well as Professional textiles, as described under Section 'General Principles of an EPR scheme'.

The current prevention measures for textile waste proposed are the following:

- **Reduction of the amount of textile waste**
For this to be achieved, it is proposed to:

- a. Promote the reduction in consumption of new fabrics, via encouraging people to look after their clothes and hold on to them for a longer period.
 - b. Encourage collection for reuse, through the introduction of separate collection of textiles and the creation or set-up of second-hand clothing and footwear stores, or clothes libraries/swishing while discouraging the destruction and disposal of textiles in landfills.
 - c. Design, organise and operate PROs under the framework of the Extended Responsibility scheme for textiles.
 - d. Promotion of eco-labelling of second-hand clothing. Identifying second-hand clothing as equivalent to meeting the criteria set out in the EU Ecolabel for clothing⁷⁶ (eco-labelling scheme), would enhance the involvement of various relevant actors in second-hand clothing sales.
 - e. Promotion and support of new alternative business models that shift the ownership model of clothing, such as e.g. clothing rental companies worn for specific occasions (i.e. wedding other festivities) and clothing banks.
 - f. Development of initiatives by handicrafts / companies manufacturing or importing clothing in collaboration with Repair Centres, and Centres for Reuse of Materials (ΚΔΕΥ), where the existing network is not considered sufficient. These centres will be created by individuals and / or municipal companies in addition to the existing network.
 - g. Enhancing and promoting the collection network of reusable clothing to local authorities (fabrics that are no longer suitable for their first intended use). Easy access to and well-maintained collection points generally leads to increased collection volumes. Entities with significant financial resources - public and / or private - could play an important role in this.
 - h. Development of an electronic platform where textile and shoe repair centres will be registered and the users will be able to be served at close proximity, depending on the place where they are located.
- **Extension of the end life of textiles**
 - a. Development of design Guidelines for textile manufacturers / importers, which includes consideration of various environmental aspects, so that the products can last long enough, using sustainable materials.
 - b. Use of 'old' fabrics in new textile products (i.e. altering clothing)
 - c. Encouraging repair by providing tax incentives (reducing or eliminating VAT on repair) could help improve service availability.
 - d. Extension of the warranty / service period by companies / brands.
 - **Improving the environmental quality of textile products**
 - a. Reducing the presence of hazardous chemicals in fabrics
 - b. Improved design that facilitates reuse and recycling
 - c. Defining quality criteria for second-hand clothes that can be reused
 - d. Further promotion of the EU-Ecolabel for textiles

⁷⁶ <https://www.textilestandards.com/standards/11-eu-ecolabel-textiles#:~:text=The%20EU%20Ecolabel%20for%20clothing,water%20emissions%20and%20hazardous%20substances.>

Tender specifications for the approval of a PRO scheme

The PRO shall be approved by the relevant authority (the Hellenic Recycling Agency) for a six-year period (as already defined in the existing Greek legal framework). This section presents the proposed tender specifications for the approval of a PRO scheme for mattresses with respect to the guidance and specific proposals already developed in the above sections, as well as considering the existing legal EU and Greek framework (mainly Law 2939/2001 as amended by Law 4496/2017) on the EPR schemes.

- Key aspects related to the EPR scheme legal, administrative and organisational set up:
 - i. Legal status⁷⁷;
 - ii. Members and shareholder structure (Greek Law 4496/2017 (art. 4A) shall be considered with respect to any incompatibility issues)
 - iii. Type of materials covered in the EPR scheme (including classification by EWC code) and annual quantities per type of material based on documented data⁷⁸ (the methodology of data collection and reporting shall also be provided). The categories of textiles that shall be considered within the scope of the EPR scheme are described in Section 7.1 ‘General Principles of an EPR scheme’⁷⁹.
 - iv. Rules of Procedure;
 - v. Quality and Environmental management standards (such as ISO 9001, ISO 14001, etc.)
 - vi. Technical staff (personnel and third parties) and infrastructure and equipment (existing or future) that can sufficiently support the EPR scheme activities;
 - vii. Technical experience on related activities.⁸⁰

- Scope and Objectives of the EPR scheme:
 - i. Analysis of the scope and objectives of the EPR scheme and defining specific targets with respect to the national and EU targets, as described in Section 7.1 ‘General Principles of an EPR scheme’ and ‘Targets’.
 - ii. Contribution of the EPR scheme to the national targets
 - iii. Special considerations for islands and remote areas.

⁷⁷ Καταστατικό (φορολογικά στοιχεία, στοιχεία νόμιμου εκπροσώπου, διοικητικό συμβούλιο, κ.α.)

⁷⁸ Including cross-checking with the National Digital Registry for Producers (ΕΜΠΑ) and the National Waste Data Registry (HMA)

⁷⁹ Categories of textiles that shall be considered within scope of the EPR scheme in Greece are:

Clothing: all clothing and wearable accessories made primarily from textiles (including, but not be limited to: t-shirts, shirts, sweatshirts, sportswear (excluding shoes), underwear, ties, bracelets, and hairbands);

Household linen: all textile products commonly found within households (including, but not be limited to: bed sheets and duvet covers, tablecloths, towels, and napkins);

Professional clothing: all workwear and uniforms used within professional environments (including school and sports uniforms); and

Professional textiles: all non-clothing textiles used within professional environments (including, but not be limited to: hotel, school, hospital, and prison bed linens and towels, and cloths used for cleaning).

⁸⁰ Previous experience on related activities (if available) would ensure the successful implementation of the EPR scheme.

Territorial coverage of the EPR scheme shall be defined with the aim of setting minimum requirements. The territorial coverage aspect is particularly important in case a PRO scheme is not able to provide the service in certain areas (scarcely populated, remote, etc.).

- Coverage of the EPR scheme:
 - i. Geographical coverage, demographic and other data of the areas covered (population density, collection network, etc.); Based on Section 7.1 ‘Targets’, it is proposed staged progression towards national coverage and increase of the accessibility of textile collection to the average household.
 - ii. Time plan for the development of the EPR scheme coverage;
 - iii. Special considerations for islands and remote areas.

Requirements for the approval of a PRO include the ability to fulfil certain operational tasks, such as most importantly the collection and treatment.

- EPR scheme operation and activities:
 - i. Description of the EPR scheme key aspects of operation and procedures, such as: collections and incentivised returns, transportation, storage, reuse, disassembly, recycling, recovery; as described in Section 7.1 ‘Provisions and obligations’.
 - ii. Special considerations for islands and remote areas.
 - iii. Templates for contractual agreements including a brief description of the contract terms and conditions.

Financial requirements for receiving an authorisation as a PRO are deemed very important in order to ensure the viability and financial safety of the EPR scheme. These include among others the requirements of fulfilling a sufficient capital and reserves aligned with the number of producers which are members.

- EPR scheme financing:
 - i. Description of the EPR scheme key aspects of the financing mechanism, such as: cost coverage, fee structure, membership fees, collection/recycling fees, modulation of fees and eco-design, etc. as described in Section 7.1 ‘Fees and criteria’⁸¹.
 - ii. Special considerations for islands and remote areas.
- EPR scheme reporting, control and monitoring:
 - i. Data reporting

⁸¹ According to Section ‘Fees and criteria’, the following key aspects shall be considered:

Cost items: Defining the costs should be carried out through the breakdown analysis of the relevant net costs for the management of waste of the specific waste stream that has been generated. Specifically, the following cost items should be considered: Costs for collection, Costs of transportation, Costs of treatment including sorting and pretreatment processes, Reporting costs, Costs related to waste and littering prevention measures, Monitoring and auditing costs including measures against free riding, Communication and public information and awareness costs, Administrative costs, Other costs.

Revenues: Potential revenues from selling secondary products (i.e. second-hand clothes) should be considered by the PRO and subtracted from the cost allocation to the producers (thus the net costs).

Fee structure:

Membership fee: A one-off fee paid upon becoming a member of the EPR scheme which should be equal for all the producers.
Annual fee: Shall be paid on an annual basis based on the size and market share of the company.

Product put-on- the-market fee: each product put-on-the-market shall incorporate this fee (in a way that it will be visible for the consumers). Specific characteristics of various products shall be considered (e.g. different fees for t-shirts and jackets).

- ii. Monitoring and surveillance - Compliance enforcement measures
- iii. Monitoring of free riding

Public information and awareness raising can ensure participation of consumers in the scheme (i.e. through separate collection) and thus consist a success factor for an EPR scheme. Furthermore and when necessary, common communication campaigns with other authorities could be organised (e.g. national communication campaigns through common agreements with public local authorities, or through common calls for tenders).

- EPR scheme communications and awareness raising activities
- EPR scheme assessment of impact and effectiveness (i.e. on achieving environmental targets, on employment, etc.).

7.2 MATTRESSES

Current transposition of the EC Directive on waste (2018/851) includes the following addition:

*Article 10 – Introduction of new EPR scheme for textiles for reuse, preparation for reuse and recycling.*⁸² Specifically, as of December 31 2023, textile producers are obliged to design, organise and operate an EPR scheme in Greece. Specific proposals will be recommended for the preparation of a JMD to be considered from YPEN. It is noted, following engagement with YPEN, that the technical Specifications will need to be approved by 3 January 2022 via JMD relating to the reuse, preparation for reuse and recycling of textiles.

Thus, this section focuses in providing strategic guiding recommendations, as well as selective, more detailed proposals in agreement with GIZ and the Ministry of Environment and Energy (YPEN).

General principles of an EPR scheme

EPR for mattresses shall be mandated by the Ministry for Environment and Energy in Greece (YPEN) and shall be regulated by the Hellenic Recycling Agency (HRA). EPR for mattresses will assign responsibility for any in-scope waste to the producers. Coordinating the waste management approach through an industry-funded PRO will ensure that adequate investment is in place to support the creation of the necessary infrastructure and fund the required technology development. This is of particular importance within the mattress industry in Greece as current recycling rate are extremely low and new networks of processing plants are needed to support effective collection, sorting, and recycling.

The overall aim of this EPR is to regain value from waste mattresses and prevent bulky waste from reaching landfill or incineration without energy recovery⁸³. Unlike many other waste streams, in which the highest priority would be increased rates of reuse, there are health, safety, and contamination issues associated with reusing mattresses. In some instances, such as redeploying “nearly new” used mattresses to those in need, reuse may be an option. However, these instances

⁸² <http://www.opengov.gr/minenv/?p=11440>

⁸³ It is important to differentiate between high-value (if not closed loop) recycling and downcycling; the latter often being a less desirable environmental outcome.

are rare and account for small numbers of waste mattresses. Primary efforts should therefore focus on effective dismantling and subsequent recovery and recycling of the component parts.

All types of removable and replaceable mattresses shall be considered within scope of the EPR. These may include, but not be limited to:

- Viscoelastic foam mattresses (memory foam);
- Innerspring mattresses;
- Box sprung mattresses;
- Pocket sprung mattresses;
- Bonnel spring mattresses;
- Latex foam mattresses;
- Adjustable air mattresses;
- Waterbeds;
- Anatomical mattresses; and
- Polyurethane foam mattresses;

These mattresses may include any type of material (foams, metals, textiles, plastics, wool, cotton, adhesives) and be of any size (cot mattresses, children’s mattresses, single, double, king, queen etc.). Mattress toppers shall also be in scope, as shall novel or innovative designs (e.g., COCO-MAT mattresses) and mattresses “in-a-box”. In addition, special attention should be paid to sofa beds. When the mattress can be separated from the furniture, it is considered a mattress and shall be included. When the mattress is an integral part of the furniture and cannot be removed without the furniture losing its original function, it is not considered in-scope and shall not be included.

A single industry-led PRO shall service the whole Greek market. One PRO, as opposed to multiple competing ones, will allow for simpler governance, and will centralise infrastructure and technology development.

The PRO shall be led by industry and set up as a private not-for-profit organisation. It shall be driven by the major players in the mattress value chain to ensure that key requirements are captured and accounted for. During the setup of the PRO, the entirety of the mattress supply chain shall be engaged. This shall include, but not be limited to:

- Foam producers;
- Other intermediate material producers;
- Mattress manufacturers;
- Retailers;
- Distance sellers;
- The professional sector (e.g., hotels, hospital, prisons, and schools);
- Municipalities; and
- Waste management actors, particularly those with expertise dismantling.

Special attention should be given to ensure that representatives from all types and sizes of organisation are consulted with. Engaging with representatives from the entirety of the value chain at this point will ensure that all requirements are taken into account prior to the finalisation of the structure of the scheme. This will help to minimise any future barriers or limitations resulting from any disruptive, unplanned, or unexpected scenarios. In particular, understanding the frequency at which the professional sector replace used mattresses will be of high importance. As mattresses are bulky waste and take up considerable space during transportation and storage, planning for potential instances of high volumes may help to prevent processing backlogs during operation.

It is expected that a selection of the key organisations within the Greek mattress market shall then provide financial support to the scheme in exchange for capital shares. In existing schemes, these shareholders are typically large organisations with considerable market share. Examples of companies with considerable share of the mattress market in Greece include:

- Delta Strom;
- Alfastrom;
- Mediastrom;
- Coco-mat;
- IKEA; and
- JYSK.

The financial support provided shall be used to fund infrastructure and capital costs. For mattresses, this will need to include establishing dismantling facilities as there is, at current, a lack of adequate waste processing capability for mattresses in Greece. In addition, this financial support shall also fund the purchase of vehicles for transporting the waste and collection points or facilities within Green Points that are able to store bulky waste whilst preventing exposure to water or other environmental damage. Initial marketing, communication, and education activities shall also be included in this. These activities are needed to ensure that households are clear on how and where they can engage in correct disposal of their waste mattresses.

In addition to the shareholders, producers will be able to join the PRO as members. Once members of the established PRO, and if they correctly register their products and accurately report the volumes they place on the market, they will have met their obligations under EPR.

The PRO will then be responsible for reporting the volumes and composition of the waste they collect to the regulator, the HRA. The HRA will track performance and report progress against the targets to YPEN.

Provisions and obligations

a. Regulator

Hellenic Recycling Agency is the Greek regulator for the various EPR schemes, including the forthcoming EPR scheme for mattresses. HRA shall be responsible for shaping the regulatory framework for the operation of the EPR and coordinating the various stakeholders (PROs, Producers, Local authorities and Consumers). Specifically, HRA's responsibilities are:

- i. To develop appropriate targets and performance indicators

HRA should engage with stakeholders to develop initial as well as future targets regarding the collection, recycling and reuse of mattresses and the various materials. Initially, the targets shall focus on being achievable, however over time and within a specific time horizon targets shall reach the EU requirements for collection, recycling and reuse.

- ii. To structure the reporting requirements

HRA is responsible for updating the corresponding Waste (Electronic Waste Register) and Producers (National Producers Register) databases to include mattresses (including each of the in-scope sub-categories). Furthermore, the reporting obligations of the various types of producers (retailers, importers, manufacturers etc.) shall be defined in a simple and clear manner.

- iii. To perform and/or coordinate monitoring and/or auditing activities

HRA either directly or via external collaborations shall be responsible for performing on-site or desktop/data-driven auditing to ensure that the quantities reported are accurate. Furthermore, HRA

shall provide the PRO(s) with guidance on how to assess the data collected and identify high-risk data inputs to develop a mechanism for more targeted audit activities.

iv. To evaluate the PROs license applications and renewal applications HRA shall organize the public tender for the interested parties to submit proposals for the development of the PRO and develop the criteria based on which the tender will take place. Below, the characteristics of the public tender are presented. After receiving applications HRA will be responsible to evaluate them against the criteria previously set and license the most suitable one(s). Furthermore, HRA will be responsible for the periodic renewal of the license that successful applicants have ensured.

b. PRO(s)

There shall be a single industry-led PRO, which suggests that a consortium of mattresses waste producers (importers, producers, retailers and so on) should be developed and undertake the initial setup of the PRO becoming shareholders of the privately held non-for-profit legal entity. The shareholders in collaboration with HRA shall be responsible for the initial institutional and governance setup of the organization. Then the obligations of the PRO shall be:

i. Collection & Transportation

The PRO will be responsible for setting up and developing the network of collection points. Initially, the most appropriate collection methods shall be defined (kerbside collection, door-to-door collection, take back schemes, Green points etc.) in close collaboration with stakeholders. Furthermore, taking into consideration all the relevant geospatial data and focusing on achieving the targets set the PRO will be responsible for allocating the various collection points throughout the Greek territory. Furthermore, the PRO will be responsible to either directly or through collaborations with Municipalities and/or other companies develop a waste collection and transportation framework.

ii. Reporting

The PRO will be responsible for ensuring that its members appropriately report the relevant data to the authorities, as well as providing support to them on how to be compliance with their reporting obligations. Furthermore, in close collaboration with HRA shall investigate any misconducts or inaccuracies and proceed to appropriate measures.

iii. Capital equipment

The PRO shall responsibly and transparently invest the capital collected by its members (through membership and base fees) into the necessary capital equipment:

- Collection bins and generally equipment necessary to achieve collection targets
- Waste transportation means (e.g. trucks or other equipment)
- Other equipment necessary for the operations of the PRO

iv. Providing support and transparent information to producers and consumers

The PRO shall be responsible for providing clear guidance for its members' businesses and the consumers of the in-scope products aiming at raising awareness of their obligations. To achieve this the PRO will have to develop a communication channel both with the producers and the consumers staffed with properly trained employees.

v. Lead communication with Local Authorities

Finally, the PRO shall establish an enhance collaboration with Local Authorities to ensure that they will proceed to the necessary actions aiming at raising citizens awareness and developing and operating the local collection network.

c. Producers

Producers are obliged to either enter into a contractual agreement with the PRO or otherwise organise own licensed collection. Those that choose to become a member of a PRO shall pay the corresponding fees and follow the guidance given by the organization in matters such as data reporting and other obligations. Producers that choose to organise own licensed collection shall be sure to comply with the EPR requirements, since they retain full Producer's Responsibility. Furthermore, producers shall develop their own take-back schemes that can operate in various approaches (in-store collection points, upon delivery for e-commerce etc.) but shall be free of charge for the consumers.

d. Municipalities/Local Authorities

The Local Authorities will play a key role for the successful implementation of the EPR scheme and more specifically the achievement of the targets set. Their main responsibilities will be to:

- i. Integrate separate collection and transportation of waste mattresses into their operations supported by the PRO which will be responsible for providing the necessary equipment or service. Specifically, the Municipalities shall ensure that the collection equipment or service, provided by the PRO, will be distributed across the entire Municipal territory to serve all citizens. Furthermore, it will be their responsibility to keep the equipment clean and in proper condition. Regarding the transportation of separately collected waste, the Municipalities shall integrate waste mattresses into their overall separate collection schemes, following minimum requirements for collection.
- ii. Facilities: Local Authorities are responsible (as described also in the relevant legislation) for developing a network of facilities that will enhance the separate collection, sorting, dismantling and recycling of mattress waste. Specifically, the Municipalities shall ensure that Green Points and collection points will be developed, as well as Reuse Centres aiming at maximizing the reuse potential of waste mattresses, where appropriate, and their materials (among other waste streams) locally.
- iii. Awareness: Municipalities should invest on developing awareness strategies that will focus on their citizens. The scope of these strategies will be to inform the citizens about the importance of waste separation and separate collection as well as their obligations respecting waste management.

e. Consumers

The cornerstone for the EPR to be effective and achieve its goals relies on the consumers to adopt a proper behavior. Consumers shall:

- i. Separate their waste using the appropriate separate collection methods.
- ii. Make use of take back schemes developed by the producers and/or the PRO

Targets

EPR schemes need clear and progressive performance targets to enable market development. Targets can be used to assess collection, reuse, and recycling rates over time. In addition, the inclusion of definitive collection obligation targets can ensure that scheme progress towards sufficient coverage which, in this instance, would be national coverage.

In order to determine an accurate baseline from which to assess progress, the first year of operation of the mattresses scheme should be accompanied by a waste composition analysis. This will:

- Provide an indication of the current state of play;
- Ensure that reporting practices are established and implemented; and
- Identify any additional, technology-specific processing capability needed.

Long-term collection rates for mattresses should take the Greek context into consideration. Short-term targets should be assessed based on the first-year waste composition analysis. They should then be set in collaboration with the shareholders and the regulator (HRA).

The EPR scheme should look to set targets on:

- Collection targets: to increase the volumes of waste mattresses collected when compared with the total number of mattresses placed on the market;
- Recycling targets: to increase the volumes of collected mattresses that are effectively and efficiently recycled into feedstock for the same or other applications; and

It is worth noting that in the case of mattresses, reuse targets have not been included as there are considerable health, safety, and contamination concerns when considering reuse of mattresses.

In addition to these performance targets, collection obligations should also be set to stimulate progress towards national coverage and increase the accessibility of mattress collection to the average household.

Collection of mattresses shall be facilitated through at-home collection (either through a local authority or a retailer), deposition at registered brick-and-mortar retailers, and deposition at designated Green Points. Therefore, the minimum number and optimal spread of these collection options shall be determined using population density and local topography/geospatial data. Factors contributing to collection obligations for mattresses can include:

- The number of households serviced by door-to-door collection (either through a municipality or local retailer);
- The average household proximity to designated collection points; and
- The average number of households a collection point services.

Targets should be set to promote staged progression towards national coverage.

Fees and criteria

The end-of-life net costs shall be fully covered by the producers. Defining that costs should be carried out through the breakdown analysis of the relevant net costs for the management of waste of the specific waste stream that has been generated (both those source-separated and those non-separately collected). On the other hand, potential revenues from selling secondary products (e.g. recycled metals) should be considered by the PRO and subtracted from the cost allocation to the producers (thus the net costs).

Specifically, the following cost items should be considered:

- Costs for collection;
- Costs of transportation;
- Costs of treatment including sorting, dismantling and pre-treatment processes;
- Reporting costs;
- Costs related to waste and illegal dumping prevention measures;
- Monitoring and auditing costs including measures against free riding;

- Communication and public information and awareness costs;
- Administrative costs;
- Other costs.

The PRO shall use an (indicative) percentage of its annual income to specific actions such as waste prevention, following for example Austria's approach which obligates the PRO to use 0.3% of their annual income to support waste prevention projects.

During the initial stages of the implementation of the EPR scheme for mattresses the PRO shall apply an average fee to all their member and all products put on the market, with a minimum degree of differentiation, e.g. per type of materials in the case of packaging used for each product. However, differentiations shall be gradually introduced in order to reward businesses that actively contribute to decreasing end-of-life costs and/or make eco-design efforts. This shall be achieved through the implementation of eco-modulation in fees based on certain eco-design criteria (durability, recycled content, and recyclability). This approach will ensure that the true cost principle, which aims at differentiating the producer responsibility by linking the financial responsibility with the true costs of the management of the products put on the market by a specific producer will be promoted.

The setup of the PRO for mattresses shall be led by key organisations from the respective industry. The certainty of the producer fees as income shall be utilized as guarantee to ensure that financial tools (bank loans etc.) will be utilized for initial capital needs. Furthermore, the key organizations shall have the option to self-finance the setup of the PRO in exchange for capital shares, thus becoming the shareholders of the PRO.

The fees paid by the producers shall adopt the following breakdown:

- iv. **Membership fee:** A one-off fee paid upon becoming a member of the EPR scheme which should be equal for all the producers.
- v. **Annual fee:** Shall be paid on an annual basis based on the size and market share of the company.
- vi. **Product registration fee:** Shall be paid for each *new* product type launched by the producer.
- vii. **Product put-on- the-market fee:** each product put-on-the-market shall incorporate this fee (in a way that it will be visible for the consumers). Specific characteristics of various products shall be considered (i.e. different fees for single and king size mattresses).

Prevention programmes for waste mattresses

Waste prevention of mattresses refer to their reduction in quantity, to their reuse, as well as to the reduction of the use of harmful substances in materials and products which pose a problem in their quality.

Unlike many other waste streams, in which the highest priority would be increased rates of reuse, there are health, safety, and contamination issues associated with reusing mattresses. In some instances, such as redeploying “nearly new” used mattresses to those in need, reuse may be an option. However, these instances are rare and account for small numbers of waste mattresses. Primary efforts should therefore focus on effective dismantling and subsequent recovery and recycling of the component parts.

The current prevention measures for mattress waste proposed, are the following:

- Reduction of the amount of mattress waste
- Promotion of the environmental quality and standards of mattresses products

- **Reduction of the amount of mattress waste**
 - a. Defining a Strategy to avoid mattress waste by adopting appropriate levers along the supply chain, to support a shift in improving environmental performance in the entire mattress industry.
 - b. Despite the existing barriers in mattress reuse, it should be explored whether any collection for reuse, through existing networks and via the creation of Sorting Reuse Centres (ΚΔΕΥ), could also play a significant role in reducing the amount of mattress waste.
 - c. Incentives promoting a 'sharing economy'. This could involve financial incentives for the development of digital platforms, where mattresses will be registered at a local level, as part of a furniture rental service. The platform could host the mattresses that could be reused or, if not appropriate, the focus should shift on effective dismantling and subsequent recovery and recycling of the component parts.
 - d. Encouraging repair, by providing tax incentives (reduction or elimination of VAT for repair), could help improve the availability of the service, but also by requiring importers / manufacturers to inform the consumer about the availability of necessary spare parts, as well as for the period for which they will remain available (application of the "right to repair").
 - e. Investigating the development of economic tools to support new business models for circular furniture products, including mattresses.
 - f. Implementation of the EPR scheme for mattresses, which offers the possibility of financing the costs of separate collection, sorting, dismantling, processing and recycling of mattresses, while also offering the possibility of waste prevention and reuse of products, leading producers to reducing the use of hazardous chemicals in the production process and improving the products' environmental performance (via eco-modulation fees).
 - g. Extension of guarantees and returns: every purchase is covered by a mandatory legal guarantee. The duration of this warranty is based on the expected life of the product. If the product is defective, it is the seller's responsibility to replace, repair or refund it (extend the life of the mattress products).
 - h. Development of an electronic platform where furniture repair centres will be registered and the users that hold old mattresses will be able to be served at close proximity, depending on the place where they are located.

- **Improving the environmental quality and standards of mattresses products**
 - a. Develop a Guide, with key principles for the improved design and supply of 'circular mattresses' including sustainable material selection, dismantling, maintenance and recyclability elements.
 - b. Defining stricter criteria for ecological design in the mattress manufacturing sector, through which the extension of the life of mattresses can be achieved.
 - c. Improve efforts by focusing on ensuring the continuous removal of hazardous substances from mattress products and materials (i.e. product passport)
 - d. Improved design that facilitates better sorting, dismantling and recycling of mattresses

Tender specifications for the approval of a PRO scheme

The PRO shall be approved by the relevant authority (the Hellenic Recycling Agency) for a six year period (as already defined in the existing Greek legal framework). This section presents the proposed tender specifications for the approval of a PRO scheme for mattresses with respect to the guidance and specific proposals already developed in the above sections, as well as considering the existing legal EU and Greek framework (mainly Law 2939/2001 as amended by Law 4496/2017) on the EPR schemes.

- Key aspects related to the EPR scheme legal, administrative and organisational set up:
 - i. Legal status⁸⁴;
 - ii. Members and shareholder structure (Greek Law 4496/2017 (art. 4A) shall be considered with respect to any incompatibility issues)
 - iii. Type of materials covered in the EPR scheme (including classification by EWC code) and annual quantities per type of material based on documented data⁸⁵ (the methodology of data collection and reporting shall also be provided); The categories of materials that shall be considered within the scope of the EPR scheme are described in Section ‘General Principles of an EPR scheme’⁸⁶.
 - iv. Rules of Procedure;
 - v. Quality and Environmental management standards (such as ISO 9001, ISO 14001, etc.)
 - vi. Technical staff (personnel and third parties) and infrastructure and equipment (existing or future) that can sufficiently support the EPR scheme activities;
 - vii. Technical experience on related activities.⁸⁷

- Scope and Objectives of the EPR scheme:
 - i. Analysis of the scope and objectives of the EPR scheme and defining specific targets with respect to the national and EU targets, as described in Section 7.2 ‘General Principles of an EPR scheme’ and ‘Targets’.
 - ii. Contribution of the EPR scheme to the national targets
 - iii. Special considerations for islands and remote areas.

⁸⁴ Καταστατικό (φορολογικά στοιχεία, στοιχεία νόμιμου εκπροσώπου, διοικητικό συμβούλιο, κ.α.)

⁸⁵ Including cross-checking with the National Digital Registry for Producers (ΕΜΠΑ) and the National Waste Data Registry (ΗΜΑ)

⁸⁶ All types of removable and replaceable mattresses shall be considered within scope of the EPR. These may include, but not be limited to: Viscoelastic foam mattresses (memory foam); Innerspring mattresses; Box sprung mattresses; Pocket sprung mattresses; Bonnel spring mattresses; Latex foam mattresses; Adjustable air mattresses; Waterbeds; Anatomical mattresses; and Polyurethane foam mattresses. These mattresses may include any type of material (foams, metals, textiles, plastics, wool, cotton, adhesives) and be of any size (cot mattresses, children’s mattresses, single, double, kind, queen etc.). Mattress toppers shall also be in scope, as shall novel or innovative designs and mattresses “in-a-box”. In addition, special attention should be paid to sofa beds. When the mattress can be separated from the furniture, it is considered a mattress and shall be included. When the mattress is an integral part of the furniture and cannot be removed without the furniture losing its original function, it is not considered in-scope and shall not be included.

⁸⁷ Previous experience on related activities (if available) would ensure the successful implementation of the EPR scheme.

Territorial coverage of the EPR scheme shall be defined with the aim of setting minimum requirements. The territorial coverage aspect is particularly important in case a PRO scheme is not able to provide the service in certain areas (scarcely populated, remote, etc.).

- Coverage of the EPR scheme:
 - i. Geographical coverage, demographic and other data of the areas covered (population density, collection network, etc.); Based on Section 7.2 'Targets', it is proposed staged progression towards national coverage and increase of the accessibility of textile collection to the average household.
 - ii. Time plan for the development of the EPR scheme coverage;
 - iii. Special considerations for islands and remote areas.

Requirements for the approval of a PRO include the ability to fulfil certain operational tasks, such as most importantly the collection and treatment.

- EPR scheme operation and activities:
 - i. Description of the EPR scheme key aspects of operation and procedures, such as: collections and incentivised returns, transportation, storage, reuse, disassembly, recycling, recovery; as described in Section **Error! Reference source not found.** 'Provisions and obligations'.
 - ii. Special considerations for islands and remote areas.
 - iii. Templates for contractual agreements including a brief description of the contract terms and conditions.

Financial requirements for receiving an authorisation as a PRO are deemed very important in order to ensure the viability and financial safety of the EPR scheme. These include among others the requirements of fulfilling a sufficient capital and reserves aligned with the number of producers which are members.

- EPR scheme financing:
 - i. Description of the EPR scheme key aspects of the financing mechanism, such as: cost coverage, fee structure, membership fees, collection/recycling fees, modulation of fees and eco-design, etc. as described in Section 7.2 'Fees and criteria'⁸⁸.

⁸⁸ According to Section 'Fees and criteria', the following key aspects shall be considered:

Cost items: Defining the costs should be carried out through the breakdown analysis of the relevant net costs for the management of waste of the specific waste stream that has been generated. Specifically, the following cost items should be considered: Costs for collection, Costs of transportation, Costs of treatment including sorting and pretreatment processes, Reporting costs, Costs related to waste and illegal dumping prevention measures, Monitoring and auditing costs including measures against free riding, Communication and public information and awareness costs, Administrative costs, Other costs.

Revenues: Potential revenues from selling secondary products (i.e. recycled metals) should be considered by the PRO and subtracted from the cost allocation to the producers (thus the net costs).

Fee structure:

Membership fee: A one-off fee paid upon becoming a member of the EPR scheme which should be equal for all the producers.

Annual fee: Shall be paid on an annual basis based on the size and market share of the company.

- ii. Special considerations for islands and remote areas.
- EPR scheme reporting, control and monitoring:
 - i. Data reporting
 - ii. Monitoring and surveillance - Compliance enforcement measures
 - iii. Monitoring of free riding

Public information and awareness raising can ensure participation of consumers in the scheme (i.e. through separate collection) and thus consist a success factor for an EPR scheme. Furthermore and when necessary, regular communication campaigns with other authorities could be organised (e.g. national communication campaigns through common agreements with public local authorities, or through common calls for tenders).

- EPR scheme communications and awareness raising activities
- EPR scheme assessment of impact and effectiveness (i.e. on achieving environmental targets, on employment, etc.)

8. Road map (Task 5)

Product put-on- the-market fee: each product put-on-the-market shall incorporate this fee (in a way that it will be visible for the consumers). Specific characteristics of various products shall be considered (e.g. different fees for single and king size mattresses).

On the basis of the above tasks, a high-level Road map, with a timeline, an indication of key milestones/ activities, and the responsibilities of key stakeholders is presented below for both textiles and mattresses:

8.1 Textiles and Mattresses high-level Road map

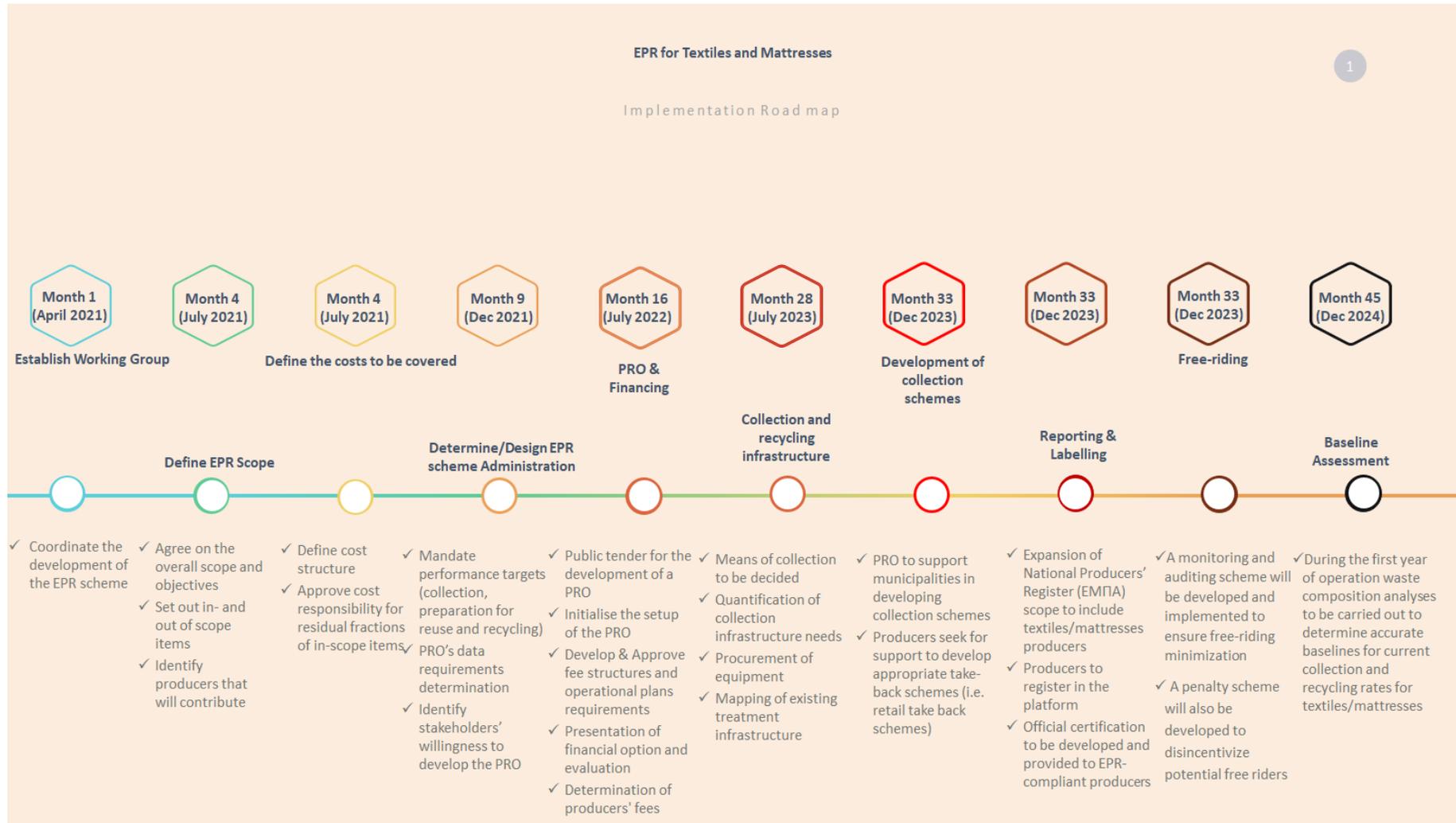
Milestones/activities	Responsibilities of Key Stakeholders	Type of Stakeholder	Timeline
Establishing a working group that will coordinate the development of the EPR	<ul style="list-style-type: none"> Coordinate the development of the EPR scheme. 	YPEN HRA	Month 1 (April 2021)
Defining the Scope of EPR scheme	<ul style="list-style-type: none"> Agree on the overall scope and objectives. Set out what items are and aren't to be covered by the EPR scheme, and which organisations will have obligation (i.e. Regulators, PROs, Waste management contractors, Local Authorities etc). Identifying which producers including importers must contribute (avoiding free-riding). 	YPEN/YPAN HRA SEV SEPEE (ΣΕΠΕΕ) – for textiles	Month 4 (July 2021)
Defining the costs to be covered by the EPR scheme	<ul style="list-style-type: none"> Decide whether the costs shall cover <u>only</u> the financial contributions needed to facilitate the level of collection, transportation and recycling set out by the targets. <u>OR</u> whether producers shall also be held responsible for the costs of the residual fraction, plus the cost of dealing with any illegally dumped products. Consultation with relevant stakeholders to identify and confirm cost items that will be covered by the EPR scheme. 	YPEN HRA	Month 4 (July 2021)
Determining/Designing EPR scheme Administration	<ul style="list-style-type: none"> Mandate the performance targets - specifically: Targets for collection, preparation for reuse for textiles only and recycling will be established against which the PRO will be held accountable. Determine the quantity and quality of the data that PROs must supply to YPEN/HRA. Initial contacts with key stakeholders and producers to identify willingness to develop the PRO. Adoption of technical specifications (by 3 January 2022) via JMD relating to the reuse or textiles, preparation for reuse for textiles and recycling of textiles or mattresses. 	YPEN HRA	Month 9 (December 2021)

Milestones/activities	Responsibilities of Key Stakeholders	Type of Stakeholder	Timeline
Producer Responsibility Organisation	<ul style="list-style-type: none"> Open public tender for everyone/every consortium that wants to participate in the development of a PRO. The winning consortium will collaborate with HRA to initialize the setup of the PRO. Develop / Approve fee structures and operational plans requirements. 	HRA Producers 3 rd party auditors	Month 16 (July 2022)
Financing the setup of a scheme	<ul style="list-style-type: none"> The consortium that will develop the PRO should have described the means of financing the scheme in their submitted proposal. Financial proposal options should be presented by the PROs and evaluated by YPEN/HRA. 	PRO YPEN HRA	Month 16 (July 2022)
Determining the levels of producer fees	<ul style="list-style-type: none"> Based on the estimated costs for operating the EPR, an estimation of the fees (membership, annual and per item PoM) will be carried out. 	HRA PRO	Month 16 (July 2022)
Collection and recycling infrastructure	<ul style="list-style-type: none"> The means of collection (Green points, kerbside, take back scheme etc.) will be decided. Based on this a pre-assessment study that will be carried out by the PRO (or outsourced) will quantify the needs for collection infrastructure. The PRO will support the Local Authorities to procure the necessary equipment or carry out the procurement for them. The PRO will map the existing sorting/dismantling/recycling infrastructure and conduct an assessment of expansion needs. 	HRA PRO Municipalities	Month 28 (July 2023)
Collection obligations	<ul style="list-style-type: none"> The PRO will support Municipalities in developing and implementing a collection scheme. Retailers should seek for support from the PRO to develop appropriate take-back schemes. 	HRA PRO Municipalities	Month 33 (Dec 2023)
Producer Reporting	<ul style="list-style-type: none"> The National Producers' Register (ΕΜΠΑ) will expand its scope to include textiles and mattresses producers. Producers will register into the updated platform and begin reporting their PoM quantities. 	YPEN HRA Producers	Month 33 (Dec 2023)
Product labelling	<ul style="list-style-type: none"> An official certification will be developed and provided to EPR-compliant producers. 	HRA PRO	Month 33 (Dec 2023)
Free-riding	<ul style="list-style-type: none"> A monitoring and auditing scheme will be developed and implemented to ensure free-riding minimisation A penalty scheme will also be developed to disincentivize potential free riders. Engage with multi-seller online platforms as a key priority and obtain their commitment to action 	HRA PRO	Month 33 (Dec 2023)

Milestones/activities	Responsibilities of Key Stakeholders	Type of Stakeholder	Timeline
Baseline Assessment	<u>During the first year of operation</u> waste composition analyses to be carried out to determine accurate baselines for current collection and recycling rates for textiles and mattresses.	HRA PRO Municipalities Waste Operators	Month 45 (Dec 2024)
Fee modulation	<ul style="list-style-type: none"> • During the first years of the EPR implementation fee modulation will not be considered. • Before the development of fee modulation EU guidance will be sought by the PRO to ensure harmonization with European best practices. • Extended engagement with stakeholders and especially producers will be carried out to ensure proper implementation of fee modulation. 	HRA PRO Producers	After the establishment of the EPR scheme (approximately 1 year later)
EPR Obligations	<ul style="list-style-type: none"> • Reporting to the scheme (PRO): the quantity, type, weight, material composition and eco-modulation characteristics of the products they place on the market. • All Producers will have the option to register with the PRO. • PROs responsible for reporting the products that their members place on the market. • Audits to be carried out regularly to verify the data reported by producers. 	PRO 3 rd party auditors	After the establishment of the EPR scheme

The following figure provides a representation of the different steps to be followed to set up an EPR scheme for textiles and mattresses.

Figure 8-1 Roadmap - EPR for textiles and Mattresses



Appendices

Appendix 1.0 – Table of CN codes

CN codes of proposed in-scope textiles

CN chapter or code	Description of article
4202 1291	Executive-cases, briefcases, school satchels and similar containers with outer surface of plastics or textile materials
4202 1299	Other trunks, suitcases, vanity cases, executive-cases, briefcases, school satchels and similar containers with outer surface of plastics or textile materials
4202 2290	Handbags, whether or not with shoulder strap, including those without handle with outer surface of textile materials
4202 3290	Articles of a kind normally carried in the pocket or in the handbag with outer surface of textile materials
4202 9291	Travelling-bags, toilet bags, rucksacks, and sports bags with outer surface of textile materials
4202 9298	Other travel goods, handbags, and similar containers with outer surface of textile materials
6301	Blankets and travelling rugs
6302	Bedlinen, table linen, toilet linen and kitchen linen
6303	Curtains (including drapes) and interior blinds; curtains or bed valances
6304	Other furnishing articles, excluding those of heading 9404
6505	Sacks and bags, of a kind used for the packing of goods
9404 30 00 00	Sleeping bags
9404 90	Other miscellaneous manufactured articles
Chapter 61	Articles of apparel and clothing accessories, knitted or crocheted
Chapter 62	Articles of apparel and clothing accessories, not knitted or crocheted

Source: Eunomia research

Appendix 2.0 - Questionnaire

The following questionnaire was developed and shared with a range of stakeholders to gain both qualitative and quantitative information on textiles and mattresses production and consumption in Greece. (please see next page)



Έρευνα για την ανάπτυξη Συστημάτων Διευρυμένης Ευθύνης Παραγωγού για κλωστοϋφαντουργικά απόβλητα και απόβλητα στρώματα

Σκοπός του ερωτηματολογίου

Μέσω το παρόντος ερωτηματολογίου επιχειρείται μία αρχική προσέγγιση στην κατανόηση των συνθηκών της αγοράς στους κλάδους των στρωμάτων και των κλωστοϋφαντουργικών προϊόντων, αλλά και της υφιστάμενης κατάστασης όσον αφορά τη διαχείριση των αντίστοιχων αποβλήτων.

Επιπλέον, διερευνάται η εξοικείωση των εκπροσώπων της αγοράς των συγκεκριμένων κλάδων με την έννοια της Διευρυμένης Ευθύνης Παραγωγού, η οποία πρόκειται να εφαρμοστεί σύντομα και στην Ελλάδα βάσει των αντίστοιχων Ευρωπαϊκών Οδηγιών.

Η συνεισφορά σας μέσω της απάντησης των παρακάτω ερωτήσεων έως τις 25 Ιανουαρίου, αλλά και της πιθανής περαιτέρω συζήτησης μέσω μιας σύντομης τηλεδιάσκεψης θα είναι ιδιαίτερα σημαντική για την ανάπτυξη της καλύτερης δυνατής κατανόησης του ζητήματος αυτού.

Σας ευχαριστούμε πολύ.



Έρευνα για την ανάπτυξη Συστημάτων Διευρυμένης Ευθύνης Παραγωγού για κλωστοϋφαντουργικά απόβλητα και απόβλητα στρώματα

Γενικά στοιχεία επιχείρησης

1. Επωνυμία Επιχείρησης

2. Στοιχεία επικοινωνίας εκπροσώπου επιχείρησης (για την περίπτωση που χρειαστούν περαιτέρω διευκρινήσεις).

Όνοματεπώνυμο

Διεύθυνση ηλεκτρονικού ταχυδρομείου

Αριθμός Τηλεφώνου

* 3. Η επιχείρηση που εκπροσωπείτε δραστηριοποιείται στον κλάδο των κλωστοϋφαντουργικών προϊόντων, των στρωμάτων ή τίποτα από τα δύο;

- Κλάδος κλωστοϋφαντουργικών προϊόντων
- Κλάδος στρωμάτων
- Τίποτα από τα δύο



Έρευνα για την ανάπτυξη Συστημάτων Διευρυμένης Ευθύνης Παραγωγού για κλωστοϋφαντουργικά απόβλητα και απόβλητα στρώματα

Κλάδος στρωμάτων: Γενικές ερωτήσεις

4. Ποια είναι η ετήσια ποσότητα στρωμάτων που εισάγει ετησίως στην αγορά η επιχείρηση που εκπροσωπείτε (σε τόνους);

5. Ποια είναι η εκτίμηση σας για τη συνολική ποσότητα στρωμάτων που εισάγονται ετησίως στην αγορά (σε τόνους);

* 6. Η επιχείρηση που εκπροσωπείτε δραστηριοποιείται αποκλειστικά στην εμπορία στρωμάτων ή και στην παραγωγή τους;

- Εμπορία στρωμάτων
- Παραγωγή και εμπορία στρωμάτων



Έρευνα για την ανάπτυξη Συστημάτων Διευρυμένης Ευθύνης Παραγωγού για κλωστοϋφαντουργικά απόβλητα και απόβλητα στρώματα

Παραγωγή και εμπορία στρωμάτων

7. Ποια είναι τα βασικά υλικά που χρησιμοποιούνται από τη γραμμή παραγωγής της επιχείρησής σας για την παραγωγή των στρωμάτων και ποια η αναλογία τους σε κάθε στρώμα που παράγεται (αν είναι διαθέσιμη);

Υλικό 1	<input type="text"/>
Υλικό 2	<input type="text"/>
Υλικό 3	<input type="text"/>
Υλικό 4	<input type="text"/>
Αναλογίες Υλικών	<input type="text"/>

8. Μπορείτε να περιγράψετε συνοπτικά τη διαδικασία παραγωγής των στρωμάτων που ακολουθείται από την επιχείρησή;

9. Τα στρώματα που παράγονται στην επιχείρησή σας διαθέτουν κάποια περιβαλλοντική πιστοποίηση (π.χ. ecolabel, ecodesign, πιστοποιήσεις α' υλών κλπ); Αν ναι, παρακαλούμε σημειώστε ποια.

10. Κατά την παραγωγική διαδικασία που εφαρμόζεται στην επιχείρησή, λαμβάνονται υπόψη στοιχεία που αφορούν την προστασία του περιβάλλοντος και τη βιωσιμότητα;

- Ναι
 Όχι

11. Ποιο είναι το μέσο κόστος παραγωγής ενός στρώματος;

12. Ποιος είναι κατά μέσο όρο ο χρόνος ζωής των στρωμάτων που παράγονται από την επιχείρησή;

13. Ποια είναι τα βασικά κανάλια διανομής που αξιοποιεί η επιχείρηση (e-commerce, συνεργασία με καταστήματα εμπορίας κλπ);

14. Η τροποποίηση της γραμμής παραγωγής της επιχείρησης προς μια πιο βιώσιμη κατεύθυνση θα μπορούσε να αποτελέσει στρατηγική επιλογή της επιχείρησης, αν δίνονταν τα κατάλληλα χρηματοδοτικά κίνητρα;

Ναι

Όχι



Έρευνα για την ανάπτυξη Συστημάτων Διευρυμένης Ευθύνης Παραγωγού για κλωστοϋφαντουργικά απόβλητα και απόβλητα στρώματα

Εμπορία στρωμάτων

15. Τα στρώματα που διατίθενται εμπορικά στην επιχείρησή σας διαθέτουν κάποια περιβαλλοντική πιστοποίηση (π.χ. ecolabel, ecodesign, πιστοποιήσεις α' υλών κλπ); Αν ναι, παρακαλούμε σημειώστε ποια.

16. Ποιο είναι το μέσο προμήθειας ενός στρώματος;

17. Ποιος το μέσο κόστος πώλησης ενός στρώματος;

18. Ποιοι είναι οι βασικότεροι προμηθευτές στρωμάτων της επιχείρησής σας;



Έρευνα για την ανάπτυξη Συστημάτων Διευρυμένης Ευθύνης Παραγωγού για κλωστοϋφαντουργικά απόβλητα και απόβλητα στρώματα

Διαχείριση αποβλήτων στρωμάτων

19. Από όσο γνωρίζετε ποια πορεία/μέθοδο διαχείρισης ακολουθείται αυτή τη στιγμή για τα στρώματα στο τέλος του κύκλου ζωής τους, όταν δηλαδή μετατρέπονται σε απόβλητα;

20. Παρέχετε κάποιο κίνητρο στους πελάτες σας να επιστρέφουν το παλιό τους στρώμα όταν αγοράζουν καινούριο;

21. Κατά τη γνώμη σας ποια αποτελούν τα σημαντικότερα εμπόδια για την αύξηση της επαναχρησιμοποίησης ή/και της ανακύκλωσης των στρωμάτων;



Έρευνα για την ανάπτυξη Συστημάτων Διευρυμένης Ευθύνης Παραγωγού για κλωστοϋφαντουργικά απόβλητα και απόβλητα στρώματα

Κλάδος κλωστοϋφαντουργικών προϊόντων: Γενικές ερωτήσεις

22. Ποια είναι η ετήσια ποσότητα κλωστοϋφαντουργικών προϊόντων που εισάγει ετησίως στην αγορά (εισαγωγή, εγχώρια παραγωγή ή/και πώληση) η επιχείρηση που εκπροσωπείτε (σε τόνους);

23. Ποια είναι η εκτίμηση σας για τη συνολική ποσότητα κλωστοϋφαντουργικών προϊόντων που εισάγονται ετησίως στην αγορά (σε τόνους);

24. Ποια από τα παρακάτω προϊόντα θεωρείτε ότι εντάσσονται στην κατηγορία των κλωστοϋφαντουργικών προϊόντων;

- Ρούχα
- Υποδήματα
- Οικιακά υφάσματα (π.χ. κουρτίνες)
- Διάφορα αξεσουάρ από υφάσματα
- Άλλο (παρακαλούμε συμπληρώστε)

* 25. Η επιχείρηση που εκπροσωπείτε δραστηριοποιείται στην παραγωγή, την εισαγωγή ή τη λιανική εμπορία κλωστοϋφαντουργικών προϊόντων;

- Λιανική εμπορία κλωστοϋφαντουργικών προϊόντων
- Παραγωγή κλωστοϋφαντουργικών προϊόντων
- Εισαγωγή κλωστοϋφαντουργικών προϊόντων



Έρευνα για την ανάπτυξη Συστημάτων Διευρυμένης Ευθύνης Παραγωγού για κλωστοϋφαντουργικά απόβλητα και απόβλητα στρώματα

Εμπορία κλωστοϋφαντουργικών προϊόντων

26. Ποιοι είναι οι βασικότεροι προμηθευτές κλωστοϋφαντουργικών προϊόντων με τους οποίους συνεργάζεστε;

27. Από όσο γνωρίζετε ποια πορεία/μέθοδο διαχείρισης ακολουθούν αυτή τη στιγμή τα κλωστοϋφαντουργικά προϊόντα στο τέλος του κύκλου ζωής τους, όταν δηλαδή μετατρέπονται σε απόβλητα.

28. Παρέχετε κάποιο κίνητρο στους πελάτες σας για να επιστρέψουν τα παλιά τους κλωστοϋφαντουργικά προϊόντα όταν αγοράζουν καινούρια;

29. Τα κλωστοϋφαντουργικά προϊόντα που διατίθενται εμπορικά στην επιχείρησή σας διαθέτουν οποιαδήποτε περιβαλλοντική πιστοποίηση (π.χ. ecolabel, ecodesign, πιστοποιήσεις α' υλών κλπ);



Έρευνα για την ανάπτυξη Συστημάτων Διευρυμένης Ευθύνης Παραγωγού για κλωστοϋφαντουργικά απόβλητα και απόβλητα στρώματα

Παραγωγή ή/και εισαγωγή κλωστοϋφαντουργικών προϊόντων

30. Ποια είναι τα βασικά υλικά που χρησιμοποιούνται στα προϊόντα που παράγονται/εισάγονται από την επιχείρησή σας και ποια η αναλογία τους (αν διατίθεται);

Υλικό 1	<input type="text"/>
Υλικό 2	<input type="text"/>
Υλικό 3	<input type="text"/>
Υλικό 4	<input type="text"/>
Υλικό 5	<input type="text"/>
Αναλογία Υλικών	<input type="text"/>

31. Μπορείτε να δώσετε μία συνοπτική περιγραφή της διαδικασίας που ακολουθείται από την επιχείρησή σας για την παραγωγή των κλωστοϋφαντουργικών προϊόντων;

32. Τα κλωστοϋφαντουργικά προϊόντα που διατίθενται εμπορικά στην επιχείρησή σας διαθέτουν κάποια περιβαλλοντική πιστοποίηση (για παράδειγμα ecolabel, ecodesign, πιστοποιήσεις α' υλών); Αν ναι, παρακαλούμε σημειώστε ποια.

33. Κατά την παραγωγική διαδικασία που εφαρμόζεται στην επιχείρηση, λαμβάνονται υπόψη στοιχεία που αφορούν την προστασία του περιβάλλοντος και την βιωσιμότητα;

- Ναι
 Όχι

34. Η τροποποίηση της γραμμής παραγωγής της επιχείρησης προς μια πιο βιώσιμη κατεύθυνση ή στην περίπτωση των εισαγωγικών δραστηριοτήτων η εισαγωγή κριτηρίων βιωσιμότητας στην επιλογή των προμηθευτών θα μπορούσε να αποτελέσει στρατηγική επιλογή της επιχείρησης, αν δίνονταν τα κατάλληλα χρηματοδοτικά κίνητρα;

Ναι

Όχι



Έρευνα για την ανάπτυξη Συστημάτων Διευρυμένης Ευθύνης Παραγωγού για κλωστοϋφαντουργικά απόβλητα και απόβλητα στρώματα

Διαχείριση κλωστοϋφαντουργικών αποβλήτων

35. Από όσο γνωρίζετε ποια πορεία/μέθοδο διαχείρισης ακολουθείται αυτή τη στιγμή για τα κλωστοϋφαντουργικά απόβλητα στο τέλος του κύκλου ζωής τους, όταν δηλαδή μετατρέπονται σε απόβλητα;

36. Παρέχετε κάποιο κίνητρο στους πελάτες σας να επιστρέφουν παλιά κλωστοϋφαντουργικά προϊόντα όταν αγοράζουν καινούρια;

37. Κατά τη γνώμη σας ποια αποτελούν τα σημαντικότερα εμπόδια για την αύξηση της επαναχρησιμοποίησης ή/και της ανακύκλωσης των κλωστοϋφαντουργικών προϊόντων;



Έρευνα για την ανάπτυξη Συστημάτων Διευρυμένης Ευθύνης Παραγωγού για κλωστοϋφαντουργικά απόβλητα και απόβλητα στρώματα

Διευρυμένη Ευθύνη Παραγωγού

Η λογική της Διευρυμένης Ευθύνης Παραγωγού μεταφέρει μέρος της ευθύνης για τη διαχείριση ενός ρεύματος αποβλήτων, στους ίδιους τους παραγωγούς των προϊόντων από τα οποία προέρχεται το απόβλητο. Συχνά, οι παραγωγοί των προϊόντων καλούνται να καταβάλλουν μία ετήσια εισφορά σε κάποιο Σύστημα Διευρυμένης Ευθύνης Παραγωγού ώστε να διασφαλίζεται η ορθή διαχείριση του αποβλήτου αυτού στο τέλος του κύκλου ζωής του προϊόντος.

38. Έχετε γνώση των συστημάτων Διευρυμένης Ευθύνης Παραγωγού (EPR schemes);

- Ναι
 Όχι

39. Κατά τη γνώμη σας, ποια είναι τα πλεονεκτήματα και ποια τα μειονεκτήματα ενός συστήματος Διευρυμένης Ευθύνης Παραγωγού όσον αφορά τον κλάδο που εκπροσωπείτε;

Πλεονεκτήματα

Μειονεκτήματα

40. Τί είδους πρωτοβουλίες θα θεωρούσατε ότι ένα Σύστημα Διευρυμένης Ευθύνης Παραγωγού θα έπρεπε να χρηματοδοτεί κατά προτεραιότητα (για παράδειγμα ερευνητικά προγράμματα, εκπαιδευτικές δράσεις σχετικές με τη διαχείριση αποβλήτων, ανάπτυξη καινοτόμων συστημάτων συλλογής και ανακύκλωσης κοκ);

Appendix 3.0 – Stakeholder engagement

A3.1 Textiles

A/A	Name	Type
1	Zara	Retailer
2	Ifantourgia Kritis	Manufacturer
3	Unica Textiles	Manufacturer
4	Ionia Tex	Manufacturer
5	Vero by Aslanis	Manufacturer & Retailer
6	Davvero	Manufacturer
7	Leontiadis Textiles	Manufacturer
8	Hellas Cotton	Manufacturer
9	Davaris	Manufacturer
10	Cotton Soft SA	Manufacturer
11	TexCycle	Waste Operator
12	Ecorec	NGO
13	RECYCOM	Waste Operator
14	SEPEE	Industry Association
15	SEV	Industry Association
16	EOAN	Public Body
17	ACR+	International network promoting sustainable consumption of resources and management of waste
18	European Confederation of the Footwear Industry	European industry association for footwear
19	European Branded Clothing Association	European industry association for branded clothes
20	EURATEX	European industry association for textiles
21	RREUSE	Association representing social enterprises active in reuse, repair, and recycling
22	FEAD	European waste management association
23	EuRIC	Confederation representing the interests of the European recycling industries at EU level
24	ECOS	European Environmental Citizen's Organisation for Standardisation
25	Re_Fashion (EcoTLC)	PRO for textiles in France
26	Textile Recycling Association	UK trade association for collectors, processors, and exporters of used clothing and textiles
27	PolicyHub	Joint coalition of various clothing associations, promoting green progress

A3.2 Mattresses

A/A	Name	Type
1	Delta Strom	Manufacturer & Retailer
2	Ecomat	Manufacturer & Retailer
3	Ravenna	Retailer
4	Dimstel	Manufacturer & Retailer
5	ATTIKA strom	Manufacturer & Retailer
6	Stroma Stroma	Manufacturer & Retailer
7	Alfastrom	Manufacturer & Retailer
8	Silver Strom	Manufacturer & Retailer
9	Elatirio Strom	Manufacturer & Retailer
10	Greco Strom	Manufacturer & Retailer
11	iliostrom	Manufacturer & Retailer
12	mediastrom (athenian bed mattress manufacturing sa)	Manufacturer & Retailer
13	Candia strom	Manufacturer & Retailer
14	Cocomat	Manufacturer & Retailer
15	entos	Retailer
16	elite strom	Manufacturer & Retailer
17	Praktiker	Retailer
18	JYSK	Retailer
19	ISTIKBAL	Retailer
20	bed and bath	Retailer
21	IKEA	Retailer
22	Leroy Merlin	Retailer
23	Habitat	Retailer
24	ACR+	International network promoting sustainable consumption of resources and management of waste
25	European Bedding Industry Association (EBIA)	European industry association for bedding
26	EUROPUR	European industry association for polyurethane foam
27	RREUSE	Association representing social enterprises active in reuse, repair, and recycling
28	FEAD	European waste management association
29	EuRIC	Confederation representing the interests of the European recycling industries at EU level
30	ECOS	European Environmental Citizen's Organisation for Standardisation
31	Valumat	Belgian mattress EPR scheme